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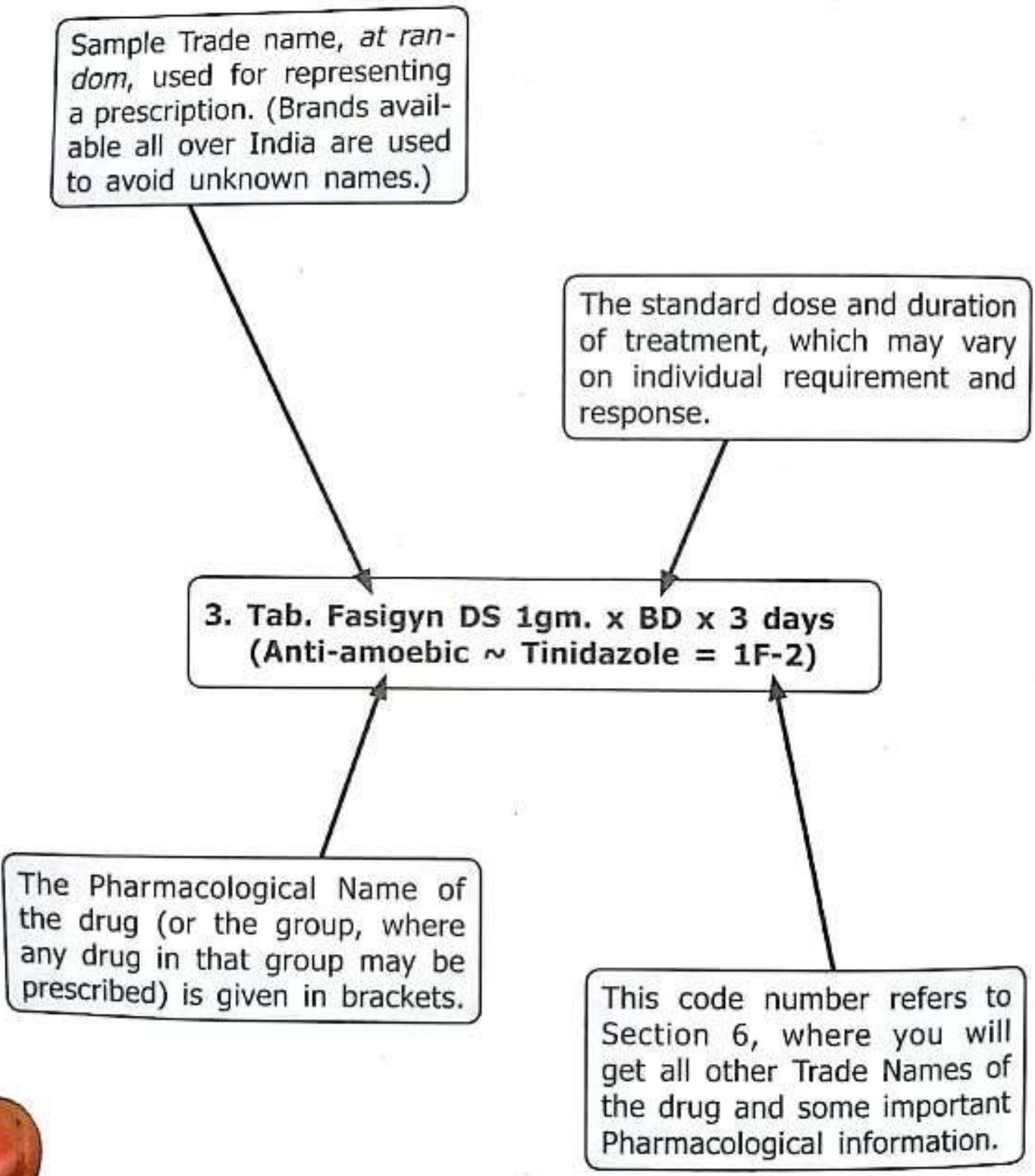
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The Unique Prescription Format Used in this Book



SECTION 1
SYMPTOMWISE APPROACH

Chapter

1 Gastrointestinal Symptoms

ANOREXIA

First Rule out - Jaundice, Fever & Anemia

1. Inj. Neurobion 2 cc IM × on alt days × 5 (**Vit B** = 2H-5, 6 or 2K)
2. Syr. Aptivate 2 tsp × 2 times/day (**General Tonic** = 2M-2)
3. Syr. Practin 1 tsp × 3 times/day × ½ hr. before meals (**Cypro-heptidine** = 2M-1)
4. Tab Longifene 25 mg bd ½ hr. before food (Anti-histaminic = Buclizine)
5. Tab Zentel 400 mg 1 tab stat (**Antihelminthic** = 1E-1)

General treatment:

6. Good Food rich in Proteins, Fresh Fruits
7. Proteinules × 2 tsp. in a glass of milk × bd (**Proteins** = 2A)
   OR Threptin Biscuits 2 bd.
8. Regular Exercises
9. Change in Climate, especially for convalescent patients
10. Stop Smoking, and Drinking alcohol

If Anemic

Cap. Autrin 1 daily × 3 months (**Iron** = 2I)

For extreme cases with poor intake

I.V. Glucose saline 1000 ml
I.V. 25% glucose 4 amps.

Other drugs to try

- T. Unienzyme 1 bd × 15 (**Digestive enzymes** = 1C-1)
- Inj Decadurabolin 50 mg IM × every wk. × 3 (**Anabolic steroid** = 2B)

If there is no response to treatment

Investigate

- Blood - Hb%, S. Bilirubin, Bl. Urea, S. Creatinine
- Urine - for Bile salts
- X-ray Chest for TB & Malignancy
- Gastroscopy & Ultrasound of abdomen in elderly patients.

Important Points that may be missed

- Is he taking drugs causing anorexia- Metformin, Digitalis, anti-hypertensives, Metronidazole.
- **In Female Patient**
  Is she pregnant? Are there any problems at home with in laws or Children?
- **In School Going Children**
  Are there any psychological or study related problems at school?
- **In adult Males**
  Is he alcoholic? Is he eating excess of Tobacco, Mawa, Pan Parag? Could it be malignancy any where? Particularly of Liver/Stomach.
- Pulmonary Tuberculosis may present with only Anorexia.

- In an old patient with severe anorexia, first think of carcinoma of stomach.
- If anorexia is so severe, that patient does not feel like looking at food, think of Infective Hepatitis. The icterus may develop after 1-2 days.

NAUSEA & VOMITING

For Mild Cases

1. Tab Perinorm 10 mg 1 bd & SOS (**Metoclopramide** = 1 K-5)
2. Tab Emeset 4 mg or Siquil 1 stat & S.O.S. (1K-1)
3. Gelusil MPS 2 tsp × 4 hrly (**Antacid** = 1A- 1) If Gastritis.
4. Ask the patient to chew cardamom, Ginger, Lime or crushed ice.
5. T. Gastractive 10 mg 3-4 times/day, ½ hr. before meals. (**Domperidone** = 1K-6). To normalise Gastric motility.
6. If patient is taking drugs causing nausea. e.g. Flagyl, Chloroquine, NSAIDs then stop the drug & give injectible form.

For Significant Nausea or Vomiting

1. Inj. Perinorm 2cc. IM or I.V. (1 K-5)
2. If not controlled,
   Inj. Emeset 4 mg I.V. (**Ondansetron** = 1 K-8) Or Inj. Siquil 2cc IM or I.V. (**Tri-fluopromazine** = 1 K-1)
3. Cap Omez 20 mg OD x 5 days (PPI = 1B-2)
4. If associated pain or colic,
   Inj. Anafortan 2cc IM (**Anti-spasmodic** = 1 L-6)
5. If vomiting is prolonged, If intake & Urine output is poor,
   Give I.V. Fluids - Ringer's lactate or DNS.
6. If S. Electrolytes are abnormal, Refer to Physician.

If extrapyramidal reaction occurs

To Siquil/ Stemetil/ Metoclopramide, with turning up of eyeballs, Stop the Drug.

- T. Pacitane 2 stat (**Anti Parkinson** = 4C-I)
- T. Calmpose 1 stat (**Tranquiliser** = 4D-3)
- Inj. Calmpose 2cc IM or IV or Inj Phenergan 2cc IM or IV (**Anti histamine** = 5B-10)

- **Vomiting of Pregnancy**
  (Refer Chap. 15, Page 143)
- **Vomiting of Travel Sickness**
  (Refer Chap. 34, Page 399)

- If vomiting is Green colored (Bilious), If vomiting is associated with abdominal distension and colicky pains, then suspect. Intestinal obstruction and refer the patient to a Surgeon.
- If vomitus/patient's breath has smell of Kerosene or O.P. Poison (like Tik.20), Refer to a Hospital for stomach wash and treatment.
- In a female patient, rule out early pregnancy.
- If there is no nausea, but vomiting, headache & fever, rule out meningitis.

FLATULENCE ('GAS')

1. Avoid oily foods. Avoid aerated drinks. Avoid smoking and Pan chewing. Avoid overeating. Avoid onions, peas, beans, Dals.
2. Tab Bestozyme 1 bd × 15 (**Digestive enzymes** = 1C)
3. Tab Gastractive 1 tds × before meals (**Domperidone** = 1K-6)
4. Tab Ganatone 50 mg tds (Prokinetic Itopride = 1B-3/ 10)
   OR Tab Kinetix 5 mg tds (Mosapride)
5. Tab Albendazole 400 mg 1 stat (**Deworming** = 1E-1)

6. A teaspoonful of soda or ENO salt in water after meals. (For symptomatic relief)
7. If mucus stools, T. Flagyl 400 mg tds × 5 (**Anti amoebic** = 1F /Tinidazole/ Ornidazole)
8. If constipation, Liq. Paraffin 15-30 ml HS (**Laxatives** = 1 G-4)
9. **Regular Exercises**, to improve the tone of abdominal muscles.
10. Regular moderate meals. **Avoid over eating**.

Other drugs to try

1. Gelusil MPS tsp tds (**Antacid With MPS** - 1A-1)
2. Vibact/ Lactiflora Sachet 1 x bd x 5 days (Lactobacillus = 2H-8)
3. Sorbiline tsp tds (**Choline** - 1D-2)
4. Carmicide liquid tsp tds (**Carminative**)
5. Tab Enteroquinol 1 bd × 10 (Anti **amoebic** - 1F-6)
6. Tab Gasex 1 tds (**Ayurvedic**) or Kayam churna 1 tsp at bedtime

Investigate For

1. Stools (for amoebiasis, Giardiasis, Tapeworms etc.)
2. Hb% (for anemia), Blood Sugar
3. Ultrasonography - Gall bladder.
4. Sigmoidoscopy & Gastroscopy if indicated.

- Abdominal exercises are very useful for chronic flatulence and chronic constipation.
- Eating a little less, than demanded by appetite is very important.

CONTINUOUS BELCHING

1. Avoid swallowing of air. Eg. Sipping Tea, Chewing tobacco paan, Chewing gum, aerated drinks etc.
2. Eat slowly. Avoid haste. Chew properly and avoid overeating. Drink Ice cold water
3. Close the mouth while belching.
4. Tab Perinorm 1 tds (**Metoclo-pramide** = 1K-5)
5. Tab Ganatone 50 mg tds (Prokinetic Itopride = 1B-5)
6. Tab Ativan 1 mg tds (**Tranquiliser** = 4D) if anxiety.
7. Cap Omez-D 1 OD (PPI with Domperidone = 1B-2)

ACUTE CONSTIPATION

If patient has acute discomfort,

First rule out intestinal obstruction or peritonitis. Then

1. Soap water enema with 500 ml soap water
   or Glycerine syringe (30 ml Glycerine)
   or Neotonic enema.

If there is no acute discomfort

1. Liquid paraffin 30 ml after dinner/ at bedtime (**Lubricant** = 1G-4)
   or Tab Dulcolax 2 HS (**Bisacodyl** = stimulant = 1G-5)
   or Syr Duphalac 15 ml at bedtime (Lactulose = 1G-9)
2. If Not effective, Castor oil 15-30 ml early morning (**Purgative** = 1G-1)

Is there local pain at anus?

1. **Painful fissure**
   i) Xylocaine Oint. Locally - tds and after defecation.
   ii) Cap Baciclox 500 mg tds × 5 (**Antibiotic** = 7A)
   iii) Tab Combiflam 1 bd (**Anti inflammatory** = 3C)

iv) Liquid paraffin 30 ml HS (**Stool softener** = 1G)

v) If pain is severe, refer to surgeon for anal dilatation.

2. **If Perianal abscess** refer to surgeon for incision

3. **If elderly or bed ridden patient,** Do per rectal (P.R.) examination for impacted, hard stools. Do manual removal of stools with gloved hands and vaseline.

- If acute constipation is accompanied by **colicky pain in abdomen, abdominal distension or vomiting**, suspect intestinal obstruction, and Refer early to a surgeon.
- Strong Purgatives like castor oil or Mist alba should never be given in **Pregnancy**. They may induce uterine contractions.
- Always palpate the abdomen. If there is tenderness, never give Enema or strong purgatives like castor oil.

CHRONIC CONSTIPATION

1. Regular walking and abdominal muscle exercises.
2. More roughage in diet e.g. Green Vegetables, Fruits, Raw Bananas.
3. Drink more water - 1.5-2 Litres/day.
4. Avoid Tobacco Chewing, Mawa & Smoking.
5. If drugs like anti-hypertensives, antacids, Iron or NSAIDs are causing constipation, change the drug.
6. Use Laxatives if and when required. First preference for Isabgol preparations (1G-2 & 3) Second choice Liquid paraffin preparations (1G-4) or Tab Dulcolax/Laxicon (1G-5 & 6).
   Do not give same laxative for long time.
7. Triphala churna, Kayam Churna - Ayurvedic preparations are very useful.
8. Tab Mosa 5 mg tds × 1-2 months, if habitual constipation (**Mosapride** = 1B-3/10) OR Tab Ganatone 50 mg bd (Itopride)
9. Dulcolax Suppository in the morning, whenever there is discomfort (Bisacodyl = 1G-5) – self administration at home.

- **If patient has pain at anus,** do per rectal examination and look for fissure, anal stricture or Growth.
- **If patient has bleeding or intermittent diarrhoea,** ask for sigmoidoscopy or colonoscopy to rule out malignancy in rectum and colon.
- **In Bedridden patients** with constipation, give Enema or Glycerin Syringe on alternate mornings.
- **Rotate the Laxatives. Avoid use of same laxative for months.**

ACUTE WATERY DIARRHOEA (IN ADULTS)

First Note the Pulse, B.P. and degree of dehydration

If B.P. is normal and Dehydration is mild,

1. Dietary advise:
   Advise plenty of water, Liquids, Orolyte, Black Tea, Ganji, Buttermilk, Coconut water, Fruit juices, Biscuits, Overripe Bananas. As loose motions decrease, advise soft diet Idli, Soft rice (Curd rice /ghee rice), Ganji, Fruits etc.
2. To Reduce frequency of stools:
   - Tab Lopamide 2 mg 2 stat, then 1 tab after each stool

Or Tab Lomotil 2 tds (2J-1&2)

- Cap Redotil 100 mg tds (Racecadotril = 1J-9) to increase reabsorption of water

3. **To treat the infection**, give one intestinal antibiotic orally, and one systemic antibiotic:
   - Tab Norflox 400 mg bd x 5 days
     Or Tab Neomycin 2 tds
     Or Tab Sulphaguanidine 2 tds (**Intestinal antibiotic** = 7J)
   - Inj Genta 80 mg IM/IV 8 hrly
     Or Inj Cetil 750 mg IV 12 hrly (**Antibiotic** = 7A)
   - Tab Tiniba 500 mg 1 bd × 5, if the watery stools contain blood/ mucus also (**Anti-amoebic** = 1F)
4. For Symptomatic relief:
   If Colicky pain,
   - Inj Anafortan 2 cc IM stat & SOS, followed by,
     Tab Anafortan 1 tds (**Anti-spasmodic** = 1L)

   If Vomiting,
   - Inj Perinorm 2 cc IM/IV stat
     or Inj Emeset 2 cc IM/IV stat (**Anti-emetic** = 1K)
5. To Restore Bacterial Flora in intestine:
   - Cap Nutrolin-B 1 tds × 5-10 days (**Lactobacillus** = 2H-8)
     or Econorm sachet bd or tds (S. **Boulardii** = 1J-8)

If B.P. has fallen or Dehydration severe

1. Start I.V. drip with large needle (18 or 20 No.)
   Ringer's lactate or D.N.S. (fast or push) 2 to 15 bottles may be required depending on the degree of dehydration
   Do not give 5% dextrose in dehydration. Give a Electrolyte solution.
2. Inj Mephentin 2 cc I.V. if BP < 80 mm.
3. Inj Decadron or Betnesol 2 cc I.V. (**Steroids** = 9)
4. If B.P. fails to rise
   - Shift to Hospital immediately. Transfer the patient in supine position, with IV Fluids running.
   - Ask for stool examination to rule out cholera.

- When motions are watery, always be alert, as dehydration can occur very rapidly and patient may require large amount of I.V. fluids
- If patient was taking diarrhoea causing drugs like Iron or Ampicillin, stop these drugs.
- If stools are black coloured with pallor and low B.P., think of Bleeding Duodenal Ulcer. Hospitalise immediately.
- Keep watch on signs of dehydration- Low B.P., Tachycardia, sunken eyeballs, loss of skin turgor and thirst.

ACUTE MUCUS DIARRHOEA

1. Tab Orni 500 mg bd × 5 (**Anti amoebic** = 1F) or Tab Tinidazole 500 mg bd × 5 after food or Tab Secnidazole 2 gm. single dose.
2. Tab Spasmindon 1 tds, if colicky Pain (**Antispasmodic** = 1L)
3. Tab Lomotil 1 tds, if frequency of stools is more (**Reduce GI motility** = 2J 1&2)
4. Avoid oily foods, chillies, Ghee & Milk.
5. Digene Gel 2 tsp tds (to reduce after taste & nausea of **Anti amoebic** drugs = 1A-1)

For recurrent cases

1. Tab Dyrade-M 1 tds × 5 after food or Tab Tiniba-DF or Tab Ornibol 1 bd × 5 (**Combination Drugs** = 1F-7 to 11)
2. Tab Mebaspa 1 bd x 15 days (Mebeverin = 1J-3)

- Amoebic Dysentery is extremely common in India. So give Flagyl or Tinidazole for all cases of dysentery, flatulence, indigestion and intestinal colics.
- Gastro-colic reflex (running to latrine after meals) is treated as above. But if it does not respond, leave it alone. It may be physiological.
- To reduce metallic taste after Metronidazole, administer it after meals, with antacids and chocolates!

CHRONIC DIARRHOEA

1. Avoid fatty foods, oil, ghee, raw vegetables. Avoid overeating
2. Tab Flagyl 400 mg tds × 5 (**Anti amoebic** = 1F) or Tinidazole/ Secnil
3. Tab Sulphaguanidine 1 tds × 10 (**Intestinal antibiotic** = 7J)
4. Tab Mendazole 1 bd × 3 (**Deworming** = 1E-1)
5. Tab Lomotil 1 bd to 1 tds (**Anti-motility** = 1J-2)
6. Tab Mebaspa 100 mg bd to tds (**Mebeverine** = 1J-3)
7. Inj. Vitcofol **3 cc IM × alt days × 5 (Bplex** = 2H-6)
8. Tab Bestozyme 1 bd (**Digestive Enzymes** = 1C)

If no relief

1. Tab Nutrolin-B 1 tds × 10 days (Prebiotics - **Lactobacillus** = 2H-8) OR Cap P-Biotic/ Sporolac/ Progurt
2. Econorm sachet 250 mg OD × 10 days (**Saccharomyces Boulardii** = 1J-8)
3. Tab Serenace 0.25 mg 1 bd × 30 or Tab Alprazolam 0.25 mg 1 bd (**Tranquiliser** = 4 D&E)
4. If ulcerative colitis is suspected,
   - Tab Salazopyrin 1 tds × 15 (1N)
   - Tab Wysolone 1 bd × 7 (**Steroid low dose** - 9A)
   - Low fiber diet.
5. If associated with anorexia, loss of weight, low fever and pain, think of Tuberculosis of Intestines.

If still there is no relief

1. Refer to Gastroenterologist. Refer early if there is weight loss, blood in stools, or abdominal lump.
2. Stool examination
3. Sigmoidoscopy and colonoscopy
4. K.U.B. X-ray and Barium enema

- If an elderly person gets diarrhoea off & on, with or without blood, Refer early for sigmoidoscopy or colonoscopy, to rule out carcinoma of colon & rectum.

IRRITABLE BOWEL SYNDROME

1. High fiber diet, rich in soluble fiber, with plenty of water. (**Diet is the mainstay of IBS treatment**. Read Details carefully - in chapter 20 "Dietary Advice")
2. Reduce mental stress. Anxiety, Tension, Fear are typical triggering factors for diarrhoea. Change in lifestyle, Regular aerobic exercise, Yoga and Mental relaxation techniques are a great help.

If Diarrhoea Predominant IBS

1. Tab Colospa/Morease 135 mg tds 20 min before meals (**Mebeverine** = 1J-3) OR Tab Spasmopriv 100mg tds (**Fenoverine** = 1J-3) For diarrhoea & cramps - long term maintenance therapy.
2. *For Acute exacerbations,*

   Tab Lopamide 2 mg bd (**Loperamide** = 1J-1)

   Or Tab Lomotil 2.5 mg bd (**Diphenoxylate** = 1J-2)

   Temporary effect, but very useful.

   Take 2 tabs in morning to avoid symptoms during travel or on special occasions.
3. Tab Shelcal 500 mg 1 OD (Calcium carbonate helps to slow down bowel movements)
4. Tab Depsonil 25 mg tds (**Tricyclic anti-depressant - Imipramine** = 4F-A)
5. Isabgul Husk 2 tsp in warm water, at bedtime (To provide solid bulk)
6. Strictly avoid the foods that trigger loose motions - spicy foods, coffee, alcohol, artificial sweeteners etc.
   a. Keep a food diary and try to find out which foods trigger diarrhoea.
   b. Try excluding specific foods and see if it works. eg. i) wheat & gluten: Chapati, Phulka, Bread, Pasta ii) Milk & dairy products iii) Sweets & chocolates

If Constipation Predominant IBS

Avoid anti-spasmodics & Tricyclic anti-depressants, as they increase constipation.

1. Gentle Laxatives, but don't make it a habit. Stimulant laxatives like Senna, Dulcolax, should not be given for long. Prefer osmotic laxatives:

   Iasphghul powder 2 tsp with water at bedtime

   OR Lactulose 15 ml at bedtime.

   OR Cremaffin 2 tsp

   OR Kayam churna 1 tsp at bedtime.
2. Cap Loftil 20 mg OD (SSRI anti-depressants - **Fluoxetine** = 4F-B)
3. Tab Morease-1 tds (Mebevarine + Isabghul) for chronic colicky pains

For other Symptoms

1. *If abdominal cramps is the prominent symptom:*

   Tab Eldicet 50 mg 1 bd to tds (**Pinaverium** = 1M-4)
2. *If bloating, fullness is distressing:*

   Tab Unienzyme 1 bd × 10 (**Digestive enzymes** = 1C)
3. *To correct the intestinal flora:*

   Econorm sachet 1 BD × 5-10 days (**S.Boulardii** = 1J-8)
4. *If mucus in stools + Diarrhoea, initial Anti-amoebic course will help:*

   Tab Fasigyn 500 mg bd × 5 (**Tinidazole** = 1F)

DYSPHAGIA

Type 1: Dysphagia due to throat pain

This is the commonest type of Dysphagia in General Practice, occurring due to Acute Tonsillitis, pharyngitis or Laryngitis.

1. Steam inhalations 2-3 times/day.

   Add Tinc. Benzoine or Vicks Vaporub to the boiling water.
2. Tab L-cin 500 mg od × 5 days OR Tab Azithral 500 mg od x 3 days (**Respiratory antibiotic** = 7A)
3. Tab Combiflam 1 tds × 3 days (**Ibuprofen + Paracetamol** = 3C-3 = anti inflammatory)
4. Sovental expectorant tsp tds × if cough. (5C)

5. Soft or liquid diet, no chillies, no oily and irritant foods
6. Gargle with warm salt water, or Wokadine oral solution.
7. Adequate rest. Avoid exertion.

- First Ask the patient to open the mouth, and inspect the throat using a good torch & tongue depressor. If throat is not congested, think of true dysphagia - types 2 & 3.
- **If Patient can't open the mouth**
  - i) It's Quinsy i.e. Peritonsillar abscess if Painful.
  - ii) Oral submucous fibrosis - if mucosa is white, and
  - iii) Tetanus if lockjaw.

Type 2: Painful Dysphagia with retrosternal burning and pain

1. Bland and soft diet, more of milk. Avoid Hot drinks and spicy foods.
2. Inj. Neurobion 2 cc IM × daily × 5-10 inj. (B_1 B_6 B_{12} = 2H-6)
3. Syr. Bplex 2 tsp tds (**Bplex, Preferably syrup** = 2H-7)
4. Mucaine Gel 2 tsp × 2-4 hrly (**Antacid + Oxethazine** = 1A-2) or Syr Acigon 2 tsp × 6 hrly if regurgitation symptoms. (Alginic acid = 1A-3)
5. Tab. Ranitidine 150 mg bd (**H_2 Antagonist** = 1b-1)
6. **If pain and Dysphagia do not subside within 1 week, Refer for Oesophagoscopy and Barium swallow.**
7. If Oesophageal Candidiasis, test for HIV, and add:

   Tab Flucos 50 mg OD × 15-30 days (**Fluconazole** = 7C-3)
8. If Reflux Oesophagitis or Hiatus Hernia, Add:
   - i) Tab Ganatone 50 mg tds × 15 (**Itopride** = 1M-3)
   - ii) Syr. Acigon 2 tsp 6 hrly (**Alginic acid** = 1A-3)
   - iii) Do not lie down, immediately after food. Take small, non-bulky meals
   - iv) Head high position at night.
   - v) Obese patients to reduce their weight.
   - vi) Avoid wearing tight belt, clothes or corset over the abdomen.
   - vii) If colicky restrosternal pain, try-

     Tab Colospa 125 mg tds 15 min before meals (Mebeverine = 1J-3)
9. If severely anemic with normal Oesophagoscopy, (Plummer-Vinson syndrome),

   Treat iron deficiency first (2-1)
   - i) Inj. Imferon-S 2 amps in 100 ml NS IV Drip × alt days × 5 – as per calculated dose
   - ii) Cap Autrin 1 OD × 3 mths.

Type 3: Obstructive Dysphagia

If there is definite and progressive obstruction to the passage of solid foods - e.g. any solid food taken regurgitates, or goes in only on drinking plenty of water. If patient refuses to drink even water, then suspect Hydrophobia and Rabies.

Then Do not Waste time giving Medicines

Refer for **urgent** Direct laryngoscopy + Oesophagoscopy. and Barium swallow.

A Malignant growth will need Biopsy and Referral to Cancer Hospital.

A Benign stricture will need Endoscopic Oesophageal dilatation.

HICCUPS

Home Remedies

1. Breathe into a Plastic Bag-held over nose & mouth.

2. Hold breath as long as possible 3-4 times.
3. Hold breath, pinch the nose & drink water.

If Hiccups do not stop

1. Mucaine Gel 2 tsp 2-4 hrly. (**Antacid + Oxethazine** = 1A-2)
2. Tab Baralgan 1 tds (**Anti-spasmodic** = 1L)
3. Tab Liofen 10 mg x 1 bd x 5 days (Baclofen = 3F-7)
4. Tab Largactil 50 mg 1 stat & tds (Chlorpromazine, **Tranquiliser** = 4-1)
5. Tab Alprazolam 0.25 mg tds if anxiety (4D-8)
6. Give Ice cold water, or Icecream to eat

If Hiccups are still not controlled

1. Inj Baralgan 3 cc IM or 5 cc I.V. (**Antispasmodic** = 1L)
2. Xylocaine Viscous 30 ml to gargle and drink. May be repeated after 4 hrs.
3. Stomach wash with Ice-cold saline + 1% Sodabicarb.
4. Inj. Largactil 50 mg i.e. 2 cc IM.
   OR Inj Serenase 5 mg (1 ml) IM
5. Tab Liofen 10 mg tds (**Baclofen** = 3F-7 Muscle Relaxant) OR Inj Liofen 50 mg (1 ml) slow I.V.

If Hiccups are persistent or recurrent

Ask for : Blood Urea & S. Creatinine.
: Hb, WBC, LFT
: X-ray Chest, X-ray KUB
: Gastroscopy
: Ultrasonography of Liver, Kidneys & Prostate

❖ **Young lady with Hiccups**
Think whether they are Hysterical. If suspected, give Inj. Largactil 2 cc IM.

❖ Hiccups in an elderly male, are often due to prostatic enlargement causing urinary obstruction and raised Blood urea. So, always ask for prostatic symptoms.

JAUNDICE

Suspect Infective Hepatitis When patient complains of sudden weakness, & loss of appetite, with nausea, fever and tender palpable Liver. **Examine the sclera of eyes in bright sunlight.**

1. Complete Bed Rest is very essential, till S. Bilirubin < 1.5 mg%, and enzymes are normal.
2. Diet:
   - Fat free diet. No oil, ghee & fried Foods.
   - Plenty of sweets, sugar, sugarcane juice.
   - Boiled Water for all at home.
   - Strictly no alcohol.
3. All hepatotoxic drugs should be stopped.
   e.g. Anti-tuberculous drugs, Aspirin, Methyl Dopa, alcohol.
4. No sedatives should be given if jaundice is deep.
5. **Drug Treatment**
   i) Glucose: Glucon D 50 gm. Orally daily. During acute phase & when nausea & vomiting are severe, give I.V. Glucose
   - IV 2 × 540 ml 10% dextrose
   + 1 amp M.V.I. in one bottle (**Multivitamin** = 2H-9)
   + 25% dextrose 3-4 ampules/day
   + 1 amp Redoxone 1 amp I.V. (**Vit C** = 2G)

   ii) Tab Essentiale-L 2 tds (Phospholipids to Regenerate Liver cells = 1D-3)

iii) Tab Silybon 140 mg bd (Silymarin for Liver regeneration = 1D-4)

iv) Syr. Sorbilin tsp tds (**Sorbitol + Tricholin** = 1D-2)

v) Tab Liv52 2 tds × 30 (**Ayurvedic Liver Support** = 1D-1) Emperical Rx

vi) Inj. Neurobion 2 cc IM × alt × 5 (B_1 B_6 B_{12} = 2H-5) or Inj. Neo-hepatex 2 cc IM × alt days × 5 (Liver extract = 2K)

vii) If itching - Calamine lotion to skin, (11E-2)

- Tab Atarax 25 mg tds (Hydroxyzine = anti-histaminic = 5B)

viii) Steroids should be generally avoided.

In acute phase with deep jaundice and in alcoholic hepatitis, a short course may be given, provided HbsAg is Negative. e.g.

- T. Wysolone 5 mg tds × 3-5 days (9A-1).

ix) If chronic alcoholic hepatitis/ cirrhosis, add

- Tab Viboliv 500 mg bd (Metadoxine) For Liver protection

x) If Bilirubun is >10mg%, add
- Tab Lornit 500 mg tds. (L-ornithine = 1D-5)

Investigations

1. Urine for bile salts & bile pigments.
2. S. Bilirubin - every week
3. SGOT, SGPT, Alkaline Phosphatase, S. Proteins
3. HBsAg for Hepatitis B, Hepatitis C, if Jaundice is recurrent, chronic or with weight loss.
4. Ultrasound for Gall bladder if obstructive jaundice is suspected.
5. Routine Hb%, WBC

How to prevent spread of Infective Hepatitis

1. Boiled water for all at home (and for all locality if it is an epidemic)
2. Personal Hygiene and cleanliness (as feces are infectious)
3. Use Disposable Needles and syringes (to be destroyed after use.)
4. Inj Human Immunoglobulin 10% 2 ml IM single dose to contacts.
5. Inj. Havrix (Hepatitis A Vaccine) 1440 units IM × stat, 1 mth, 6 mths (booster). For travelers and close contacts. Children = 720 units.

- Suspect obstructive jaundice if colour of sclera is deep lemon yellow, if there is marked itching, if there is no loss of appetite, if gall bladder is palpable and if Direct bilirubin is more.
- If Jaundice is deep or increasing, if S. Bilirubin is increasing, if patient is drowsy or irritable, then refer the patient to a physician immediately. These are signs of impending Liver cell failure!
- For prevention of Hepatitis-B, Hepatitis-B vaccine (14-10) e.g. Energix-B 1 ml IM × 3 doses = stat, 1 mth & 6 mths. Indicated for all Doctors, Dentists, Nurses, Lab. Technicians, Blood Bank staff etc.
- Travelers like salesmen should be advised prophylactic Immunoglobulin 2 cc IM, esp. during epidemics of Hepatitis A.

HEPATITIS-B

If patient with jaundice is Hepatitis-B positive

1. Treat the acute phase of jaundice as above.
2. Treating physician and paramedical

staff **must** be immunised against Hepatitis-B:

Inj. Energix-B 1 ml IM at 0, 1 and 6 months, Booster 5 years.

3. Take universal precautions to protect yourself from needlepricks and destroy all used needles, syringes etc.
4. Continue T. Essentiale (Phos-pholipids) and T. Hepatinic (Ayurvedic) for 6 months, as a supportive treatment.
5. Tab Udiliv 300 mg bd x 3-6 months (Ursodesoxycholic acid) Liver protective.
6. Check SGOT & SGPT every month. If the levels are increasing, refer to Gastroenterologist immediately.

After 6 months

7. Repeat HBsAg test. In 90% patients, it will become negative in normal course. Remaining 10% develop chronic hepatitis or a carrier state.
8. Patients with chronic hepatitis, need specific Anti-viral treatment, by Gastroenterologist.
   - Interferon-alpha 30 million IU/ week (as 10 million IU on alternate days) x 16 weeks (very costly) (7G-B).
   - Tab Lamivudine 100 mg 1 OD x 1 year OR

     Tab Ribavarin 400 mg tds x 1 year

If mother is HBsAg positive

The child should receive

1. Inj. Hepatitis B Immunoglobulin 0.06 ml/kg immediately after birth
2. Inj. Energix-B 0.5 ml 1st dose, within 12 hrs. of birth.

If patient has no Jaundice, but is HbsAg Positive,

If SGOT, SGPT are high, Refer to Gatroenterologist immediately. If normal, check every 6 months.

Drugs to avoid in Liver damage

- Quinolones (like Ciprofloxacin), Macrolides (Like Erythromycin), Chloramphenicol
- Rifampicin, INH, Pyrazinamide
- Steroids, Contraceptive pills, E+P
- Metformin, Sulfonyl urea, (Give Insulin)
- ACE inhibitors (Like Enalapril)
- Anticoagulants, Antipsychotics, Antidepressants.
- Gardenal, Carbamazepine, Valproate.
- Halothane, Ether, Isoflurane

ASCITES

Ascites due to Portal Hypertension

1. Stop Alcohol completely.
2. Salt free diet, with fluid restriction
3. High Protein diet. (except if drowsy or precoma)

   GRD Powder 2 tsp in milk bd (**Proteins** = 2A)
4. Diuretics:
   i) T. Aldactone 100 mg OD (**Spironolactone** - 6B-2)
   ii) T. Lasix 40 mg 1 OD (any **Diuretic** - 6B-1 to 9)
   iii) Potchlor tsp tds if K^+ losing diuretic
5. For Cirrhosis:
   i) Tab Essentiale 2 tds (1D-3)
   ii) Tab Silybon 140 mg tds (1D-4)
   iii) Syr. Sorbilin tsp tds (Sorbitol 1D-2)
   iv) Tab Liv52 2 tds (Ayurvedic Liver Support - 1D-1)
6. I.V. Human Albumin 20%: 50 ml daily x 3 days, if serum Albumin is low $\leq$ 2 gm%.

If not controlled by Medical treatment

1. Repeated Ascitic tapping, whenever it causes discomfort.

2. Refer to a center doing Porta-caval shunt surgery
3. Palliative Peritoneo-femoral shunt.

❖ Development of repeated or large ascites eventually leads to liver cell failure & hepatic coma. So keep the relatives warned.

❖ On successful diuretic therapy, the patient should lose ½ kg body weight everyday.

CHRONIC ALCOHOLIC WITH TREMORS

1. Stop Alcohol + Give High protein Nutritious Diet

For withdrawal symptoms

2. Inj. Neurobion 2 cc IM × daily × 10 (**B**, B_6 B_{12} = 2H-5)
3. Cap Becosules 1 bd × 30 (**B complex** = 2H-6)
4. Tab Librium 25 mg bd x 15 days (Chlordiazepoxide = 4D-2)

   OR Tab Calmpose 5 mg tds × till tremors are controlled. (**Diazepam** = 4D-3)
5. Inj Lopez/ Ativan 1 mg slow IV (Lorazepam = 4D-4) for acute symptoms

If Memory and Intellect are affected

6. Tab Neuracetam 1 tds x 30 (**Piracetam** = 4G)

If Liver is enlarged or Cirrhotic

7. Tab Essentiale 2 tds (Phospholipids = 1D-3 & 4)
8. Syr. Delphicol 2 tsp tds × diluted in water × before meals (**Sorbitol + tricholin** = 1D-2)
9. Tab Liv52 2 tds (**Ayurvedic Liver support** = 1D-1)
10. For Alcoholic cirrhosis, - Tab Viboliv 500 mg x bd (Metadoxine) For Liver protection

If impending hepatic coma

i.e. Altered sensorium, drowsiness, deep jaundice, insomnia, flapping tremors.

1. No Protein diet
2. Stop all diuretic, sedatives and Hepatotoxic drugs.
3. Cap Neomycin 1 g 6 hrly × 7 days (**Intestinal antibiotic** = 7J)
4. Syr Lactulose 30-50 ml/hr. orally (to reduce **Ammonia absorption** = 1G-9)
5. Do not treat in clinic. Refer immediately to Hospital.

If Acute alcohol intoxication

First rule out Organo-phosphorus Poisoning (smell + pinpoint pupils). Also rule out Head Injury, and Hepatic coma.

1. I.V. 25% glucose × 4 amps × stat (For Hypoglycemia)
2. Ryle's tube & stomach wash
3. I.V. 5% dextrose 1000 ml + 1 amp M.V.I. or Polybion (2-9) For Vitamin B1 and B-complex
4. Inj Rantac 2 ml (50 mg) IV stat (Antacid = 1B-1)
4. Inj. Viboliv 300 mg 2 vials in 5% Dextrose, IV (Metadoxine - For Liver protection)
5. If violent,

   Inj. Largactil 2-4 cc IM

   OR Inj Serenace 5 mg IM (4E-1)
6. If Unconscious, Inj 20% Mannitol 100ml slow IV drip.

If patient does not become conscious, refer to a Hospital.

❖ If you can persuade one alcoholic to get rid of the addiction, and extend his active life by a few years, you

will be saving one full family from disaster. So though such advise is often futile, Don't give up.

WORM INFESTATIONS

Passing worms in stools, Perianal itching, Flatulence, Colicky pains, Anorexia, Anemia.

Dosages of Broad spectrum Antihelminthics: (1E-1 to 7)

1. Tab Mebendazole 100 mg bd × 3 days.
2. Tab Zentel 400 mg × single dose (**Albendazole**)
3. Tab Combantrin 250 mg × 3 Tabs single dose (**Pyrantel**)
4. Tab Dewormis 150 mg × single dose (**Levamisole**)
5. Tab Sta-500 1 Tablet x single dose (**Mebendazole + Levamisole**)

For Tape worm infestation

Tab Niclosan 500 mg × 4 tabs stat in morning, on empty stomach. Then, 2 tabs daily × 6 days if H. Nana infestation. (**Niclosamide** = 1E-II 1) or Tab Albezole 400 mg × 1 bd × 3 days (**Albendazole** = 1E-2)

For Thread worm infestation

T. Albendazole 400 mg × bd × 3 days (1E-2) or T. Mebex 100 mg × bd × 15 days (1E-1)

For Round worm infestation

Piperazine Citrate 30 ml at bedtime on 3 consecutive days. (75 mg/kg body wt./day) or any of the broad spectrum anthelmintics.

For Hydatid Cyst

Tab Albendazole 12 mg/kg/day × 1 month.

General instructions:

- Wash hands, nails & perianal area with soap and water, after passing stools.
- In villages, avoid open air defecation.
- Wash Vegetables thoroughly before cooking or eating.
- Use boiled or filtered water for drinking

❖ As Family Doctors, make it a point to deworm every school going child under your care, once a year.

❖ Very Important: treat all family members, including servants, to eradicate the worms completely. Especially thread worms.

❖ Anthelmintics must be given to every child with pain around umbilicus, itching around anus, anemia and failure to gain weight.

❖ Majority of anemias in rural population are partly or wholly due to Hookworm infestation. So every patient of moderate to severe anemia must be given anthelmintic.

❖ Always repeat the anthelmintic after 10 days to eradicate worms completely.

EPIGASTRIC PAIN

1. Avoid chillies & sour food, smoking & alcohol.
2. Stop irritant drugs like NSAIDs, if patient is taking them.
3. Gelusil MPS 2 tsp × tds × 5 days (**Antacid** = 1A)
4. Tab Histac 150 mg bd × 5 days (**Ranitidine** = 1B-1 to 2)
5. Tab Baralgan 1 tds if spasmodic pain (1L)

If pain is not relieved completely

Ask for investigations - 1. Gastroscopy 2. Ba Meal (if Gastroscopy is not available)

3. Stool examination 4. Ultrasonography 5. S. Amylase and Lipase 6. ECG

If there is mucus or E. Histolytica in stools

Tab Flagyl 400 mg x tds x 7 days. (**Anti amoebic** = 1F) or Tab Secnil 1 gm x 2 tabs single dose or Tinidazole or combination drugs (1F)

If Liver is palpable and tender

- Is there Jaundice? Infective Hepatitis?
- Is there C.C.F.? Heart murmur, neck veins or edema?
- If not, ask for ultrasonography of Liver & GB.

DUODENAL ULCER

Instructions

1. Bland diet. No chillies/Sour/Fried foods. More of Milk.
2. Avoid strong Tea & coffee. If taken, take with some food, not on empty stomach. Also, avoid very hot and very cold Liquids.
3. Smoking & Alcohol - strictly prohibited.
4. Avoid gastric irritant drugs like Aspirin, All NSAIDs (Ibuprofen, Diclofenac, Oxyphenbutazone etc.), Steroids.
5. Have regular meals. Avoid periods of starvation - take small snacks in between.
6. Avoid late night duties, Take regular sleep and adequate rest - avoiding mental tensions & taking tranquilisers in acute phase.

Drug Treatment

1. Digene 2 tsp x tds x till all symptoms disappear (**Antacid** = 1A)
2. Tab Ranitidine 150 mg bd x 8 wks (1B = 1 & 2) or Tab Famotidin 40 mg H.S. x 8 wks or Cap Omeprazole 20 mg OD (in morning) x 4 wks. or Cap Pantop 40 mg OD x 4 wks.
3. Tab Alprazolam 0.25 mg HS x 10 days i.e. during acute exacerbation (**Tranquiliser** = 4D-8)
4. Cap Becosules 1 OD x 30 (**B-complex** = 2H-6)
5. Additional drugs that may be added:
   i) Syr. Sparacid 1 gm/ 5 ml. Qid x 15 minutes before meals x 4 wks. (**Sucralfate** = 1 B3/3) For a protective layer over the ulcer.
   ii) T. Antrenyl 1 Qid x if colicky pain (**Oxyphenonium** = 1 B 3/1)
6. If Gastroscopy has shown H. Pylori infection in biopsy, then Triple therapy (See below)

After 8 wks., repeat Gastroscopy. If the ulcer is healed

Stop treatment. If disease is long standing or recurrent, advise **maintenance therapy for 6 mths to 1 year to prevent recurrence.**

1. Tab Ranitidine 150 mg HS x 6 mths. or Tab Famotidin 20 mg x 6 mths. or cap Omeprazole 10 mg OD x 6 mths.
2. Avoid all stress factors, irregular meals, late nights, starvation, smoking, alcohol, & irritant drugs

If Ulcer is not healed after 8 wks

1. Change the drug used e.g. If Ranitidine was given, give Omeprazole.
2. Add-Tab Sucralfate 1 g Qid x before meals x 4 wks.
3. Tab - Pylocid 1 bd x 4 wks (**Colloidal Bismuth** = 1B 3-4)
4. If Ulcer does not heal, Refer for surgery.

If Ulcer heals but recurs frequently

Ask for H. Pylori in Gastroscopic Biopsy, or Breath test. If H. Pylori are present, advise Triple therapy.

Pylokit 1 Kit daily × 7 days (B-4-2 = Lansoprazole + Clarithromycin + Tinidazole)

Other combinations:

1. Omeprazole + Amoxycillin + Tinidazole
2. Lansoprazole + Amoxycillin + Tinidazole
3. Pantoprazole + Amoxycillin + Tinidazole

(Ref: B-4)
Each kit or combipack contains 3 tablets for the morning and 3 tablets for the night i.e. one day's dose.

- Most cases of duodenal ulcer will be cured by Medical Treatment. Only recurrent and complicated cases (e.g. Pyloric stenosis or bleeding) will require surgery.
- A Gastric ulcer is potentially malignant. So, Biopsy and follow up with Gastroscopy is very essential, and operation is advisable.

PAIN IN RIGHT HYPOCHONDRIUM

Evaluate the patient on the following lines

1. Is the pain related to food? If it is relieved by food, it is most likely a duodenal ulcer.
2. If there is tenderness under the costal margin on deep inspiration, think of chronic Cholecystitis.
3. If Liver is palpable & tender, look for jaundice (infective hepatitis), intercostal tenderness (amoebic hepatitis) and signs of C.C.F. i.e. breathlessness, murmur, neck vein engorgement, and edema.
4. If Gall bladder is palpable with or without jaundice, refer to a surgeon for investigations.

Treatment of Duodenal Ulcer, Infective Hepatitis & C.C.F. is discussed elsewhere

AMOEBIC HEPATITIS

1. Bed Rest.
2. T. Flagyl 400 mg × tds × 10 days. or T. Tinidazole 1 g × bd × 3 days.
   High Dose Flagyl: 12 Tabs of Flagyl 400 mg + Digene 60 ml (antacid) + Tab or Inj Siquil are given orally or through Ryle's tube × on 2 successive days.
3. Inj. Dehydroemetine 60 mg (2 cc) IM × daily × 10 days under strict Bed Rest and ECG check up.
4. Ultrasonography for Amoebic Liver abscess. If abscess is formed, Refer to a Physician for aspiration of abscess.

PAIN IN RIGHT ILIAC FOSSA

When there is pain & tenderness in right iliac fossa (R.I.F), Think of Appendicitis and Amoebic colitis. Fever, Tachycardia, loss of appetite or vomiting suggest appendicitis.

If Pain & tenderness are severe

Give:

- Inj Gentamycin 80 mg IM (**Antibiotic** = 7A)
- Inj Tramadol 2 cc or Voveran 3 cc IM (**Analgesic** = 3A) and refer the patient to a surgeon.

If Pain & tenderness are mild

Give:

- Cap Norflox 500 mg tds x 5 (**Antibiotic** = 7A)
- Tab Fasigyn-DS 1 bd x 3 (Anti **Amoebic** = 1F-2)

- Tab Anafortan 1 tds x till pain (**Antispasmodic** = 1L)
- Foment over R.I.F.

❖ If localised tenderness in R.I.F. persists after a course of antibiotic and antiamoebic, then clinical diagnosis of chronic appendicitis is almost certain.

❖ In acute case, High WBC count > 10,000/cu.mm. suggests acute appendicitis, RBCs in urine suggests ureteric colic, and E. Histolytica in stool suggests amoebic colitis.

COLICKY PAIN IN ABDOMEN

Commonest causes of abdominal colics seen in General practice are - ureteric colic and small or large intestinal colics.

Ureteric (Renal) Colic

Should be suspected when there is intermittent, colicky pain, on one side of abdomen, anywhere from renal angle to groin. Diagnosis is almost certain if pain radiates to groin, testis or perineum, and if associated with dysuria or hematuria.

Small intestinal Colics

Are always felt around umbilicus (as it is a referred pain) and is commonly due to worms. **But if a central colic does not subside with anti spasmodics, but increases progressively, keep in mind intestinal obstruction**, especially when there is abdominal distension & bilious vomiting.

Large intestinal Colics

Are cramplike pains or colics and may occur anywhere along the colon. Most common sites are L.I.F. i.e. sigmoid colon, R.I.F. i.e. caecum and RHC/LHC i.e. hepatic or splenic flexures. They are usually associated with mucus in stools, and local tenderness, and are relieved on passing motions.

Biliary Colic

Should be suspected when colic occurs in RHC. Tenderness under Rt. costal margin and Jaundice if present, are very suggestive. Otherwise, it could be a colic from duodenal ulcer or colon.

Lower abdominal Colics in females

Should make you think of Dysmenorrhoea if patient is in premenstrual or menstrual period. Threatened abortion if H/o Amenorrhoea and ruptured ectopic pregnancy if severe tenderness & pallor.

URETERIC (RENAL) COLIC

1. Inj. Voveran 3 cc IM stat (strong **Analgesic** = 3B) Or Inj Tramadol 2 cc IM
2. Inj. Cyclopam 2 cc I.V./IM (**Anti-spasmodic** = 1L-1) or Inj Anafortan 2 cc IM (1L-6)
3. Tab Anafortan 1 tds x till pain subsides (1L)
4. Tab Cystone 2 tds x (Ayurvedic for stones)
5. Cital 1 tsp in a glass of water x tds (**Urine Alkaliniser** = 7C-6) or Barley water (Kissan) 1 glass tds
6. Plenty of water and fluids.
7. Inj. Perinorm or Emeset 2 cc IM (**Antiemetic** = 1K-1) if there is vomiting
8. I.V. Fluids = 1000 ml DNS if fluid intake is not sufficient.
9. Send Urine for RBCs, collected during colic.

If pain is very severe

1. Inj. Anafortan 2 cc IM may be repeated.

2. Inj. Morphine 1 amp IM or I.V. (**Analgesics** = 3B, morphine is the most preferred) or Inj Fortwin 30 mg IM/IV
3. Inj Atropine 1 amp I.V.
4. If colic persists, Give Hydrotherapy or refer to a surgeon.
5. Ask for - Urine Exam, X-ray KUB & ultrasonography.

Hydrotherapy

I.V. 1000 ml 5% dextrose, given as a fast drip. At the end of the drip, Give -

- Inj. Lasix 1-2 amps I.V. (Diuretic to force urine flow)
- Inj. Anafortan 2 cc IM (for pain & relaxation of ureter)

Repeat for 3 consecutive days. Then repeat K.U.B. X-ray. If stone has not moved, and pain persists, Refer to urologist for stone removal or Lithotripsy.

- Whenever you suspect ureteric colic, collect urine during or after the colic. Presence of RBCs confirms your diagnosis, even if a small stone or crystal may not be seen on X-ray.
- If there is significant tenderness over the abdomen, then it is not a ureteric colic.

Small stones in lower ureter can be basketted and removed through cystoscope. Larger stones causing Hydronephrosis, are best treated with lithotripsy (ESWL) or surgery.

SMALL INTESTINAL COLIC

1. Inj. Spasmo-proxyvon or Anafortan 2 cc IM (**Antispasmodic** = 1L)
2. Tab Zentel 400 mg × 1 tab (any Broad **Spectrum Anthelmintic** = 1E-1)
3. Tab Anafortan 1 tds × till pain subsides.

LARGE INTESTINAL COLIC

1. Tab Flagyl 400 mg tds × 7 (**Anti-amoebic** = 1F) or Tinidazole or secnidazole.
2. Tab Anafortan 1 tds × till pain subsides.
3. Econorm 1 sachet × bd × 5 days (**Saccharomyces Boulardii** = 1J-8)

- If lower abdominal colic in a female patient does not subside with anti-spasmodic injection or is associated with Bleeding P.V./amenorrhoea/ Pailor, Tenderness, then refer the patient to a Gynaecologist.

Chapter

2 CARDIOVASCULAR SYMPTOMS

ANGINAL PAIN

Whenever a patient complains of left sided or retrosternal chest pain, left arm, shoulder or jaw pain, first ask yourself – is it related to the heart? Was it associated with sweating?

Suspect Angina whenever

1. Pain is experienced on the left side of the chest or retrosternally.
2. If the pain radiates to left jaw, left shoulder or medial aspect of left arm.
3. If pain appears on exertion and disappears on rest, and
4. Confirmatory test – is the disappearance of the pain with sublingual sorbitrate.

Immediate treatment of Anginal pain

1. Stop Physical activity immediately, and sit quietly
2. Tab Isordil/Sorbitrate 5-10 mg Sublingual (**Isosorbide dinitrate** = 6D-2)

   OR Tab Angised 0.5 mg Sublingual (**Nitroglycerine** = 6D-1)

   OR GTN/Nitrocin Lingual spray 0.4 mg sublingually (**Nitro-glycerine spray** = 6D-1)
3. ALWAYS keep sublingual tablets at hand – in the pocket, in the bedroom, in the bathroom and toilet, on the office table, in the travel kit etc.
4. If pain does not subside, repeat sublingual tablet after 5 minutes. If no relief after second tablet, Give 1 tab of Disprin, and refer immediately to cardiologist.

TREATMENT OF ANGINA (Diagnosed I.H.D.)

1. General instructions

i) Avoid Exertion:

If possible, change to a more sedentary job. In particular, avoid sudden exertions like running to catch a bus, moving furniture in house, climbing stairs in a hurry etc.

ii) Reduce weight, if overweight.

iii) Low fat diet.

iv) If smoker, must stop smoking immediately.

2. Coronary vasodilators

For Acute pain:

i) Tab Isordil/Sorbitrate 5-10 mg Sublingual (**Isosorbide dinitrate** = 6D-2)

OR Tab Angised 0.5 mg Sublingual (Nitroglycerine = 6D-1)

OR GTN/Nitrocin Lingual spray 0.4 mg sublingually (**Nitro-glycerine spray** = 6D-1)

ii) Sit quiet till pain disappears.

For 24 hr protection:

i) Tab Ismo 20 mg 1 BD (**Isosorbide-5-mononitrate** = 6D-3)
OR Tab Imnit 30 or 60 mg OD (Slow release)

ii) OR Tab Dilzem 30 mg TDS (**Diltiazem** = 6D-7)

3. Anti-Thrombotics

i) Tab Ecosprin 150 mg or 75 mg OD, after food, (**Aspirin** = 6E-1)

ii) *In High risk cases & recent MI, add Anti-platelet agent*
Tab Clopilet 75 mg OD (**Clopidogrel** = 6F-4)
OR Tab Prasudoc 10 mg OD (Prasugrel = 6F-8)
For convenience,
prescribe a Combination like Tab Clopilet-A 1 OD or Ecosprin-AV 1 OD

iii) *If aspirin intolerance or peptic ulcer, give only*
Tab Clopilet 75 mg OD (**Clopidogrel** = 6F-4)

4. To control Atherosclerosis, and stabilise plaques

i) Correct the Lipid profile with a statin. Aim for S. cholesterol < 150, LDL = 70 (< 100), HDL > 40, Triglycerides < 130; Refer Hyperlipidemia treatment – Page 27
- Tab Novastat 10 mg HS (Rosuvastatin = 6J-II-4)

ii) Antioxidant drug
Tab ALA-100 100mg OD (**Alpha Lipoic acid** = 2O-C)
Cap Revup 1 OD (**Antioxidant combinations** = 2O-1)

iii) Tab Metolar-XL 25 mg OD (Beta blocker = Metoprolol = 6AB-3)
OR Tab Cardace 1.25 mg OD (**ACE inhibitor** = 6AD-4)

5. Adjuvant therapy

i) **Check B.P.:** Control Hypertension to 120/80 Hg, preferably with a Betablocker.
Tab Lopressor OR Atenolol

ii) **Check Lipid profile:** If high, treat hyperlipidemia

iii) **Check Blood sugar:** Control Diabetes very tightly.

iv) Insist on regular, gradually increased, 30 min walking exercise.

Summarising Angina treatment – Sorbitrate, Aspirin, Atorvastatin, Metoprolol /Ramipril, Antioxidant.

- Angina can be atypical, with pain only in epigastrium or left lower jaw or left shoulder and arm. The confirmatory test is immediate relief with sublingual Isordil.
- If anginal pain persists even after taking sorbitrate, think of Myocardial Infarct.
- If a toothache in left lower molars persists even after tooth extraction, think of Angina.
- It is wiser to detect angina early and refer for investigations and Bypass surgery, than to wait till an infarct develops. At the same time, if the patient is not willing for Bypass surgery at all, then there is no point in spending on stress test & coronary angiography. Leave him alone on medical treatment. If he is not affording the operation, Guide the patient to get free cardiac surgery in Government schemes for BPL patients, or refer to Sathya Sai Institute at Puttaparthi (A.P.) or Bangalore (Karnataka) or such Institute nearby.

PALPITATIONS

Anxiety is the commonest cause for palpitations. First rule out Anemia, Hyperthyroidism, RHD, LVH and Arrhythmias. Palpate the pulse (during an attack if possible) for tachycardias & arrhythmias. If pulse rate is > 90/min, look for thyroid enlargement. Then auscultate the heart for murmurs and look for heaving apex beat of Left ventricular Hypertrophy.

1. Tab Ativan 1 mg × 2-3 times/day (**Tranquiliser** = 4D-4) or Tab Alprazolam 0.25 mg × 2-3 times/day (4D-8)
2. Tab Ciplar 10 mg tds (**Propranolol** = 6A-6)
3. Santevini 2 tsp bd (Tonic with **Bplex** = 2M-2)
4. If pale, Cap Autrin 1 OD × 2 mths (**Iron** = 2I)
5. Instructions:

   Avoid excess of tea & coffee.

   Avoid alcohol & smoking.

   Avoid Mental strain.

   Avoid Salbutamol in asthmatics.

If no response to treatment

1. Hb for Anemia
2. Serum T3, T4 and T.S.H. - To rule out Thyrotoxicosis.
3. If Diabetic, rule out Hypoglycemia attacks.
4. ECG - To rule out LVH and Arrhythmias like SVT or AF.
5. X-ray Chest for Cardiomegaly.

If these tests are normal, Refer to Cardiologist.

6. Echo-cardiography for LVH, RHD and Valve lesions.
7. Holter monitor Test, if intermittent arrhythmias are suspected.

- If Pulse is normal, and heart is normal, then palpitations are due to anxiety and will respond to Tranquilisers and Beta-blockers.
- If palpitations are due to left ventricular hypertrophy, explain to the patient that the forceful beat is going to persist and he should learn to accept it.

SYNCOPAL ATTACKS (FAINTING)

Usually a vaso-vagal attack due to fright, Bad News, sudden pain or exertion in sun.

During an attack

- Make the patient recumbent, and Flat on the ground.
- Loosen Clothes around the Neck, and Raise the legs.
- Feel the pulse to note the rate, rhythm and volume.
- Stimulate by splashing water or with strong smell (onion).
- Normally, the person wakes up in a few minutes.
- Do not allow him to stand suddenly.
- Ask about - Chest pain, Limb paresis, slurring of speech, and H/o Diabetes, Hypertension and Angina.

If the patient does not wake up and becomes normal in 5 to 10 minutes, think of other causes and shift to a Hospital.

1. If known Diabetic, check Blood sugar on Glucometer. If Hypoglycemia, Give 25% Glucose 1 to 5 ampules, till patient is awake and responding. Then give oral Glucose, Sugar or sweets. Check Blood sugar repeatedly for 24 hrs.
2. If Chest pain/Sweating/Low volume pulse,

- IV RL
- Tab Aspirin 1 stat
- Tab Sorbitrate 10 mg Sublingual stat
- Inj. Efcorlin 1 vial IV. S.O.S.
- Refer to Hospital or Cardiologist for ECG

3. If he has Black loose stools & pallor-? G.I. Bleeding. Refer immediately.
4. If slurring of speech or weakness of one side -? stroke. Refer immediately.

Subsequent treatment of simple syncope

- Inj Neurobion 1 amp IM daily × 5 injs. (2K)
- Cap Becosules 1 bd × 15 (2C)
- Ask for: Hb, X-ray cervical spine, X-ray chest, Carotid Doppler
- ECG, 2D-Echo & Holter moniter test, for cardiac cause.
- Treat Anemia, & Cervical spondylitis if present.

If Postural Hypotension

(Fainted while getting up from lying position)

- Teach the patient to stand up slowly.
- Elastic stockings to both legs, if attacks are frequent.
- T. Wysolone 1 bd x 10 - 15 days (Steroid = 9A-1)
- If taking treatment for Hypertension, - Reduce the dose, or if necessary change the drug. And Do not give steroids.

In Specific circumstances

think of cough syncope, micturition syncope, & Hypersensitive carotid sinus.

❖ After giving injections that cause sedation, like siquil, avil or calmpose, do not allow a patient to walk home alone- he may faint & fall on the way.

SUDDEN ONSET BREATHLESSNESS

1. If wheezing and rhonchii
   - Bronchial asthma
2. If edema of legs, palpable Liver, murmur or prominent neck veins
   - C.C.F.
3. If sudden breathlessness in an apparently healthy middle aged man
   - Acute myocardial infarct with L.V.F.
4. If Emphysematous chest, poor air blast.
   - Emphysema (C.O.P.D.) with superadded infection or spontaneous pneumothorax

❖ Sudden breathlessness in a healthy man, with fine crepitations and no rhonchii, should make you suspect myocardial Infarct. Ask for an ECG.

CONGESTIVE CARDIAC FAILURE

General instructions

1. Bed Rest. Sitting position with cardiac table, if dyspnoeic.
2. Oxygen by nasal catheter, if dyspnoeic.
3. Salt Free diet. Avoid heavy meals.
4. Restricted fluid intake.
5. Avoid NSAIDs
6. H.influenza & Pneumococcal Vaccines.

Basic Treatment

1. Tab Lasix ½ - 1 daily, till edema subsides. Then 1 tab 1-2 times every week (Diuretic = 6B)
2. Tab Cardivas 3.125 mg BD, upto 25 mg BD(Beta blocker = Carvedilol = 6AB-7)
3. Tab Cardace 1.25 mg OD to BD(Ramipril = 6AD – 4)

Start ACE Inhibitor, even if patient is asymptomatic, eg Ramipril/ Enalapril/ Captopril

4. Tab Lanoxin 1 daily × 6 days per week. (Digitalis = no loading dose in CCF)

   Watch pulse for bradycardia and irregular rhythm.

   Start Lanoxin if symptomatic, if EF<35%, and if Atrial fibrillation.

Additional Treatment

1. Tab Imnit 30 mg OD, if associated IHD or Pulmonary congestion. (Oral Mono-nitrate = 6D-3)
2. Tab Dytor 10 mg OD, if severe ie Class III-IV failure) (Torasemide = 6B-11)
3. If the Diuretic is to be given for more than 5 days, Give Potassium sparing diuretic like Lasix + Amiloride or Lasix + Spironolactone or Torasemide + Spironolactone
4. Tab Calmpose 5 mg 1 bd × in acute phase (Tranquiliser = 4D-3)
5. Cap Autrin 1 OD × till Hb is normal (Iron = 2I)
6. Naturolax ½ to 1 sachet daily × if constipation (Isapghul laxative = 1G). Use commode. Avoid Straining.

If acute Exacerbation & Breathlessness

1. Inj. Aminophylline + 25% glucose 10 cc each × slow I.V.

   or Inj. Deriphyllin 2 cc IM or I.V. (**Bronchodilator** = 5D-2)
2. Inj Lasix 2 ml IV slow stat and SOS
3. Inj Cetil 750 mg IV 8 hrly (Antibiotic for respiratory infection= 7A)
4. Oxygen by nasal mask.
5. Refer to Cardiologist for ICCU Management. (Dopamin, Nitroglycerin)
6. If renal dysfunction, Dialysis and Ultrafiltration to remove excess fluid.

If Severe Refractory CCF, EF < 40%

Biventricular Pacemaker, Implantable Defibrillator.

In select centers, such patients are considered for Cardiac Transplant.

- Refer every patient of C.C.F. to a cardiologist for detailed investigations, Echocardiography and in suitable cases - corrective valve surgery. Give the treatment under cardiologist's guidance
- If a patient on Lanoxin complains of Nausea, stop Lanoxin for 2-3 days, then start again 1 tab daily. Same action if pulse < 60/min or if new irregularities develop in the pulse during treatment.
- If the cause is Rheumatic valve disease, advise Inj. PP4 IM × ATD × every 21 days.

Left Heart Failure = ACE inhibitors + Diuretics

Right Heart Failure = Lanoxin + Dobutamine + Nitroglycerine

HYPERTENSION

Detect Hypertension in time, before any serious complication arises. Hypertension means systolic > 140 mm and Diastolic > 90 mm (> 84 mm in younger patients)

Check B.P. Routinely in every patient of high risk group.

1. In every patient above 40 yrs. age (once a year)
2. In every diabetic and obese patient
3. In every case with Headache, Giddiness, Chest pain & epistaxis.
4. In all direct relatives of Hypertensive patients (son, brother, uncle etc.)

I. Mild Hypertension
(120-140 / 80-90 mm)

1. Salt restricted diet. Avoid extra salt and pickles. Salt in cooking may be allowed. If possible, Low sodium salt should be used.
2. Low fat diet. Avoid Oil, Ghee, deep fried foods i.e. Less of saturated fats.
3. Reduce weight, if overweight, by regular exercise.
4. Regularise working hours and sleep for 8 hrs.
5. Yoga for relaxation of mind. Daily aerobic exercises. Brisk Walking for 45 min.
6. Tab Alprazolam 0.25 mg HS × 10 days (**Tranquiliser** = 4D-8)
7. Check B.P. every Wk.

If not controlled

1. Tab Aten 25 mg 1 daily (**Beta Blocker** = 6AB-2)
   OR Tab Telma 20 mg OD (Telmisartan = 6AF-2)

II. Moderate Hypertension
(140-160 / 90-100 mm)

Start with a Beta-blocker (or angiotensin II antagonist or ACE inhibitor or calcium channel blocker or alpha blocker) e.g.

- Tab Atenolol 50 mg 1-2 daily (avoid if bronchospasm)
  or Tab Lopressor 50 to 100 mg daily (**Betablocker** = 6AB)
  or Tab Losagard 25 to 50 mg OD (**Losartan** = 6AF)
  or Tab Telma 20 to 40 mg OD (Telmisartan = 6AF)...Drug of choice
  or Tab Envas 2.5 mg to 10 mg OD (**ACE Inhibitor** = 6AD)
  or Cap Depin 10 mg OD to tds (**Nifedipine** = 6AC)
  or Tab MinipressXL 2.5 to 5 mg OD (**Prazosin** = 6AE)

If not controlled

1. **Add a Diuretic** (6B)
   Tab Hydrochlorthiazide 12.5 mg OD
   - Most anti-hypertensive drugs are available in combination with Hydroclorothiazide 12.5 mg e.g. Envas - H, Losacar – H, Telma – H, Aten – H
   - If there is edema, or CCF, add a stronger diuretuc-
     Tab Dytide ½ - 1 OD
     or Tab Lasilactone ½ - 1 OD
     or Tab Esidrex 1 OD
2. **Combine 2 drugs** e.g. Beta blocker + Ca blocker, or ACE inhibitor + Beta blocker, or Ca blocker + ACE inhibitor, or Alpha blocker + ACE inhibitor etc.
3. **Stop salt intake** completely, even the salt in cooking.
4. Bed Rest - if necessary, Hospitalise.
5. **Refer to a physician** for advise & investigations if above measures fail to control the B.P.

Check the following regularly

1. B.P. every month (more frequently if fluctuating.)
2. S. Cholesterol & Blood sugar - every year.
3. X-ray Chest, ECG & Echo- for baseline readings.

III. Severe Hypertension
(160-180 / 100-110 mm)

1. Start with a combination of 2 drugs eg
   i) Amlodipin + Lisinopril – Tab Amlopres-L 1 OD to BD
   ii) Amlodipin + Metaprolol – Tab Stamlo-Beta 1OD to BD

iii) Telmisartan + Ramipril – Tab Telmisartan-R 1 OD to BD

2. Tab Dytor 10 mg 1 OD (Diuretic = 6B-11)
3. Tab Restyl 0.25 mg HS (Alprazolam = 4D-8)

Read "Choice of Anti-hypertensive" - Page 384.

- If severe, uncontrolled Hyper-tension is seen in younger patients (Below 30 yrs), Refer the patient to a physician or Nephrologist to investigate for Renal Hypertension.
- It is the General practitioner's duty to see that the patient takes the drugs regularly & keep B.P. under control. Many patients believe that if they have no headache, then BP is under control, and take tablets only when symptomatic! Urge them to take tablets regularly.
- If the patient is asthmatic, do not give Beta-blockers. And if a patient on anti-hypertensives, complains of chronic mild cough, check whether he is receiving Beta-blocker.
- Keep sublingual Nifedipine at hand for Hypertensive emergencies.

If BP is above 200 mm systolic or 120 mm diastolic

1. Give Depin 10 mg Sublingually. (**Nifedipine** = 6AC-2)
2. Bed rest
3. If not lowered within 10 to 15 minutes, repeat Depin Sublingual and refer to a physician.
4. **To be given in ICU setup only**

   Inj Labil 50 mg slow IV or 2 mg/min infusion (Labetolol)

   OR Inj Esmolol 500mg slow IV stat, OR NTG Drip.

DIET FOR HYPERTENSION

1. Low Salt Diet

i) Total salt intake should not exceed 2½ gms per day.

ii) No extra salt should be taken during meals.

iii) Use Losalt, where salt is essential.

iv) Avoid salt rich foods – pickles, papads, sauce, cheese, salted butter, salted biscuits, wafers, popcorns, salted peanuts/ cashews, salted butter milk.

v) Take potassium rich foods like grapes, mosumbi.

2. Low Fat Diet

i) Avoid saturated oils – coconut oil, dalda, butter, ghee, cream.

Use monosaturated oils like – olive oil, mohari oil or polyunsaturated oils like – sunflower, corn, karadi (safflower oil).

ii) Avoid all deep fried foods, unskimmed milk, meat.

iii) Increase fiber intake i.e. leafy vegetables, salads, fruits, pulses and legumes.

iv) Use skimmed or double toned low fat milk.

v) Be very strict about low fat diet, if S.cholesterol is high, or lipid profile is abnormal, or if I.H.D. is associated.

RHEUMATIC HEART DISEASE

Acute phase of Rheumatic Fever

1. Inj. Procaine Penicillin PP4 × IM × A.T.D. × daily × 10(7A-5) (If Penicillin sensitive, Tab Erythro-mycin 250 mg Qid × 10) (7A-3)
2. Tab Disprin 1-2 tds × 2 wks. (100 mg/ kg./day **Aspirin** = 2A-2), then taper.

3. Complete Bed Rest for at least 15 days. If carditis, Bed rest for 4-6 wks. till settled.
4. **If Carditis develops,** Refer to cardiologist.
   - Tab wysolone 5 mg tds × 2 wks (2 mg/kg/day **Prednisolone** = 9A-2)
5. **If C.C.F. develops,**
   - Tab Lanoxin 1 tds × 3 (Loading dose), then 1 daily × 6 days/wk.
   - Tab Lasix ½ OD × till edema subsides. (**Diuretic** = 6B)
   - Tab Cardace 1.25 mg OD (6AD-4)
6. **Ask For**
   Hb, WBC, ESR, ASLO Titre, C. Reactive protein
   X-ray Chest, ECG, and Echo-cardiography for baseline readings.
7. **For Prevention of Recurrence**
   1. Inj. PP4 4 lacs IM × ATD × every 3 weeks × till the age of 21 yrs. More if valvular lesion. (then for 5 yrs after the last attack).
   2. Tab Erythromycin 250 mg BD, if sensitive to Penicillin.
8. **For prevention of S.B.E.**
   Whenever any surgery is done or any infection develops, Give a penicillin or cephalosporin cover.
   Inj. Cefaxone 1 gm IV × 8 hrly × 3 days. (Ceftriaxone) = 7A-9 /g IIIc)
9. **If a valve lesion develops,**
   Refer to a cardiologist to evaluate whether it needs any surgery.

- Suspect R.H.D. in every child with fever and joint pains or chest pain or murmur.
- Once Rheumatic fever is diagnosed, the doctor, the relatives and the patient, everyone should know and remember to give penicillin cover for infections and surgical procedures.

CARE AFTER HEART ATTACK

1. Avoid sudden exertion. e.g. climbing stairs in haste, moving furniture in house etc.
2. Graded exercise in the form of walking is advised within the limits of tolerance.
3. Fat free diet. Use sunflower Oil.
4. No Smoking – Most important in smokers
5. Nitrates: Tab Isordil 10 mg 1 Qid (**Dinitrate** = 6D-2) or Tab Ismo - 20 1 bd (**Mononitrate** = 6D-3)
6. Sublingual sorbitrate 5 mg: S.O.S. - Take immediately if pain. Keep sublingual tablets always at hand - in the pocket and in every room.
7. Tab Cardace 1.25 mg x 1 tds (Ramipril = 6AD-4) a ACE inhibitor,
   OR Tab Metolar-XL 25 mg OD (Beta blocker = Metoprolol = 6AB-3)
8. Tab Novastat 10 mg HS (Rosuvastatin = 6J-II-4)
   Statin to stabilise plaque and control Hyperlipidemia
9. Cap. Ovista 1 OD (**Anti-oxidants** = 2P)

Anti-Thrombotic Drugs

10. Tab ASA 50 mg 1 OD (Low dose **Aspirin** = 6E-1)
11. Tab Clopitab 75 mg 1 OD (**Clopidogrel** = 6F-4)
    OR Tab Prasudoc 10 mg OD (Prasugrel = 6F-8)
12. Strict control of Hypertension, Diabetes and Hyperlipidemia, if present.
13. Tab Uniwarfin: as anticoagulant, only if advised by a cardiologist, under strict control of prothrombin time.

TREATMENT OF HYPERLIPIDEMIA

A. General measures-

1. Fat free diet. Avoid Saturated fats like Ghee, Butter, cheese, Groundnut Oil. (To reduce cholesterol intake)
2. Use minimum quantity of cooking oil, by using non-stick utensils. Preferred oils – Olive, Ricebran.
3. Exercise: 30-45 minutes of brisk walk at least 5 days a week.
4. Isovac × 1-2 tsp in water × BD (Psyllium Husk Fiber to reduce lipid absorption = 6J-I-1)

B. If Cholesterol & LDL levels are high- (statin)

1. Tab Atorva 10 mg × 1-2 tabs × after dinner (**Atorvastatin** = 6J-II-1)

   OR Tab Simvotin 10-40 mg × after dinner (**Simvastatin** = 6J-II-2)

   OR Tab Rozucor 10-40 mg × after dinner (**Rosuvastatin** = 6J-II-4)
2. If not controlled, add - Tab Ezedoc-10 1 OD (**Ezetimibe** = 6J-I-2)

C. If Triglyceride & VLDL levels are high- (Fibrate)

1. Cap Lipicard 160 mg OD (**Fenofibrate** = 6J-III-3)

   OR Tab Normolip 300 mg 1-2 tab BD × 30 min before meals (**Gemfibrozil** = 6J-III-1)
2. If not controlled, add - Tab Ezedoc-10 1 OD (**Ezetimibe** = 6J-I-2)
3. *If not controlled, or if Triglycerides >300 mg%-*

   Tab Nialip 500 mg 1-2 OD × after Lunch (**Nicotinic acid** = 6J-IV)

D. If Both Cholesterol & Tri-glyceride levels are high-

One Statin + one Fibrate + Ezetimibe

E. In Familial Hyperlipidemias,

1. *If Plasma homocysteine levels are high,*

   Tab Folvit 1 OD lifelong (**Folic acid** = 2H-7)
2. *If Lipoprotein-A level is high,* Tab Nialip 500 mg 1-2 BD after food (**Nicotinic acid** = 6J-IV)

If Hyperlipidemia is detected incidentally during General checkup

1. Advise the General measures i.e. Fat free diet & Exercise, with yearly follow up.
2. *If age is above 40 yrs, with one more risk factor like Hypertension, Diabetes or Family History of IHD/Stroke,* then advise drug treatment and achieve target LDL levels below 100 mg%
3. If patient already has IHD/ Hypertension/Diabetes, treatment must be given.

For more details of Diet, see chapter 32 – i.e. 'Bypassing the Bypass'.

Chapter

3 RESPIRATORY SYMPTOMS

COUGH

Ordinary dry cough with throat pain - arising from pharyngitis, laryngitis and bronchitis is one of the commonest symptoms seen in General Practice.

Instructions

1. Steam inhalations 2-3 times/day. Add to water Tinc. Benzoine, Vicks or Amrutanjan.
2. Warm salt water Gargles.
3. Take hot drinks like hot tea, coffee, milk or soups 5-6 times/day.
4. If cough is severe, advise Rest at home, and voice rest if laryngitis.
5. If smoker, advise to stop smoking
6. Lozenges like Halls, Vicks for local soothing
6. Instruct to cover the mouth while coughing (using hand or handkerchief) to prevent spread of infection to other family members.

Drug Treatment

1. Respiratory Antibiotic

Tab Odoxil 500 mg bd × 5 (7A)
Or Cap Baciclox, or Tab L-cin500, or Tab Erythrocin (Choice of antibiotic = Read the note below + chapter 28)

2. Cough Suppressant (5C-1)

i) Grillinctus/Suppressa 1 tsp tds / Alex Lozenges (Dextromethorphan) OR

ii) Benz Pearls 1 tds (Benzonatate) OR

iii) Reswas cough syrup 1 tsp tds (Levodropropizine)

3. If associated with fever, Add

Tab Crocin 1 tds and if fever (**Paracetamol** = 3A-3)

4. If associated with common colds, Add anti histaminic

Tab Relif ½ - 1 tds (**Anti-cold Combination** = 5A)

5. If associated with Body ache, Add NSAID

Tab Disprin 1 tds, (3A-2) or Tab Combiflam 1 tds (3C-3)

6. If associated with occasional rhonchii, Add Bronchodilator

i) Tab Asthalin 4 mg × tds (**Salbutamol** = 5D-3) OR

ii) Tab Deriphyllin-R 150 mg x bd (Theophylline = 5D-6)

ii) Inhaler = Asthalin/ Budecort/ Esiflo 1-2 puffs bd and SOS

7. If associated with expectoration, Give expectorant

i) Avil expectorant tsp tds (**Expectorant** = 5C-2)

ii) Tab Bromhexine 8 mg tds (**Mucolytic** = 5C-3)

❖ *Three major points in deciding treatment of cough are its duration, presence of expectoration and presence of wheezing.*

The Choice of the antibiotic will vary from doctor to doctor, and from locality to locality.

In General, for mild infections use milder antibiotics like Tetracyclines, Septran, Erythromycin, Ampicillin-Amoxycillin, Gentamycin.

If the infection is severe start with penicillin, Roxithromycin, Cefalosporins or Levofloxacin.

If infection is not controlled in 3 days

1. Cap. Cetil 500 mg tds (**Cefuroxime** = 7A = Change to a Higher Antibiotic) or Inj. PP4 IM × A.T.D. × OD 6 (penicillin is one of the most effective drugs in Respiratory tract infections).
2. Tab Wysolone 5 mg tds × 5 (Short course **Prednisolone** = 9A-1)
3. Auscultate carefully for wheezing & rhonchii.
4. **If no response**, ask for investigations:
   i) Hb%, WBC for eosinophilia. ESR
   ii) X-ray Chest for TB, pneumonia etc.
   iii) Blood for Sugar & HIV Test.
   iv) Sputum AFB, & culture
   iv) Spirometry
   vi) If No response, Laryngoscopy, Bronchoscopy, CT Scan of Chest (HRCT)
5. **If Eosinophilia**, i.e. Tropical Eosinophilia.
   1. T. Hetrazan 1 tds × 21 days (**Diethyl Carbamazine Citrate** = 1E-2/4)
   2. T. Wysolone 1 bd × 10-15 days. (**Steroid** = 9A-1)

Indications for immediate X-ray

1. Cough > 15 days.
2. Chest pain on breathing, high fever or dyspnoea
3. Rales or abnormal breath sounds
4. Loss of weight or gross emaciation
5. Hemoptysis
6. No response to antibiotics for 1 wk.
7. HIV +ve patient with cough or fever

HEMOPTYSIS

Hemoptysis should never be treated symptomatically. The patient must be properly investigated.

If Bleeding is in small quantities

1. Inj. Cefantral-S 1 gm × 12 hrly × 5 (**Antibiotic** = 7A) or any higher antibiotic like Levofloxacin or Cephalexin
2. Grillinctus 1 tsp tds × 7, (Cough suppressant = 5C-1)
3. Tab Calmpose 5 mg tds 7, S.O.S. inj (To relieve anxiety, **Tranquilisers** = 4D)

Hemostatic drugs: Till bleeding stops.

4. Tab C.V.P. 1 tds (**Rutin**, **Calcium**, **C** = 6G 1 to 7) or Tab Sylate 500 mg 6 hrly (Ethamsylate) OR Tab Clip 500 mg tds (Tranexamic acid = 6G-14)
5. Tab Celin 500 mg bd (**Vit C** = 2G)
6. Inj Calcium gluconate 10 cc I.V. + Inj. Dicynene 250 mg/2 ml I.V. (Ethamsylate) OR Inj Clip 500 mg/5 ml IV(6G)
7. Bed Rest, in semi-reclining position. If side of lesion is known, turn on the affected side, to minimise aspiration into normal side.

8. Refer the patient for: Hb, WBC, Platelet count, ESR, Coagulation profile, Sputum for AFB & malignant cells, X-ray Chest, CT scan Thorax, and if a hilar lesion is seen, - Bronchoscopy.

If Hemoptysis is in large quantities

1. Give Inj. Fortwin 30 mg IM/ IV stat.
2. Inj. Calcium gluconate 10 cc + Dicynene 250 mg/2 ml I.V.
3. Reassure the patient and take the patient urgently to a Hospital where blood transfusion can be given. Followed by Bronchial artery embolisation or surgery.

- ❖ In India, Hemoptysis is due to pulmonary Tuberculosis unless proved otherwise.
- ❖ Hemoptysis is always precipitated by a secondary infection. So Always give a strong antibiotic.
- # Auscultate for Cardiac Murmur (Mitral stenosis)
- ❖ In elderly patients, or if X-ray shows shadow close to hilum or if there is no response to anti-TB drugs rule out Carcinoma of bronchus.

BRONCHIAL ASTHMA

Initial Investigations:

- Hb, WBC, ESR, Eosiniphil count,
- Bl sugar, urea, creatinine
- X-ray Chest
- Pulmonary Function tests

Treatment of an acute attack

1. Asthalin inhaler × 1-2 puffs × to be taken early at the onset of the attack by the patient (**Broncho-dilator inhalers** = 5E-1)
2. Inj. Deriphyllin 2 cc IM/IV (**Theo + Etophyllin** = 5D-7) or Inj. Bricanyl 1 cc IM (**Terbutaline** = 5D-5) or Inj. Alupent 2 ml IM/SC (**Orciprenalin** = 5D-4)
3. If patient is young
   - Inj Adrenaline 0.5 ml S.C. (5D-1)
   - Isoprenalin Autohaler 1-2 puffs (5E-1)

If attack is severe

4. Oxygen by nasal catheter
5. Inj. Aminophylline 500 mg/10 ml, diluted with 10 ml of 25% glucose I.V. slowly over 4-5 mins.
6. Nebulisation with Asthalin/ Duolin solution. Stat and SOS

If not relieved with aminophylline

1. Repeat Inj aminophylline 500 mg IV after 10 mins.
2. Inj Efcorlin 100 mg I.V. (**Hydrocortisone** = 9A-5) OR Inj Decadron 2-4 cc I.V. (**Dexamethasone** = 9A-2) OR Inj Betnelan 2-4 cc I.V. (**Betamethasone** = 9A-3)
   OR Inj Inj Premisol 40 mg IV stat (Methyl Prednisolone = 9A-1)
3. Oxygen, by nasal catheter.
4. Take to a Hospital for further management. (Details in Emergency section)

Clinical judgement of severity of attack

- Mild = Wheezing (Rhonchii) only
- Moderate = + Retraction of intercostal spaces
- Severe = + Cyanosis, Poor capillary filling, altered sensorium, Requires Oxygen

Maintenance Treatment

I. General Advise

1. Deep breathing exercises, e.g. Pranayam 25 times daily

2. Stop smoking completely, if smoker.
3. Avoid all allergens.
   i) Avoid Dust. A Housewife may be greatly helped by vacuum cleaner to clean dust. Use mask while dusting.
   ii) Avoid carpets on floor, which harbour dust.
   iii) Avoid Pets - cats, dogs, & close contact with them.
   iv) Avoid industrial fumes in factory workers.
   v) If only particular food precipitates an attack avoid it e.g. cold drinks, particular fruits, fish, chocolates.
   vi) If any emotional or family problem, try to sort it out, or use tranquiliser or consult psychiatrist.
   vii) For repeated attacks, advise change of weather i.e. a holiday in dry climate, will help more than the drugs.
   viii) Avoid mosquito coils & mats. Use mosquito net or Odomos.
   ix) Avoid passive smoking.
4. Diet - See page 184

II. Drug Therapy

Step - 1: For Mild & Intermittent attacks:

***Use** inhaled Bronchodilators (β_2-agonist), whenever there is bronchospasm.*

1. Asthalin inhaler × 1-2 puffs × 1-4 times a day. (**Salbutamol** = 5E-I-1)
2. OR Bricanyl inhaler × 1-2 puffs ×1-4 times a day. (**Terbutaline** = 5E-I-2)

***The second choice** would be oral Bronchodilators – either regularly or only when there is bronchospasm.*

1. Tab/Syr Asthalin 4 mg TDS and SOS (**Salbutamol** = 5D-3)
2. OR Tab/Syr Deriphyllin 150 mg TDS (**Theophyllin** = 5D-6&7)
3. OR Tab Bricanyl 5 mg TDS (**Terbutaline** = 5D-5)

If the attack is severe, or not responding,

1. Nebulisation with Asthalin/Duolin solution (5E-V)
2. Inj Deriphyllin 2 cc IM/IV stat (5D-7). If no response,
3. Inj Aminophylline 10 cc + 25% glucose slow IV (5D-2)
4. Inj Efcorlin 200 mg IV stat, followed by short oral course
5. Inj Adrenalin 0.5 ml Subcut, if patient is young (5D-1)

Step - 2: If Bronchodilators fail to control the attacks efficiently, OR if patient has more than 3 attacks per week:

1. *Add Steroid inhalers regularly, to prevent the attacks, and continue inhaled Bronchodilators, whenever there is bronchospasm.*

- Beclate inhaler 100 mcg × 1-2 puffs × 1-4 times a day. (**Beclomethasone** = 5E-II-1)

  OR Budate inhaler 100 mcg × 1-2 puffs × 1-4 times a day. (**Budesonide** =5E-II-2)

  OR Ciclohale 80mcg × 1-2 puffs × 1-3 times a day. (**Ciclesonide** = 5E-II-4)

2. Add Tab Telekast 10 mg × 1 OD (Monteleukast = 5G-1)

Step - 3: If attacks are still poorly controlled or are more frequent:

Add Long acting β_2-agonist (Salmeterol or Formeterol) inhalers and high dose inhaled steroid.

Use inhaled Bronchodilators (β_2-agonist), whenever there is bronchospasm.

- Serobid inhaler × 1-2 puffs × 2-3 times a day. (**Salmeterol** = 5E-I-4)

  OR Foratec inhaler × 1-2 puffs × 2-3 times a day. (**Formeterol** = 5E-I-6)

Combined inhalers give ease of use:

1. Seroflo/Esiflo inhaler (**Salmeterol + Fluticasone** = 5E-III-2)
2. Foracort inhaler (**Formeterol + Budesonide** = 5E-III-3)

From this stage, patient must be treated by Chest Physician.

Step - 4: If attacks are poorly controlled with Steroids + Bronchodilaters:

1. Ask patient to buy oxygen cylinder (or Oxygen concentrator) and Nebuliser at home.
   Teach chest Physiotherapy to relative.
   Avoid chest infections. Advise H. influenza vaccine.
   Treat infections vigorously.
   Admit immediately, if exacerbation.
2. *A short course of oral steroid may be tried with due risk.*
   - Tab Defnalone 6 mg for 1-2 weeks, then tapered (Daflazacort = 9A-8)
3. *Add preventive treatment :*
   - Tab Montair/ Telekast 10 mg OD x 3 mths (**Monteleukast** = 5G-1)
   - Fintal inhaler × 1-2 puffs × 4 times a day × 3 mths (**Sodium cromoglycate** = 5F-1)

- ❖ Use minimum required dose, to keep the patient asymptomatic.
- ❖ If patient is well controlled on one drug, do not change the drug without valid reason. Frequent change of drugs confuses the patient who has to take it lifelong!.
- ❖ The Patient has to learn synchronisation of the puff with inspiration. If he finds it difficult, use of spacehaler should be advised.
- ❖ Adult = MDI (inhaler) OR Dry Powder device (Rotahaler)
  School Child = MDI + Spacer
  Upto 5 yrs = MDI + Spacer with a mask

How to use the inhaler

You must ask the patient to bring the inhaler/rotahaler to you and you must teach him/her the correct way to use it. Because if the drug release is not co-ordinated with inspiration, then the drug is wasted, and the breathlessness will not be relieved.

Instructions to patient using Inhaler

- Shake the inhaler well before use.
- Hold it upright. Hold the mouthpiece between the teeth and close the lips around it.
- Breathe out through the nose, and start inhaling slowly through the mouth, with the head tilted slightly backwards.
- Press the canister to release one dose, while continuing to breathe in steadily and deeply.
- Now remove the inhaler and hold the breath, as long as you comfortably can. Then exhale.
- Rinse the mouth, to wash out the drug deposited in the mouth.
- If 2 puffs are advised, second puff should be taken after a gap of at least one minute.
- For children and for Tachypnoeic patients, use spacehaler, which does not require correct co-ordination of inspiration with drug release and reduces oral deposition of drug.
- For Pre-school children, inhaler + spacer + infant mask. Alternatively Buy a nebuliser and use it at home.

Instructions to patient using Rotahaler

- Take a Rotacap. Insert its *transparent*

end into the hole of the Rotahaler and press it firmly.

- Rotate the base of the Rotahaler – thus cutting open the Rotacap.
- Breathe out fully. Hold the mouthpiece between your teeth and seal your lips around it. Tilt the head slightly backwards and take a deep breath through the Rotahaler.
- Hold the breath as long as you comfortably can, then breathe out.
- Repeat till all powder is inhaled. (2-3 times).
- Rinse and gargle to wash out the drug in the mouth.
- Open the Rotahaler. Discard the empty capsule. Rinse the instrument in running water and leave it to dry.

❖ Bronchial Asthma is one of the psychosomatic illnesses. So tranquility of mind is a very important part of treatment.

❖ Acute exacerbations are usually due to infection and are related to a change in weather.

❖ If a patient gets dramatic relief in dry climate, and attacks otherwise, suggest him to change his residence if possible to a city with dry climate.

HOARSENESS OF VOICE

Hoarseness of voice, as seen in General Practice, is commonly due to Throat infection i.e. laryngitis or Laryngeal inflammation following excessive shouting. Both will respond to the following treatment.

1. **Voice Rest**, especially when the patient's profession demands a lot of talking e.g. Teacher, salesman, singer, actor etc. During voice rest, instruct the patient to communicate by writing on a paper or slate. Whispering is not voice rest.
2. **Steam inhalations** 3-4 times/day. Add Tinc Benzoine or Vicks to water if desired.
3. Tab Pulmocef 500 mg bd x 5 days or Cap. Baciclox 500 mg tds. (Any **Antibiotic** = 7A) × after food.
4. Tab Voveron 50 mg bd × 5 (**Anti-inflammatory** = 3C)
5. Tab Wysolone 5 mg tds × 3-5 days x after food. (**Steroid** = 9A)
6. Digene 2 tsp tds × 5 (**Antacid** to avoid gastritis due to NSAID & **Steroid** = I)
7. Cap Omez-D/ Pantop-D 1 OD x 1 mth (PPI = 1B-2) To prevent acid regurgitation at night causing Laryngitis.

If voice does not become normal within a week, Refer to an ENT surgeon for Laryngoscopy.

If Laryngoscopy is normal, Ask for -

i) X-ray Chest (for TB, Ca Bronchus)

ii) Gastroscopy (for Hiatus hernia/ Reflux oesophagitis)

ii) Serum T_3, T_4, TSH (for myxoedema)

❖ An old man with a change in voice without pharyngitis, has carcinoma of larynx unless proved otherwise. refer him immediately to an ENT surgeon for laryngoscopy.

If Hoarseness of voice is with acute tender swelling of submandibular region & Tongue, it is Ludwig's Angina with Laryngeal edema, an emergency situation. Refer immediately to a Surgeon.

CHEST PAIN

When a patient complains of chest pain, first think is it related to Heart?

If not, is it related to breathing i.e. Pleural pain?

Then, was there any injury?

And lastly is it related to swallowing & meals?

I. Chest pain related to Heart

Whenever the pain is retrosternal or on Left side, first think of cardiac pain. If it is associated with sweating or restlessness or fall in B.P., suspect myocardial Infarct. If it appears on exertion and reduces with rest, it may be angina. Give sublingual sorbitrate immediately. If the pain radiates to Left arm or Jaw, it is very suggestive of cardiac pain.

Advise ECG, Echocardiography and evaluation for IHD.

II. Chest pain related to Breathing

Rib fractures give rise to severe pain on breathing, but then H/o Trauma and local tenderness makes diagnosis obvious.

In absence of Trauma, pain on breathing = Pleural pathology.

Pleural Pain

1. If fever & dyspnoea are mild to moderate, Pleuritis or Pleural effusion. Confirmed by reduced air entry, X-ray and USG.
2. If High fever, tachypnoea and toxic, Acute Lobar pneumonia.
3. If breathlessness is severe, out of proportion to the pain - Refer immediately to Hospital for X-ray Chest.
4. If pain is in Right lower Chest, in addition to X-ray, Ask for Ultrasonography of Liver for Amoebic Liver abscess and Cholecystitis.

III. Chest Pain related to Chest wall

When local rib tenderness:

1. Think of fracture of rib. new or old.
2. Think of costo chondritis - very common anteriorly, with 2nd to 4th ribs giving parasternal tenderness OR 12 th Rib tenderness in Tietze's syndrome.
3. Is it sprain of overlying muscle? Has it followed lifting of heavy weight?

When Intercostal Tenderness, Suspect-

1. Empyema - With diminished breath sounds.
2. On Right side - Amoebic Liver abscess.

If scars of healed Herpes Zoster are seen over the skin, it may be Post Herpitic pain. If pain radiates to Left arm, it may be Tietze's syndrome.

IV. Chest Pain related to food

If pain is retrosternal & increases while swallowing, it is due to oesophagitis or Hiatus hernia.

If Chest pain appears after meals, it could be anginal, But it could be also due to indigestion & 'Gas'.

- ❖ Make habit of palpating & pressing costochondral Junctions in Chest pain before auscultation.
- ❖ Pain on breathing = Pleural pathology. Always ask for Chest X-ray.
- ❖ Pain of cervical spondylitis radiating to left arm & Chest may mimic cardiac pain. Corollary = In a patient of cervical spondylitis, pain of myocardial infarct may be attributed to spondylitis and diagnosis of infarct may be missed.
- # Always take a ECG in chest pain, to rule out acute infarct, and to have a baseline recording.

PLEURAL PAIN

If Pain is mild, and Air entry is normal

- Tab Lcin 500 mg od × 5 days (Levofloxacin, Antibiotic = 7A)
- Tab Oxalgin DP 1 tds × 3 (**analgesic + antiinflammatory** = 3C)
- Tab Wysolone 5 mg 1 tds × 3 / Tab Dafnalone (**Short course steroid** = 9A)
- Grilinctus 1 tsp tds if cough (**Anti-tussive** Dextromethorphan = 5C-1)
- Bed Rest at Home.
- **Ask for X-ray of Chest:**

If pain increases on inspiration, If it is not relieved in 4-5 days, If it is severe,

If Patient is breathless or toxic, and If any Chest signs are present.

Ask for Hb, WBC, ESR and X-ray Chest.

If Pleural effusion

Refer the patient to a physician, or

1. Aspirate the fluid, with fluid analysis
2. Give full course of anti-TB treatment.

If Lobar Pneumonia

Refer the patient to a physician

1. **Antibiotic:** Inj. Tazaar 4.5 gm x I.V. x 6 hrly.

   (Use a Broad spectrum Antibiotic or combination covering Gr +ve and Gr -ve organisms. e.g. Inj. Ampicillin + Gentamycin, or Cephalosporins + Amikacin or Penicillin + Chloromycetin or Carbenicillin + Gentamycin etc.)
2. Grilinctus Syrup 1-2 tsp × tds if distressing cough (5C-1)
3. Tab Bromhexine 1 tds if excessive secretions.
4. Tab Ultracet 1 tds if Pain (Any **Analgesic** = 3B) or Inj. Ketanov 1 ml/ Tramadol 50-100 mg IM if severe pain. (use analgesics which do not depress respiration.)
5. Inj. Deriphyllin 2 cc IM or I.V. 8 hrly or S.O.S. (5D)
6. Inj. Betnesol 2 ml I.V. 6-8 hrly (**Steroid** = 9A-4)
7. Oxygen by nasal catheter/mask.
8. Bed Rest till recovery.

PAIN OF RIB TRAUMA

1. **Chest Strapping:** Shave the hair over lower half of Chest. Apply Tinc Benzoine. Apply 2 broad strips of sticking Plaster or Elastoplast around the injured Chest for 3/4 circle. Apply during full expiration.
2. Inj. Fortwin 1 cc IM 1-2 times/day x in first 3 days when pain is severe (3B).
3. Cap Ultracet 1 tds (**Analgesic** = 3B & C)
4. Tab Ostocalcium 1 bd × 15 (**Calcium** = 2C)
5. For severe pain intercostal nerve block with supercaine, posteriorly, under the lower rib margin.

PAIN OF COSTO-CHONDRITIS

1. Foment with Hot Water bag 2-3 times/ day.
2. Rest with minimal movements.
3. Inj. Voveran 3 cc IM × alt days x 3 (**NSAID inj** – 3C-13)
4. Tab Voveran-50 1 tds × 7-10 days x after food (**NSAID** = 3C)
5. Cap Ultracet 1 tds × if severe pain (Tramadol, **Analgesic** = 3B)
6. Tab Wysolone 5 mg tds × after food × 5 (**Steroid** = 9A)
7. Tab Rablet 20 mg OD (PPI = 1B2) (always with NSAID + Steroid)

8. If no relief, local Hydrocortisone injection around the costochondral junction.

PAIN OF MUSCLE SPRAIN

1. Foment with Hot water bag 3 times/ day.
2. Diclonac Gel locally. (local **Anti Inflammatory, Any Rubefacient** = 3D-1 to 4)
3. Tab Combiflam 1 tds (Analgesic + **Anti Inflammatory Combination** = 3C)
4. Tab Bidanzen/ Primidase 5mg x 1-2 tds if contusion (**Anti-inflammatory enzymes** = 3E- 1&2)
5. Tab Robinax 1 Qid (**Methocar-banol** = 3F-2) or Tab Carisoma (**Carisoprodol** = 3F-1), muscle relaxants alone or with NSAIDs.

   OR Tab Nise-MR 1 bd (Nimesulide + Chlorzoxazone)

REPEATED COLD

Repeated cold, watering of nose, and sneezing are usually due to allergy i.e. vasomotor Rhinitis. Prevention of repeated attacks is the main aim of treatment.

1. **Deep Breathing Exercises : Pranayam**

   Inhale deeply through one nostril, hold breath for 2 seconds, exhale through the other nostril × 20 times × 2-3 times/day.

2. **Long acting Anti-histaminic e.g.**

   Tab Avil-Retard 1 OD × 30 (**Pheniramine** = 5-I) or Tab Allercet-L 1 OD × 30 (L-cetrizine = 5B-II)

3. **Low dose steroid e.g.**

   Tab Betnelan 0.5 mg bd × 10-15 days (9A)

4. **Inj. Calcium Gluconate with Vit. C 1 amp. slow IV.**

   × OD × 5 inj. (**Calcium** = 2C)

5. **Inj. Human Immunoglobulin 10% × 1 ml IM × every wk. × 3**

   or Inj. Histaglobin × 1 amp IM × every wk. × 3.

Autohaemo Injection

Withdraw 4 ml patient's blood and inject immediately, deep IM, in gluteal region for stimulation of immune system.

6. **Mast cell stabilizer e.g.**

   Fintal Nasal spray × 3 times/day × 3-6 mths. (**Sodium Cromoglycate** = 5E-IV)

   OR Tab Ketasma 1 mg bd × 3-6 mths (**Ketotifen** = 5F)

   OR Tab Montair 10 mg OD (Monteleukast = 5G-1)

7. Rhinocort Nasal Spray × in each nostril (directed to lateral walls protecting the eyes) × 2 times/day (**Budesonide** = 5E-II)
8. Azep Nasal Spray: once in each nostril 2 times/day with head held upright, directed to lateral walls × for upto 6 months. (**Azelastine + Antihistaminic** = 5E-VI)

Rule out Visible causes First. Ask for Hb% WBC, Absolute eosinophil count and X-ray P.N.S.

Refer to ENT surgeon if

i) Tonsils are enlarged and infected. (Tonsillectomy)

ii) If nose is defective - Deviated septum or hypertrophied turbinates.

iii) If there is tenderness over the sinuses.

If there is Eosinophilia

1. Tab Hetrazan 1 tds × 21 days.
2. Tab Wysolone 5 mg bd × 15 days.

EMPHYSEMA (COPD)

Difference from Asthma is that FEV1 on spirometry does not improve significantly with Bronchodilator/Steroid therapy. In later stages, Barrel chest, Poor air blast, air hunger & X-ray are diagnostic.

Mild, Early COPD

General Instructions

1. If smoker, Must stop smoking. Otherwise Lung function deteriorates very fast.
2. Deep Breathing exercises × 20 times × 3 times/day
3. Regular mild exercise to keep healthy, but avoid exerting.
4. Avoid food after 6 pm. Avoid oily foods.
5. In severe cases, use walking aids, wheelchair, commode in toilet or commode chair by bedside, Sponge-bath etc - to avoid exertion.
6. H. Influenza vaccine is recommended.

Drug treatment

1. *If & when there are Rhonchii, use inhaled bronchodilators*

   Asthalin inhaler × 1-2 puffs × 3-4 times a day. (**Salbutamol** = 5E-I-1)

   OR Ipravent inhaler × 1-2 puffs × 3-4 times a day. (**Ipratropium** = 5E-I-5)
2. *If not controlled, Regular use of inhaled steroids*

   Beclate inhaler 100 mcg × 1-2 puffs × 1-4 times a day. (**Beclometha-sone** = 5E-II-1)

   OR Budate inhaler 100 mcg × 1-2 puffs × 1-4 times a day. (**Budesonide** = 5E-II-2)

   Tab Deriphyllin-R 150 mg OD (**Theophyllin** = 5D-7)

   Or Tab Doxiflo - OD 1 OD (**Doxyfyllin** = 5D-8)
4. Antibiotic, if there is foul expectoration or fever.

If there are > 2 exacerbations per year

5. *If there are > 2 exacerbations per year, LABA + Steroid,*

   Seroflo/Esiflo inhaler × 1-2 puffs × BD (**Salmeterol + Fluticasone** = 5E-III-2)

   OR Foracort inhaler × 1-2 puffs × BD (**Formeterol + Budesonide** = 5E-III-3)
6. For maintenance therapy,

   Tiova inhaler 2 puffs/Rotacaps 1 daily (**Tiotropium** = 5E-I-7)
7. Tab Ozothine 60 mg TDS (**Terbanthine** = 5C-4, To increase tissue oxygenation in emphysema)
8. *If there is acute exacerbation,*
   - Tab CephalongDS 1 BD × 5 days (**Respiratory antibiotic** = 7A)
   - Nebulisation with Asthalin/Duolin solution
   - Inj Deriphyllin 2 cc IM/IV
9. *If chronic productive cough, mucolytic therapy:*

   Nebulisation with Mucomix solution.

Severe COPD, Advanced Emphysema

Treat under guidance of Physician or Chest physician.

1. Higher doses of Long acting Bronchodilator, + Steroid inhaler, given via spacer.

   Seroflo/Esiflo inhaler × 1-2 puffs with spacer × 2-4 times/day (**Salmeterol + Fluticasone** = 5E-III-2)
2. Keep a Nebuliser machine at home:

   Duolin/Asthalin nebulisations bd and SOS.
3. Tiova inhaler 2 puffs/Rotacaps 2 times daily (**Tiotropium** = 5E-I-7)

OR Tiomate inhaler/Rotacaps twice daily (**Tiotropium + Formoterol** = 5E-I-7).

4. Arrange for an Oxygen cylinder or Oxygen concentrator at home, if hypoxic.

   Oxygen by mask, 4-16 hrs per day.

5. Inj Deriphyllin 2 cc IM as and when required.
6. Inj Aminophylline 10 cc slow IV for severe breathlessness.
7. If there is leg edema, or Cor Pulmonale,

   Tab Lasilactone 50 mg - 1 OD (**Diuretic** = 6B)

   Tab Cardace 1.25 mg OD (**Ramipril** = 6AD-4)
8. If not controlled by these measures, refer to Chest Physician/ICU.

❖ Emphysema is progressive and worsens every year. Teach the patient to live with it, stressing on deep breathing exercises, avoiding exertions and low dose steroids for severe cases.

TUBERCULOSIS

Suspect Tuberculosis in every case of

1. Cough >15 days, cough not responding to antibiotics, cough with copious expectoration, cough with slightest hemoptysis, cough in HIV positive patient.
2. Fever not responding to antibiotics & anti-malarials.
3. Severe Anorexia.
4. Emaciation or loss of weight.
5. Cough or fever in relatives of a sputum positive patient.
6. HIV +ve patient with cough or fever.

Ask for

- Hb, WBC, ESR, Sputum AFB, X-ray Chest
- HIV test in every case of Tuberculosis
- Sputum culture & sensitivity, advisable.
- In doubtful cases, for supportive evidence,
  - Tuberculin Test
  - # ADA test
  - Bronchoscopic aspirations for AFB

Treatment

A. General Instructions
B. Chemotherapy
C. Anciliary Treatment.

A. General Instructions

1. Complete bed rest at home, till the patient is on way to recovery. No exertion and minimum talking to rest the lungs.
2. No Smoking.
3. As long as, sputum AFB is positive, Isolation in house, avoid contact with children, cover the mouth while coughing using handkerchief, and destroy sputum.
4. Good, Nutritious, Protein-rich food. Avoid oily & fried foods, if cough.

B. Anti-TB Chemotherapy

Recommended Regimes:

1. Uncomplicated new case, early infiltration, AFB Negative, or a simple pleural effusion: RHEZ for 2 mths + RHE for 4 mths. If at the end of 6 months, the lesions are not completely cleared, continue RHE upto 9 mths.
2. Fresh case with extensive infiltration (involves more than half lung field, or bilateral) or with cavitation, or AFB Positive: SRHEZ or RHEZ for 2 mths + RHE for 7-10 mths till cure.

3. Complicated case, Relapsed cases: SHREZ for 3 mths + RHE till cure. If there is no adequate response after 3 mths treatment, then ask for sputum culture sensitivity, and consult chest physician for MDR-TB.

Doses of Major Drugs

S = Inj Streptomycin: 40 mg/kg/day Ambistryn 1 g (0.75 g) IM daily × 30 Then daily or alternate daily × 60 Injs. Stop, if giddiness.

H = Tab Isoniazid: 5-10 mg/kg/day + B6. Tab Isokin 300 mg (300 mg) 1 daily × till cure

R = Cap Rifampicin: 10 mg/kg/day Rimactane 450 mg (300 mg) 1 daily × early morning on empty stomach × till cure. Stop, if Jaundice.

E = Tab Ethambutol: 15 mg/kg/day Myambutol 800 mg (600 mg) 1 at bed time after night meal × till cure.

Z = Tab Pyrazinamide: 30 mg/kg/day PZA 750 mg (500 mg) 2 tabs daily × 2 mths.

K = Inj. Kanamycin
Kancin 0.5 g IM × 2 times/week.

C. Anciliary Treatment

1. If patient is pale: Give Iron e.g. - Cap Autrin 1 daily x 3 mths (2I).
2. If patient is breathless, Give bronchodilators
   e.g. - T. asthalin 4 mg × tds
   - Syr. Bronchophyllin tsp tds (5D)
3. If patient has cough, Give expectorants. e.g. Soventol expectorant tsp tds
4. If patient has hemoptysis, Give hemostatic drugs + antibiotics.e.g.
   - Cap Baciclox 500 mg tds × 5 days.
   - Tab Sylate 500 mg 6 hrly (Ethamsylate) OR Tab Clip 500 mg tds (Tranexamic acid = 6G-14)
   - Inj. Dicynene 250 mg/2 ml I.V. (Ethamsylate) OR Inj Clip 500 mg/5 ml IV(6G)
   - Inj Calcium gluconate 10 cc I.V. daily × 3.

D. Pleural effusion

- Diagnostic aspiration 20cc – Exudate with lymphocytic predominance, AFB smear and culture, ADA > 70 mg%, PCR +ve
- RHEZ 2 mths + RHE 4-7 months
- Tab Dafnacort 6-12 mg bd for 15-30 days (Steroids to reduce inflammation, adhesions, and early absorption of fluid)
- If large effusion, causing Discomfort on lying down, Breathlessness or High fever, then aspirate the fluid completely.
- Small to moderate effusions need not be tapped. They resolve in 2 – 12 weeks.
- If malignant effusion is suspected, HR-CT scan, Pleural biopsy, Thoracoscopy.
- Simple effusions are treated for 6 months. But if it is Large/ Loculated/ with pleural thickening, or with infiltration, then treatment must extend to 9 months.

E. Cervical Lymphadenopathy

- Clinically, matted lymph nodes, cold abcess, sinuses, fever, raised ESR.
- Confirm the diagnosis by FNAC or wedge Biopsy.
- RHEZ 2 months + RHE 4 – 7 months
- After 3 months of AKT, if any lymph nodes are not resolved, then refer to surgeon for excision, as they contain caseation.
- Even after completion of treatment,

small hard lumps may persist, due to fibrosis and calcification.

❖ Strict Bed rest alone has cured millions of patients in the past, while no modern drug can do it alone. Bed rest is a strong weapon against Pulmonary TB. Use it.

❖ Streptomycin gives the best symptomatic relief in early phase of treatment. If response to oral 4 drug therapy is not satisfactory, add streptomycin.

Many popular combinations like Akurit-4, do not contain Pyridoxin (B6). It must be given separately as Tab Benadone 40 mg, or Becadexamine 1 OD.

❖ The most important role of a General Practitioner in treatment of TB is in encouraging the patient to take full course of treatment, till TB is cured. Also, should take care that other members of the family are not infected.

❖ If the symptoms and X-ray picture shows no improvement with treatment, look for 1. Anemia. 2. H.I.V. test. 3. Blood sugar – is he diabetic? 4. Is the patient taking drugs regularly? 5. Is there drug resistence? 6. Advise complete & strict Bed Rest.

❖ If patient is pregnant, 1. Stop Streptomycin & PZA. 2. Give INH & Ethambutol only. 3. Give Rifampicin & Kanamycin, with due risk, if disease is extensive.

❖ If patient gets Jaundice, stop all drugs & treat Jaundice. Give Ethambutol, Levofloxacin and Streptomycin. After Bilirubin & Liver enzymes are reduced, introduce INH, Rifampicin, one by one.

Patients with good body resistance and immunity, get Pleural effusion or Lymph-adenopathy. Those with poor resistance get infiltrative lesions.

Unaccustomed heavy exercise depresses cell mediated immunity. Those who start with heavy vigorous exercise, as for muscle building, are known to develop effusion or lymph nodes. Exercise should be increased gradually.

Sample Prescription

Age = 40 yrs Wt = 50 kg.

Large area infiltration=cavity, Fresh case.

Plan = 2 RHEZ + 4 RHE

Rx

-AKT-4 x 1 kit daily x 2 mths (7F-6c) Then,

-AKT-3 x 1 kit daily x 4 mths (7F-6a)

OR

Rx

1. Cap Rcin 450 mg 1 daily × early morning on empty stomach × 6 mths (7F-3)
2. Tab Isokin 300 mg 1 daily × 6 mths (7F-2)
3. Tab Myambutol 800 mg 1 at bed time × 6 mths (7F-4)
4. Tab Pyzina 750 mg × 2 daily × first 2 mths (7F-5)

For Follow up of patients of Tuberculosis and some more sample prescriptions, Refer Section 9, Chapter 31, Page 385.

Remember: For Low Body Weight Patients

1. Inj. Streptomycin 40 mg/kg/day
2. Isoniazid 5-10 mg/kg/day with B6
3. Rifampicin 10 mg/kg/day
4. Ethambutol 15 mg/kg/day
5. Pyrazinamide 30 mg/kg/day

RNTCP

Revised National Tuberculosis Control Programme

Category-1:

- *Newly diagnosed sputum positive pulmonary TB*
- *Sputum negative pulmonary TB with extensive parenchymal involvement.*
- *Severe form of extra-pulmonary TB*

Category-2:

- *Treatment failure cases*
- *Relapse cases*
- *Return after interruption (Defaulter)*

Category-3: Now included in catagory-1

- Sputum negative PTB with minimal involvement
- Less severe form of extra-pulmonary TB

DOTS : Drug Regimen:

The regimen has initial intensive phase of 2-3 mths, where every dose is given under observation, followed by continuation phase of 6-9 months, when first dose of the week is under observation and other doses given at home.

Category- 1: 2(H R Z E) + 4(H R)
Category-2:2(SHRZE)+1(HRZE)+5(HRE)
Category- 3: 2(H R Z E) + 4(H R)

Drugs are given thrice weekly in the following dose:

H= INH 600mg, R= Rifampicin 450mg, Z= Pyrazinamide 1500mg, E= Ethambutol 1200mg, S= Streptomycin 750 mg.

(Patients weighing > 60 kg, 600 mg Rifampicin.

Ethambutol is not given to children < 6 years of age.

Patients > 50 yrs age or < 30 kg weight = 500 mg of SM)

DOTS PLUS Regimen

For the treatment of MDR-TB cases : 6 drugs- Kanamycin, Ofloxacin /Levofloxacin, Ethionamide, Pyrazinamide, Ethambutol and Cycloserine during 6-9 months of the Intensive Phase and 4 drugs- Ofloxacin / Levofloxacin, Ethionamide, Ethambutol and Cycloserine during the 18months of the Continuation Phase.

PAS is included in the regimen as a substitute drug, if any drug is not tolerated. If monthly AFB culture is negative after 4 mths, Continuation phase is started after 6 mths.

SNORING – OBSTRUCTIVE SLEEP APNOEA

Excessive loud snoring must be treated, especially if the snoring spell ends with apnoea, or If patient wakes up with choking sensation. The repeated obstruction to breathing with hypoxia and disturbance of REM sleep has bad effects on health – like Daytime sleepiness, Laziness, Headache and depression; with higher risk for IHD, Hypertension, CVA, Diabetes and arrhythmias.

OSA is seen in Obesity, Nasal obstruction, Adenoid hypertrophy, Lax mandible, Macroglossia & Neck circumference > 40 cms.

Ask for Polysomnography in Sleep Lab.

Advise:

1. Weight reduction is very important
2. Otrivin nasal drops before sleeping, if nasal obstruction
3. No sedatives, Avoid Alcohol 6 hrs before sleep.

4. Sleep on one side. Slight head-high bed helps. Use thin or no pillow.
5. Regular Sleep schedule with no lights.

Non-invasive Treatment:

1. CPAP – to maintain Continuous Positive Airway Pressure in throat. Once initial discomfort is overcome, it is the best form of treatment. If CPAP fails, Bilevel device ie BiPAP is used.
2. Mandibular advancement prosthesis, to pull mandible and tongue forwards. Made by Specialist Dental Surgeon.

Surgical Treatment:

1. Tonsillectomy + Adenoidectomy, and nasal surgery where indicated.

   If CPAP is not effective, and OSA is severe,
2. Uvuloplasty with soft palate shortening (UPPP), if obstruction is retro-palatal.
3. Tongue advancement surgery for tongue obstruction.
4. Bariatric Surgery for Extreme Obesity.
5. Tracheostomy for very severe cases, gives full protection. Also Preferred for COPD patients.



Chapter

4 C.N.S. SYMPTOMS

HEADACHE

Most Headaches in General Practice are ordinary Tension Headaches and need just an analgesic and may be a tranquiliser.

1. Tab Disprin 1 tds (**Analgesic** = 3 A & B) or proxyvon or paracetamol or Tramadol or analgesic - antiinflammatory combination. (3C)
2. Tab Calmpose 5 mg ½ - 1 HS (**Tranquiliser** = 4D)
3. Inj. Ketanov 1 ml IM if pain is severe (3B-2) or Inj. Tramadol 2 cc IM.
4. Take rest in a dark, quiet room. Massage and press the scalp. Apply counterirritants like Methyl Salisylate, Vicks/Amrutanjan to forehead.

In every patient of Headache, you must test the following signs, as routine.

1. Check B.P. - Control Hypertension, if present.
2. Check sinus tenderness over maxillary & frontal sinuses, and look for any focus of infection in teeth, tonsils & ears.
3. Check tenderness on nape of neck or pain on neck movements.
4. If associated fever, check for neck stiffness.
5. If eye is painful or red, palpate the eye after closing the eyelid. If it is firm to feel, refer to ophthalmologist for Glaucoma.

If Headache is Recurrent & Chronic

1. Check eyesight first. Refer to opthamologist for refraction.
2. Check BP, sinus tenderness & spondylitis as above.
3. If sinus tenderness, refer for Xray or CT of PNS, and ENT opinion.
3. If it has started following Head injury refer for X-ray skull & C.T. scan.
4. If patient is Diabetic, is he getting hypoglycemia ?
5. If Headache is severe & progressive refer for CT or MRI scan.
6. If there is any neurological sign such as weakness of cranial nerves or limbs, convulsions etc. Then refer immediately for CT or MRI scan & Neurologist's opinion.

- Headache with fever = Meningitis. First test for neck stiffness. Ask for LP and CSF study. Malarial fever also gives Headache.
- Tension Headache is the commonest Headache. It is more towards evening & patient feels better on pressing over the scalp.
- A young patient or child complaining of repeated Headache will usually have refractive error. First get eyesight checked. Particularly cylindrical numbers even when very minor, give rise to headaches.

Headache due to Alcohol Hangover

1. Take 2 glasses of water (Plenty of Water and Fluid intake).
2. Tab Disprin or Proxyvon 1 stat. (**Analgesic** = 3A & 3B)
3. Take Fruit juice, or Tea or coffee with plenty of sugar (To counter Hypoglycemia)
4. Have a full meal.

Prevention of Hangover

- Avoid excess alcohol. Stay within your limits. Avoid cocktails.
- Do not drink on empty stomach. Eat something along.
- Take a glass of water after each drink.
- Do not drink too fast.
- Tab Disprin 1 before sleep.
- Tab B-long 100 mg 1 tab (**Pyridoxin** = 2H-3)

MIGRAINE

Throbbing unilateral headache, preceded by an aura. Sometimes generalised pain, but recurrent in the same fashion.

Treatment of Acute Attack

1. Lie down in a dark and quiet room.
2. Give Ice bag over the head.
3. Tab Vasograin 1 mg × 2 tabs at the onset of the attack, then 1 tab ½ hrly till relief. Maximum dose = 5 tabs in one day (**Ergotamine Tartarate** = 4B-1)

   OR Tab Sumitrex 50-100 mg Stat and every 2 hrs. (Max = 300 mg/day). (**Sumatriptan** = 4B-3)

   OR Tab Rizact 10 mg stat and after 2hrs (Max = 30 mg/day) (Rizatryptan = 4B-4)
4. Tab Dolo 650 mg / Tab Ultracet 1 stat & S.O.S. (Any **Analgesic** = 3B)
5. Inj. Fortwin 1 cc IM if pain is severe (strong analgesic).
6. Other drugs in acute attack:
   i) Cap Clotan 200 mg, repeat after 2 hours. (**Tolfenamic acid = NSAID** = 3C).
   ii) Cap Xenobid 275 mg 3 stat, then 1 bd (**Naproxen = NSAID** = 3C-6).

- Migraine is characterised by one sided severe headache lasting for several hours, with intervals of complete freedom. It is associated with vomiting and visual disturbances.
- Vasograin or Migril should be taken as soon as prodromal symptoms appear, to abort the attack.
- Maximum dose of Ergotamine Tartarate should never be exceeded. i.e. 5 tabs in a day and 10 tabs in a week.

If Migraine attacks are frequent i.e. more than 2 per month

1. Cap Sibelium 10 mg OD (**Flunarizine** = 4B-3)
2. Avoid factors which precipitate the attack. e.g. Sleeping late, Excess TV watching, Tension, starvation, certain foods like chocolate, cheese, alcohol.
3. If control is not adequate, add anti-depressant - Tab Depsonil 25 mg tds (**Imipramine** = 4F-1) or Cap Prodep 20 mg OD (**Fluoxetin** = 4F-3)
4. Other Drugs instead of Flunarizine:
   i) Tab Ciplar 20-40 mg tds (**Propranolol** = 6A-6)
   ii) Tab Arkamine 100 mg ¼ to ½ tab/day (**Clonidine** = 6A-4)
   iii) Tab Stemetil 5-10 mg OD for 3 months (**Prochlorperazine** = 1K-2) a very effective drug.

Summary: Vasograin and analgesic for

acute attack, Sibelium/ Stemetil for prevention.

CONVULSIONS

During active convulsion

1. Put a spatula or wooden ruler, covered with cloth (like handkerchief), between the teeth, to prevent tongue bites.
2. For immediate control of convulsions, Give - (4A-9)
   - Inj. Gardenal 200 mg IM stat (15 mg/kg) or
   - Inj. Calmpose 2 cc I.V. slowly. Repeat if necessary after 15 mins. (**Diazepam** = 0.3 mg/kg upto 120 mg in 24 hours)

If not controlled

Inj. Phenytoin 100 mg I.V. very slowly. Repeat if necessary after 10-15 mins. (**Phenytoin** = 1-2 mg/kg)

or Inj. Gardenal 2-4 ml IM. (**Phenobarbitone** = 3 mg/kg)

3. If the patient is a known epileptic, do not give any injection - except if convulsions are frequent or prolonged.

After the convulsions are controlled

1. If the patient is a known Epileptic, no investigations are required.
2. If the patient is not a known Epileptic,
   i) A new convulsion, esp. in the middle age or later, must be investigated fully with E.E.G. and C.T. scan.
   ii) If there is H/o injury - X-ray skull & C.T. scan.
   iii) If patient has fever & headache - L.P. for meningitis
   iv) If Pregnant or recently delivered, Check B.P. and urine albumen for PIH (Toxemia).
   v) If Limbs are rigid in between convulsions or if lock jaw - Tetanus

- Don't try to hold down a patient in convulsions with force, Only see that he does not injure himself.
- If known epileptic, do not give anything. The convulsion will stop by itself. Give injections (4A-9) if it persists for more than 3-4 minutes.

EPILEPSY

If a patient has repeated attacks of convulsions or abnormal EEG Pattern, he should be put on regular anti-epileptic treatment.

1. Tab. Dilantin 100 mg 1 OD to 1 tds (**Phenytoin** = 4A-2)
2. Tab. Gardenal 60 mg 1 HS to 1 tds (**Phenobarbitone** = 4A-3)

   OR Tab Valparin 200 mg 1-2 tds (Sodium Valproate = 4A-5 = 20-50 mg/kg/day)

If Epilepsy is not controlled

instead of Phenytoin, Give

3. Tab. Tegretol 200 mg ½ to 2 tds (**Carbamazepine** = 4A-4)

If Still not controlled

instead of Phenobarbitone, Give

4. Tab Mysolin 250 mg ½ HS to 2 HS (**Primidone** = 4A-6)

Instructions to Epileptic Patients

1. Do not miss the treatment even for one day.
2. Avoid places where convulsions can be dangerous. e.g. Swimming, Driving Vehicles, Climbing heights, work near moving machinery, Standing in train or bus doors, work near fire.
3. Drugs to be continued for at least 5 years after the last fit, & then slowly tapered off over 6 mths.

- If treatment is stopped suddenly, rebound may occur and patient may even go into status Epilepticus. So stress repeatedly, the importance of taking treatment regularly.
- The treatment may be started with carbamazepine, instead of Phenytoin, particularly in children, to minimise neurological deterioration.

4. Instruct all relatives about the possibility of recurring fits, If they see the patient getting convulsions, support him immediately and make him lie on the ground, Then put a spoon or wooden ruler between the teeth and wait for convulsion to stop.

If Patient has Petit Mal Epilepsy

1. Tab Valparin 200 mg 1-2 tds (**Sodium Valproate** = 4A-5 = 20-50 mg/kg/day) or Syr. Zarontin 1 tsp (250 mg) OD to BD (**Ethosuximide** = 4A-7) or Cap Tridione (300 mg) 1-2 tds (**Trimethadione** = 4A-8)
2. Tab Gardenal 15 to 60 mg HS.

HYSTERICAL FIT

If the convulsions are not typical (tonic - clonic - unconscious), Ask whether the patient has ever hurt himself/herself. If there is never a injury or tongue-bite, suspect Hysterical convulsions. Other features = more dramatic and only in presence of people.

1. Inj Largactil 50 mg IM Stat (**Anti-psychotic** = 4E-1)
   OR Inj Serenace 5 mg IM (Haloperidol = 4E-2)
2. Tab Largactil 50 mg bd or tds × 15 days. or Tab Serenace 1.5 mg bd (4E-3)
3. Consult a Psychiatrist.

All causes of convulsions must be ruled out before labeling a patient as Hysterical.

TRISMUS (LOCK JAW)

When a patient says he cannot open his mouth, first think of Tetanus.

1. First Examine the mouth carefully, for a painful abscess/inflammation e.g. caries tooth with root abscess, peritonsillar abscess, Cheek abscess, Ludwig's Angina.
   - Inj. Gentamycin 80 mg IM 8 hrly (**Antibiotic Injection** = 7A)
   - Tab Suganril 1 tds (**Anti inflammatory** = 3C-2)
   - Steam inhalations and fomentations
   - Refer to surgeon for incision, if abscess is formed.
2. If there is no painful lesion it is Tetanus.

Confirmation

1. Put a tongue depressor in mouth to touch the throat. If patient gags & opens the mouth, it is not tetanus; if the patient clinches the teeth with spasm of jaw muscles, it is Tetanus.
2. Look for associated features - rigidity of limb muscles, neck stiffness and spasms & convulsions.

Prevention

- Only a General Practitioner can prevent Tetanus by immunising every patient with Injury, however minor.

1. Inj. T.T. ½ cc IM stat, and after 4 wks. Plus, If the wound is very badly contaminated, Give
2. Inj Human Tetanus Immunoglobulin 500 i.u. IM. (14-7 iii) or Inj. A.T.S. 1500 i.u. IM × A.T.D. (14-17 ii)

Treatment of Tetanus

1. Dark and Quiet Isolation room
2. Inj. Human T.I.G. 3000 i.u. IM stat, upto 6000 i.u. in severe case. (14-7 iii) or Inj A.T.S. 60,000 to 1 Lac units IM × A.T.D. × Stat
3. Inj. Penicillin 10 Lacs IM/I.V. × A.T.D. × 6 hrly
4. Inj. Calmpose 10 mg slow I.V. if convulsions, then
5. Tab Calmpose 10 mg 2 hrly x oral or through R.T.
6. In Severe cases, Intrathecal Injection Human T.I.G. 500 i.u. once and 3000 i.u. daily till signs of recovery.
7. Incision, Scraping & dressing of wound, if any.
8. General Nursing care, Ryle's Tube feeding, if required.
9. If Spasms cause respiratory distress, tracheostomy and ventilator.

GIDDINESS

Check B.P., Check Neck movements, Look for Pallor & Murmur. Ask for cochlear symptoms (Deafness & Tinnitus) & vestibular symptoms (Vertigo & Nystagmus)

General Advise

1. Bed Rest in dark room. Avoid movements of the head, if giddiness is severe.
2. Stop smoking and alcohol.
3. Check whether any drug that the patient is taking is causing sedation (e.g. anti-histaminic), or postural hypotension (e.g. anti-hypertensives).
4. If Patient is on Inj. Streptomycin, stop it immediately.
5. X-ray Cervical spine. Use Cervical collar, if cervical spondylitis.
6. Check ECG for arrhythmias
7. Audiometry if impaired hearing or Tinnitus.
8. SOS MRI for vertebro-basilar insufficiency.

Drug Treatment

1. Tab Stugeron 25 mg 1 tds till giddiness is controlled (**Cinnarizine** = 4H-2) or Tab Stemetil 1 tds (**Prochlorperazine** 5 mg = 4H-1)
2. Inj. Stemetil 2 cc IM stat for severe giddiness (may be repeated 8-12 hrly)
3. Inj. Neurobion 2 cc IM × A.T.D. × daily × 5-10 inj. (B_1, B_6, B_{12} = 4H-2)
4. Cap Becosules 1 bd x 15 (**Bcomplex** = 2H-6)
5. If there are cochlear symptoms (Tinnitus & Deafness), add- Tab Vertin 8 mg tds (**Betahistine HCl** = 4H-4)

Other Drugs that may be tried in Meniere's disease

1. **Other Antivertigo drugs** (4H-3, 4, 5 & 6)
   - Tab Dramamine 50 mg tds
   - Tab Vertin 8 mg tds
   - Tab Marzine 50 mg tds
   - Tab Pregnidoxin 25 mg 1-2 HS
2. **Vasodilator Drugs** (6H- 1 to 3)
   - Tab Complamina 150 mg 1-2 tds
   - Tab Trental 400 mg tds

- ❖ If Giddiness is not promptly controlled, Ask for Hb% X-ray Cervical spine AP & Lateral, ENT checkup and ophthalmic check up
- ❖ If Giddiness is severe, or associated with any neurological sign, refer immediately to Neurologist.
- ❖ In old age, cervical spondylitis is one of the commonest causes for giddiness.
- ❖ If a Hypertensive patient complains of

giddiness, it may be excess dose or postural hypotension. Put the patient to bed rest, stop the drug for a day, then adjust the dose or use a different drug.

- Recurrent episodes of vertigo, with tinnitus or deafness with normal between the attacks = suspect Meniere's Disease.

TREMORS

First we will consider a young patient with Tremors

1. Is he Nervous ?

Tremors appear when the person is tense or excited e.g. before public speech, examination, competition etc.

Tab Ciplar 10 mg (or 40 mg) to be taken in advance (**propranolol** = 6AB-1)

2. Is he alcoholic?

Alcohol induced or withdrawal tremors?

i) Stop Alcohol

ii) Inj. Neurobion 2 cc IM × daily × 10 (High dose of **Bcomplex** = 2H-5)

iii) Tab Neurobion 1 bd × 30

iv) Tab Calmpose 5 mg tds × till tremors and other withdrawal symptoms are controlled. (**Diazepam** = 4D-3)

3. Is she Thyrotoxic?

If thyroid is enlarged, or pulse > 90/ min ask for serum T_3, T_4 & TSH.

i) Tab Neo-mercazole 5 mg 1-2 tds × increase dose gradually till symptoms & T_3-T_4 levels are controlled (**Antithyroid** = 9B-2)

ii) Tab Ciplar - 10 mg tds (**Propranolol** = 6AB-1)

4. Is it Drug-induced Tremor?

If patient is taking Salbutamol (for asthma), OR Imipramine/Amitryptilin (for Depression) OR Reserpine (for Hypertension)

i) Stop the drug and use alternative drug.

5. Is it Hysterical?

If tremors are atypical, or involving only one limb or increasing in presence of people.

i) Tab Serenace 1.5 mg tds × 1-2 mths. (**Haloperidol** = 4E-3) or Tab Largactil 10-25 mg tds (4E-1).

Now we will consider an old patient with Tremors

1. Senile Tremors

Bilateral, affect hands, neck & legs and increase, if patient attempts to hold or write something

i) Teach the patient to accept the tremors as there is no specific cure.

ii) Cap Becosules × 1 daily (**Bcomplex** = 2H-6)

iii) Tab Neuracetam × 1 tds × 3-6 mths (4G-2)

iv) Cap Ginsec 500 mg 1 OD (**Ginseng** = 2N)

v) Tab Ciplar 10-40 mg bd (**Propranolol** = 6AB-1)

2. Parkinson's Disease

Tremors more on one side, disappear if patient attempts to hold something. Expressionless face & monotonous speech.

A. Younger age group (50-60 yrs)

When life expectancy is more, keep levodopa reserved for use in later years.

1. **If predominant Tremors** Give Anti-cholinergic.

Tab Disipal 50 mg 1 bd to 2 tds (**Orphenadrine** = 4C-I-2)

OR Tab Pacitane 2 mg upto 2 tds. (**Trihexyphenydyl** = 4C-I-4)

2. **If predominant Rigidity**
   Give Dopamine agonist.
   Tab Proctinal 2.5 mg ½ - 1 tab/ day with meals (**Bromocryptine** = 4C-III-1)
   OR Tab Trivastal 50 mg 1-2 tds (**Piribedil** = 4C-III-2)

If not controlled with both drugs, add

3. Tab Selgin 5 mg 1-2 daily with breakfast (**Selegiline** = 4C-IV-1)
4. Cap Amantrel 100 mg 1-2 cap/ day (**Amantidine** = 4C-IV-2)
5. When symptoms are severe enough to interfere with daily routine, in spite of above drugs, add Levodopa.

B. Older age group (> 65-70 yrs)

Start with Levodopa. Avoid anti-cholinergics, as CNS side effects are more in elderly.

1. Tab Bidopal 250 mg 1 OD to 2 tds (**Levodopa** = 4C-II-1)
   OR Tab Syndopa 275 1-2 tds (**Levodopa + Carbidopa**=4C-II-2)
2. If symptoms are not controlled, as happens with the progress of the disease,

Add Selegiline, then Bromocryptin.

Give Levodopa in small divided doses every 4 hrs for continuous action.

BELL'S PALSY

Sudden deviation of angle of mouth and inability to close one eye, usually following exposure to cold wind during bus or train travel.

1. Tab Wysolone 10 mg QID for 10days, TDS for 5 days, BD for 5 days, OD for 5 days. (**Prednisolone** = 9A-1)
2. Tab Aciloc 150 mg BD × 30 days (**Acid inhibitor** = 18) Always given with steroid
3. Cap Becosules 1 BD × 30 days (**B-complex** = 2H-6)
   OR Tab Meconerv 500 mg bd × 30 days (**Methylcobalamine** = 2H-4a)
4. Inj. Neurobion 2cc or Inj Meconerv 1 cc IM daily for 5-10 days.
5. Inj. Solu-medrol 1 gm IV 6 hrly, for 4 – 6 doses (**Prednisolone** = 9A-1) - If patient has come within 48 hrs of onset.
6. Mahanarayan Tel (Oil) to massage affected side of the face & cheek, directed upwards.

Care of the eye:

7. Moisol Eye drops tds (**Methyl cellulose drops** = 13A-8) To keep eye moist.
8. Wear protective sunglasses during daytime, and at bedtime close the eye with cellotape on eyelid, to prevent eye irritation, during acute phase.

Maximum recovery occurs in first 3 weeks. Inform the patient that some degree of weakness will persist even with treatment.

If patient is too anxious, consult Neurophysician.

- If the patient has ear pain or mastoid tenderness, refer immediately to ENT Surgeon.
- If there is UMN facial palsy, or additional cranial nerve palsy or limb weakness, refer to Neurophysician.

C.V.A. WITH HEMIPLEGIA OR COMA

Check B.P. first.

1. If it is too high (> 180/120),
   i) Cap Depin 10 mg sublingually (puncture the capsule and squeeze the liquid contents under the tongue or in nostril) × repeat SOS after 15-30 mins. (**Nifedipine** = 6A-13).

ii) Inj. Lasix 40 mg slow IV (Frusemide = 6B-1)

iii) No IV fluids, unless Hypotension. Give RL or Fructodex. Avoid 5% Dextrose

iv) Oxygen by nasal catheter or mask

2. If BP is < 160/100, Give Tab Stamlo 5 mg stat and Refer.

Refer to a Physician

Hb, WBC, Blood Sugar, Blood Urea, S. Creatinine, S. Electrolytes, Lipid profile And Urgent CT /MRI Scan. After CT scan,

A. If CVA is due to Thrombosis,

1. Cap Depin 5 mg sublingual, every 15-30 min, till BP < 160 /100

   If not controlled by Sublingual Depin, give in ICU setup only-

   Inj Labil 2 mg/min infusion (Labetoloi)

   OR Inj Esmolol 500mg slow IV stat,

   OR NTG Drip.

2. If patient has come within 3 hrs of stroke, (< 4.5 hrs max),

   Inj Actilyse 50mg IV (Alteplase =For thrombolysis) in ICU.

3. Inj. Nootropil (Piracetam) 5 ml/1 gm slow I.V. in drip × 12 hrly. (4G-3) Then Tab 800 mg bd. (cognitive enhancer)

4. Inj. Decadron 2 cc I.V. 8 hrly × to reduce cerebral edema × provided BP is not too high (9A-2).

5. Inj Mannitol 100 ml over 1 hr x 8 hrly to reduce cerebral edema.

6. Correct Hyponatremia and Hypokalemia. Do not give more I.V. fluids, except if BP is low.

7. Clean the throat & maintain airway, with General care of an unconscious/ bedridden patient.

8. Inj Clexane 0.2 ml SC daily x 5 days (LMW Heparin = 6G-2)

9. Tab Clopitab 75 mg x 4 stat with Disprin 300 mg x 1 stat

   Then Tab Clopitab-A 150 mg x 1 OD

10. Tab Novastat 20 - 40 mg HS (Rosuvastatin = 6J-II)

11. Tight control of Diabetes and Hypertension

B. If CVA is due to Hemorrhage,

Do not give Sublingual Depin or Inj Labetol. BP must be reduced slowly.

1. Tab Stamlo 10 mg stat and 6-8 hrly (Amlodipine = 6AC-3)

2. Inj. Lasix 40 mg slow IV (Frusemide = 6B-1)

3. Inj. Nootropil (Piracetam) 5 ml/1 gm slow I.V. in drip × 12 hrly. (4G-3) Then Tab 800 mg bd.

4. Inj. Decadron 2 cc I.V. 8 hrly × to reduce cerebral edema, after control of Hypertension.

5. Tight control of Diabetes and Hypertension

6. General care of an unconscious/ bedridden patient.

7. Explain to relatives, that prognosis in Hemorrhage is always guarded.

   And repeat fatal attacks are known.

8. After the patient is stable, refer to Neurosurgeon if there is subdural clot.

If CT Scan is not available immediately, Make a clinical judgement. Gradual onset and progress, partial hemiparesis, H/O TIA, is typical of thrombosis. Sudden catastrophic onset, very high Blood pressure, Unconsciousness, dense hemiplegia are typical of Hemorrhage.

AFTERCARE OF STROKE

It is mainly in the recovery period that the Family Doctor will be taking care of the patient.

1. Check BP regularly and maintain a strict control of Hypertension.

2. Tab Clopilet 75 mg OD (**Antithrombotic** = 6E-2) or Tab. Ticlovas 250 mg 1 bd (**Ticlopidine** = 6E-3)
3. Tab Ecosprin 150 mg 1 OD (**Aspirin - antithrombotic** = 6E-1)
4. Tab Hydergine 1 mg tds × before meals × 2-6 mths. (**Co-dergocrine** = 4G-3) or other drugs to improve cerebral microcirculation (4G 1 to 6) e.g.
   - Tab Encephabol 100 mg tds (**Pyritinol**)
   - Tab Neuracetam 200 mg tds (**Piracetam**)
   - Tab Dasovas 5 mg bd (**Nicergoline**)
   - Cap Nimodip 30-60 mg tds (**Nimodipine**)
   - Tab Ginkocer 50 mg OD (**Piribedil**)
5. Tab Atorva 10 mg HS (**Statin** = 6J-II, to lower cholesterol & stabilise atherosclerotic plaques)
6. Strict control of Diabetes, if present.
7. Physiotherapy and exercises for weak limbs.
   i) Massage with Narayan Oil.
   ii) Faradic Current stimulation.
   iii) Encourage patient to do active movements.
   iv) Teach relatives to move all joints passively through complete range of movements, to prevent contracture or deformity.

Chapter

5 ORTHOPAEDIC SYMPTOMS

PAIN IN KNEE

Old man or woman with knee pain = osteoarthritis

1. Oint. Methyl Salicylate locally (**Counterirritant** = 3D-1)
   Or Diclonac Gel locally TDS (**NSAID Ointment** = 3D-2, 3 & 4)
2. Foment with Hot Water bag.
3. Tab Diclonac - 50 mg 1 tds × 7 × after food (**Diclofenac** = 3C-9) or any other NSAID e.g. Ibuprofen, Flurbiprofen, Aceclofenac, Indomethacin, Meftal, Pirox, Tobitil, Nimulid, Suganril etc. (See 3C)
4. Gelusil MPS tsp × 3 times × if patient has symptoms of hyperacidity (**Antacid/Acid inhibitors** = 1A & 2B) with Cap Omez 20 mg OD

If pain is acute and severe Add-

5. Inj. Diclonac 1 amp IM × daily × 3 (**Injectible NSAID** = 3C-99)
6. Tab Wysolone 5 mg × tds × 5 × after food (short course of **Steroid** = 9A-2)
7. S.W.D. (Short Wave Diathermy) for 5 to 10 Days.

If there is effusion, which does not subside with above treatment

- Refer to orthopedic surgeon for knee aspiration.

If there is localised tender spot

- Refer to orthopedic surgeon for local Hydrocortisone injection, but intra-articular L.H.C. should not be given repeatedly, as it may accelerate the process of articular destruction.

Maintenance Therapy

1. Tab Voveran - SR 1 daily (Long acting preparations of **NSAIDs** = 3C-1 to 12 e.g. Tab Froben-SR 1 OD, Cap Indocap SR 1 OD, Tab Pirox 20 mg OD, Tab Tobitil 20 mg OD etc.) All to be taken after food.
2. Tab Rablet 20 mg OD (1A or 1B) to avoid gastric symptoms.
3. Quadriceps Exercises: Sit on chair, Lift legs without or with small sandbags tied to ankles 20-30 times × 2 times/day.
4. If patient is obese, weight reduction will work wonders for knee pain.
5. Use walking stick, to reduce the load on affected knee. Use walker if severe pain.
6. Avoid climbing stairs, sitting on floor, as far as possible.
7. Use commode, instead of Indian style latrine.
8. Prescribe knee-cap, to give support to the knee ligaments and reduce the pain on movement.

What is the choice if the patient has peptic ulcer?

1. Use the least irritant drug e.g. Nimesulide, Meloxicam, Nabumetone.
2. Prescribe with antacids and acid suppressing drugs e.g.
   i) Syr. Gelusil MPS 2 tsp × 3 times/ day.
   ii) Cap. Omez 10-20 mg/day
3. Instruct the patient strictly, to take the drugs after meals (never on empty stomach), and stop the drug immediately, if epigastric pain or burning appears.
4. Use local applications more liberally e.g. Voveran emugel, Pirox gel or Brufen gel.
5. Ketopatch (**Ketoprofen** 30 mg patch) - applied to skin once daily.

(Read Chapter 28 – "Which NSAID should I choose"?)

If Patient is young

Rule out other causes like Tuberculosis Ask for - Hb%, WBC, ESR, RA Test, X-ray Knee - AP & Lateral

When to refer to a Orthopedic Surgeon ?

1. If no response to routine treatment.
2. If knee is swollen, warm & tender.
3. If there is excessive or large effusion.
4. If there is wasting of Quadriceps muscle.

Disease modifying drugs in Treatment of Rheumatoid Arthritis

If Response to NSAIDs is poor,

1. Tab Salazopyrin 500 mg OD increase gradually to 1.5 - 3 gm/day × 12 wks.
2. Tab Chloroquine 200 mg bd × 2-6 mths.

Drugs to be given by Rheumatologists:

3. Tab Goldar 3 mg bd × 3-6 mths (**Auranofin** = Gold compound)
4. Tab Oncotrex 7.5 mg or 10 mg once a week (Methotrexate = Antimetabolite)
5. Tab Cilamin - 250 mg × tds × 6 mths × 1 hr before food (**D-Penicillamine** = used in Wilson's disease)
6. Cap Graftin 50 mg od to bd × 3-6 mths (Cyclosporine = immuno-suppressant)
7. Tab Lefra 10 mg OD (Leflunomide)

Important = Drugs No. 3, 4, 5, 6 & 7 are very toxic & should be prescribed under guidance of an expert Physician only. General Practitioners should never prescribe them.

HEEL PAIN

- Examine the sole for painful corns. If present, refer for corn removal to a surgeon.

Tenderness on undersurface or medial aspect of calcaneus = plantar fascitis, the common cause of Heel Pain.

1. Foment 2 times/day in a tub of hot water
2. Apply Methyl Salicylate oint 2-3 times/day (**Rubefacient or NSAID ointment** = 3D)
3. Inj. Voveran 1 amp IM × alt × 3 (**Injectible NSAID** = 3C-99)
4. Tab. Voveran-50 1 tds × 7 (any **NSAID** = 3C-1 to 12)
5. Cap Proxyvon 1 tds × till acute pain (**Analgesic** = 3B)
6. Tab Wysolone 5 mg 1 tds × 3-5 days × after food × in acute phase (low dose **Steroid** = 9A), with **antacid**

If there is no relief, Ask for X-ray heel-lateral, and Refer to orthopedic surgeon.

1. L.H.C. injection into plantar facial insertion.
2. If no relief, Plantar fasciotomy.
3. Plantar fascitis is a self-limiting condition. It will subside by itself in 4 to 6 mths. So have patience.
4. Use of correct footwear, with soft concavity in the heel part of the sole, gives tremendous relief.

❖ L.H.C. injection in heel, must be given with great aseptic precautions, preferably in Operation theatre. Because infection in the heel could be disastrous. But the L.H.C. gives dramatic results.

LOW BACKACHE

In Acute Pain

1. Complete Bed Rest
2. Inj. Voveran 3 cc IM × alternate days × 3 (**NSAID = Diclofenac** = 3C-51)
3. Tab Voveran 50 1 tds × after food × 7 (Any **NSAID** = 3C-1 to 12, e.g. Brufen, Arflur, Indocap, Meftal, Dolonex, Tobitil, Nimulid, Zolandin, Suganril etc.)
4. Tab Wysolone 5 mg × tds × 5 (**Short course steroid** = 9A)
5. Gelusil MPS 2 tsp tds (**Antacid/Acid inhibitor** = 1A & 1B) or Cap Omez 10 mg OD
6. S.W.D. (Diathermy) for Lumbar spine × 5-10 days
7. Tab Alprazolam 0.25 mg bd in acute phase (**Tranquiliser** = 4D)

Once the acute pain subsides

1. Tab Voveran-SR 1 daily × after food. (Maintenance dose of **NSAID** = 3C-1 to 12 e.g. Froben SR, Indocap SR, Pirox, Tobitil etc.)
2. Tab Ostocalcium 2 bd × 30 (**Calcium** = 2C-2)
3. Cap. Autrin 1 OD × 30 (**Iron** = 2I)
4. Back Exercises: to increase back muscle tone.
   i) Leg raising in Dorsal recumbent position × 10-20 times × 2 times/ day.
   ii) Push ups
   iii) Swimming.
5. General Instructions
   i) Maintain straight back posture while standing or sitting.
   ii) Avoid bending forwards & lifting weights.
   iii) Sleep on hard mattress.
   iv) Gentle massage with Rubefacient ointments (3D-1 to 4)
6. Use Lumbosacral belt to support the spine and prevent bending.

What investigations to ask for?

- Hb% - X-ray LS Spine - AP & Lateral (for Osteoarthritis, disc prolapse, TB spine, osteoporosis etc.)
- In females, Refer to Gynaecologist if X-ray is normal, to rule out Gynaec causes.
- Ultrasonography, for Renal stone or Pancreatitis.
- If osteoporosis, Dexascan
- If weakness, wasting, loss of sensation or severe pain in the legs, MRI of LS spine.

When to Refer to a Orthopedic Surgeon?

1. If no relief with routine treatment.
2. If pain is very severe or S.L.R. test is Positive.
3. If there is any Neurological deficiency in legs, earliest being weakness of dorsiflexion of great toe.

- Lack of Exercise and Bad posture cause most of the Backaches in young patients as seen in General Practice.
- SLR test and EHL weakness must be tested in every case of Backache.
- All patients on NSAIDs should be instructed specifically to take the drugs after food, and to stop the drug immediately, if it causes epigastric burning.

4. If there is shooting pain along one leg, these patients will require Pelvic Traction, Epidural injections, Myelography, MRI or surgery.

PAIN IN THE NECK

Suspect Cervical Spondylitis if

1. Pain & Stiffness of back of neck in mornings.
2. Neck pain radiating to arm or shoulder.
3. Tingling Numbness in one hand.
4. Elderly patient with giddiness, esp. on looking upwards.

Ask For

1. An X-ray of cervical spine - AP & Lateral, if pain is severe or radiating or not responding to drugs.

   A young patient = Look for Cervical Rib in AP view.

   In lateral view = Look for Reduction in intervertebral space and, osteophytes.
2. If neurological symptoms, MRI of C Spine.

Drug Treatment

1. Cervical Traction × 10 days. (4-5 kg. wt. × 5-10 mins.)
2. Cervical collar for constant use, during daytime.
3. Inj. Diclonac 3 cc IM × alt. days × 3 (**Injectible NSAID** = 3C-99)
4. Tab Diclonac - 50 mg 1 tds × 7 × after food, Then 1 bd × 10-15 days (Any **NSAID** = 3C-1 to 12)
5. Tab Dafnacort 6 mg bd × 5 × after food, (Short course steroid if acute pain = 9A)
6. Gelusil MPS 2 tsp × tds × 7 (Antacid/ **Acid inhibitors** = 1A & 1B) to counter gastritis produced by NSAID & STEROID.
7. Methyl Salicylate oint locally (**Counter irritant** = 3D-1) or Pirox Gel locally (local **NSAID** = 3D-2, 3, 4).

If shoulder muscles are tender and in spasm, Add

8. Tab Robinax 500 mg × Qid × (**Muscle relaxants** = 3F - 1 to 6) or Tab Carisoma 1 tds, Tab Tizanidin 1 tds, Tab Ibuflamar-MX 1 tds etc.
9. Tab Calmpose 5 mg bd × 5 (**Tranquiliser** = 4D-3)
10. S.W.D. (Diathermy) × 10 days for Neck.

General Advise

1. Sleep on firm mattress.
2. Stop Using pillow or use thin firm pillow
3. Neck exercises to strengthen the Neck & Shoulder muscles, and to Keep the cervical spine mobile.
   i) Full range of flexion, extension, side flexions and circumduction x 10-20 times.
   ii) Forceful movements in all directions against resistance provided by fisted hand.

ANKLE SPRAIN

1. Elastocrepe bandage to support the ankle. Tie a 4 inch Elastocrepe bandage from toes to midcalf.

2. Keep the patient in bed, with foot elevated.
3. Inj. Diclonac - 3 cc IM × daily × 3 (**Injectible NSAIDs** = 3C-99)
4. Tab Diclonac - 50 mg 1 tds × 5 × after food (Any **NSAID** = 3C- 1 to 12)
5. Tab Bidanzen 5 mg tds × after food (**Anti-inflammatory enzymes** - 3E 1 & 2)
6. Short course steroid in acute stage - e.g. Tab wysolone 5 mg tds × 3 × after food. (9A)

- If sprain & swelling are severe, ask for X-ray of ankle, and refer to Orthopedic surgeon for immobilisation in plaster or surgical repair of torn ligaments.
- If swelling & tenderness are very marked, then a walking plaster, which gives complete immobilisation, is better than an Elastocrepe bandage.

7. Cap. Proxyvon 1 tds × 3 (Any **analgesic** if pain is severe = 3B)
8. Locally - Foment in hot water tub × twice daily.

   Apply Diclonac Gel locally (**NSAID** = 3D) or Thrombophob ointment if contusion and ecchymosis are seen.

FRACTURES

The General practitioner is concerned with two aspects of fracture care - 1. First aid treatment and 2. Aftercare of plastered patient.

First Aid

1. Inj. Fortwin 1 cc IM/I.V. stat (**Strong Analgesic** = 3-2 to 7)
2. If B. P. is low, start a fast I.V. drip of DNS or RL.
3. If there is a open wound near the fracture site, clean it thoroughly and cover it with sterile dressing.
4. Immobilise the limb with a wooden splint. Splint should be long enough to fix one joint above and one joint below the fracture.
5. Shift the patient to a Orthopedic surgeon.
6. If you suspect fracture of spine = severe backache or limb weakness or paraplegia, supervise patient shifting personally. Three persons should lift the patient without moving the spine and patient should be kept on a hard wooden board.

Care after Plaster

1. First 2-3 days, watch for distal edema on Fingers/Toes. Keep the limb elevated, and if edema does not subside with elevation refer back as-? tight plaster - for slitting.
2. If there is increasing pain, or if fingers show change of colour to white or blue, consider it an absolute emergency. Take the patient immediately & personally to orthopedic surgeon for immediate removal of plaster. Delay of 2-3 hrs may cause gangrene!
3. Encourage the patient to keep his muscles active.
   a) Joints that are outside the plaster, should be moved through full range, repeatedly.
   b) Patient should concentrate and contract the muscles that are inside the plaster to minimise their wasting and preserve their power.

CRAMPS IN CALF

Rule out Diabetes, calcium deficiency, salt deficiency

1. Inj. Calcium gluconate 10 cc × slow I.V. × daily × 3 days. (**Injectible calcium** = 2C-1) or Inj. Macalvit 3 cc IM × daily × 5 days.

2. Tab Sandocal 500 mg 1 daily × 20-30 days (**Calcium** = 2C)
3. Tab Surbex-T 1 bd × 30 days (**Bcomplex** = 2H-6)
4. Tab Trap 1 S.O.S. if Pain (Tramadol - **Analgesic** = 3A, 3B)
5. Compress/ massage/ stretch the affected muscle.

If no relief, add

1. Tab Evion 400 mg bd × 3 to 6 mths (**Vit E**-2F)
2. Tab Lencar 500 mg bd × 15 days (L-Carnitine w/without anti-oxidants)
3. Tab Calmpose 5 mg HS × if nocturnal cramps (**Tranquiliser** = 4D-3)
4. Inj. Neurobion 2 cc IM × daily × 5-10 inj. (**Vit B, B, B,,** = 2H-5)
5. Tab Quinine 300 mg at bedtime × if nocturnal cramps × to continue for several days after cramps are controlled.
6. Ask for S. Calcium, S. Electrolytes, Hb.

- Most of the cramps in the legs or hands are due to calcium deficiency. In chronic or recurrent cases, give Vit E-long term therapy.
- Cramps should be differentiated from claudications which are exercise related.

INTERMITTENT CLAUDICATIONS

Manifestation of Peripheral Vascular Disease (e.g. T.A.O) with absent distal pulsations.

General Instructions

1. Stop smoking and tobacco consumption in any form, completely. "Tobacco is Poison" for these patients.
2. Walk slowly, at slower pace to avoid claudications.
3. Raise the heels of shoes by ½".
4. Take maximum care, to avoid injuries to the foot - as it may precipitate gangrene.

Drug Treatment

A. Peripheral Vasodilators (6H)

1. Tab Trental 400 mg × 1 tds (**Pentoxyphyllin** = 6I-2)
2. Tab Complamina-R 1 tds (**Xanthinol Nicotinate** = 6I-1)
3. Tab Cletus 100 mg bd × half hour before food (**Cilostazol** = 6I-6)

Other drugs that may be used

i) Tab Arlidin 6 mg × 1-2 tds (**Nylidrin** = 6I-3)
ii) Tab Cyclospasmol 200 mg × 1-2 tds (**Cyclandelate** = 6I-5)
iii) Tab Calaptin 40 mg × 1 tds (**Verapamil** = 6A-12)
iv) Tab Ginkocer 50 mg × 1 tds (**Piribedil** = 4G-5)

B. Other Treatments

1. Tab Ecosprin 75 mg OD
   Or Tab Clopitab 75 mg OD (**Antiplatelet** = 6E & F)
2. If S. Cholesterol & LDL are raised Tab Atorva 10 mg HS (**Atorvastatin** = 6J-11)
3. If hypertension, control with thiazide diuretic + Betablocker
4. Control Diabetes meticulously

If leg is in pre-gangrenous stage

1. Inj. Trental 300 mg (15 ml ampule) in 540 ml N. Saline slow I.V. infusion × 12 hrly.
2. Inj. Complamina 300 mg (2 ml ampule) in I.V. drip or IM × 8-12 hrly
3. Refer to Surgeon for urgent Lumbar sympathectomy, vascular surgery or amputation as necessary.

TINGLING OF LIMBS

1. Inj. Neurobion 2 cc IM × daily × 5-10 injs. (**B_1, B_6, B_{12}** = 2H-5)
2. Cap Stresscaps 1 bd × 30 (**Bcomplex** = 2H-6)
3. If Pale, Give hematinic. Cap Autrin 1 OD × 30 (**Iron** = 2I)
4. If Bcomplex was not effective, give
   i) Inj. Meconerv 500 mg IM × OD × 10
   ii) Tab Meconerv 500 mg tds × 2-3 mths (**Methylcobalamin** = 2H-4a)
5. If alcoholic, stop alcohol completely. Add Tab calmpose 5 mg bd if withdrawal symptoms (4D-3)
6. If tobacco eater, stop eating tobacco, Mawa, Pan-paraag etc.
7. If Diabetic, control diabetes with plain Insulin and not with Oral drugs.

If no relief, Give

1. Inj. Calcium with Vit. C 10 cc I.V. slow × daily × 5 days. (**Calcium** = 2C-1)
2. Tab Wysolone 5 mg 1 tds × 10 days if non-diabetic (**Short course Steroid** = 9A)

- In all peripheral neuropathies, Rule out Diabetes.
- While treating Diabetic Peripheral neuritis, it is most important that Diabetes is controlled with Plain insulin 2-3 times/day. Oral drugs may bring down Blood sugar levels to normal, but neuritis will not respond !

If burning sensation of feet & soles

1. Tab Calcium Pantothenate 50 mg × 1 bd × 30 days or Tab Neurobion.
2. Rule out Diabetes. If present, control on plain Insulin.
3. Rule out Leprosy. If sensations are reduced & nerves thickened, ask for skin biopsy.

If Tingling/Burning in one limb

Upper Limb

- X-ray Cervical spine - For Cervical Spondylitis
- If only palm & fingers tingle - ? Carpal tunnel Syndrome
- If anaesthesia, hypopigmented patches, thick ulnar - ? Leprosy

Lower Limb

- X-ray LS Spine - for Sciatica. If in doubt, refer to Orthopedic Surgeon.

OSTEOPOROSIS

A. Mild Osteoporosis or Osteopenia DEXA Scan = -1 to -2.5

For Calcium:

1. **Tab Calcimax Forte 1 BD** × 3-6 mths. (**Calcium + Vit D3/ alfacalcidol** = 2C-5,6)

   In Post menopausal women,

   Tab Calciflavone 1 OD × 6 mths. (**Calcium + Vit D3 + Isoflavones** = 2C-7)
2. Weight bearing exercises: Walking, Jogging, Aerobics, Cycling.
3. Diet rich in calcium: Milk, Milk products, Salmon, Broccoli

For Vitamin D (Cholecalciferol):

4. Exposure to sunlight
5. Tab Micro-D3 60,000 units x once a week x 12 (2E-1)

B. Osteoporosis: DEXA Scan = -2.5 or less, Then add 2 of the following drugs

1. Tab Osteophos 70 mg tab × once a week (or 10 mg OD) × 6 mths × taken early morning on empty stomach, then sit or stand upright for ½ hr to avoid regurgitation. (Alendronate = 8I-6)

2. **Calcinase nasal spray**, (200 iu) once a day, alternating nostrils everyday × 6 mths

   OR Inj Calcynar 100 iu daily SC/ IM. (**Salmon Calcitonin** = 2C-11)

3. *In Postmenopausal women,*

   Tab Ralofen 60 mg OD × upto 6 months (**SERM- Raloxiphene** = 2C-13)

   If there are troublesome menopausal symptoms like flushing,

   Tab Premarin 0.625 mg OD × till symptoms subside (**Conjugated estrogen** = 8H-4)

C. Severe Osteoporosis with Fracture

In addition to above treatment,

1. **Inj Calcium gluconate** 10 cc slow IV × 5-10 days.
2. **Inj Arachitol** 3 lacs IM (**Loading dose of Vit D3** = 2E-1)

   And Calcirol 1 gm sachets × once a week × 12
3. **Inj Forteo** 20 mcg subcut OD for 1-2 yrs (Teriparatide - synthetic parathyroid hormone)

D. Renal Rickets, & patients on Dialysis

Tab One alpha 0.25 mg BD (**Alfacalcidol** = 2E-2)

E. Preventive Treatment for persons > 70 yrs

Calcium & Vit D3, + in high risk cases, Alendronate

1. **Tab Calcimax Forte 1 OD** × 3-6 mths
2. **Tab Osteophos 70 mg** tab × once a week × as described above

Summary: Daily Calcium + Vitamin D3 + weekly Alendronate ; + Salmon Calcitonin or Raloxiphene

PAIN AT BASE OF GREAT TOE

Acute severe pain, redness, swelling of MT-T Joint is typical of Gout. So also Painful tophi near joints. Consider infected Bunion (Bursa) and Hallux Valgus.

Ask for – S. Uric Acid (> 7 mg%), X-ray of affected joint and Synovial fluid for Urate crystals.

For Acute Attack

1. Apply Ice pack
2. Cap Indocap 25 mg 1-2 tds (Indomethacin = 3C-31) Drug of choice

   OR Tab Arflur 100mg tds (Aceclofenac = 3C-53)

   OR any other NSAID.
3. Cap Omez 20 mg OD (Omeprazole = 1B-2-1) To protect gastric mucosa.

   If Pain is not controlled, add
4. Tab Dafnalone 6 mg bd x 5-10 days (Steroid = 9A-8)
5. Local Hydrocortisone injection.

   If no response to NSAIDs, then
6. Tab Colchicin 0.5 mg 2 stat,

   then 1 tab 2 hrly, till pain is reduced, then 1 od.

   Lifestyle changes to prevent recurrence-

   a. Avoid Red meat, Seafood, Alcohol especially Beer, Fructose (Canned drinks)
   b. Tab Chewcee 500 mg bd (Vitamin C)
   c. Reduce weight if obese.
   d. Drink plenty of water. Avoid dehydration.

For Prophylaxis : (If frequent attacks, joint destruction, tophi or nephropathy)

1. Tab Zyloric 100 mg OD upto 1 tds (Allopurinol = 3H-1)

   OR

   Tab Febuzest 40 mg OD to bd (Febuxostat = 3H-3)

If 24 hr excretion of uric acid is < 800 mg,

1. Tab Benacid 500 mg bd (Probenecid = 3H-4)

Summary: Indomethacin + Wysolone + Colchicin for acute attack. Allopurinol for Prophylaxis.



Chapter

6 RENAL SYMPTOMS

EDEMA

Common Causes

1. Mainly on face - Renal edema, Steroid Face, Myxedema, Severe anemia.
2. Mainly on leg - CCF, Severe anemia, cirrhosis of liver, Hypoproteinemia(= dependant areas), Filariasis, Varicose veins.

Symptomatic Treatment

1. Salt restricted diet, or Salt free diet.
2. Elevate the legs at night.
3. If edema appears on prolonged standing, apply elastocrepe bandage or stockings.
4. Tab Lasix 40 mg ½ to 1 daily as single dose in morning or 2 doses before 2 pm. (**Frusemide** = 6B-1 = **Diuretic**).
5. Syr. Potklor 1 tsp × tds × with water × if Lasix is given for a long period.
6. If edema is not controlled within a week, refer to Physician.

- Potassium Supplements are required when following Diuretics are given for more than 1 week - Lasix, Hythaltone, Esidrex, Xipamid, Clopamide & Bumet.
- Potassium sparing Diuretics = Spironolactone, Ditide, Biduret and their combinations with Furosemide
- For doses of other diuretics, see section on Drugs = 6B.

If the patient is very pale, Add

1. Cap Autrin 1 OD × 3 mths (**Iron** = 2I)
2. Inj. Imferon 2 cc deep IM (by Z - Technique) × daily × 10 (**Injectible Iron** = 2I-1)

   OR Orofer IV drip : 2 amps Orofer in 100 ml NS over 1 hr.
3. Blood Transfusion, if Hb is less than 6 gm%

If congestive cardiac failure i.e. breathlessness, tender liver and heart murmur, then add

1. T. Lanoxin 0.25 mg 1 daily × 6 days/ week
2. T amifru 40 mg x 1 OD in morning (Diuretic = 6B)
3. T. Cardace 1.25 mg OD (**Ramipril** = 6AD-4)
4. Ask for ECG, X-ray Chest, and cardiologist's opinion.

If Premenstrual Edema

1. Restrict salt in diet.
2. Tab. Lasix 1 daily in premenstrual period.
3. Tab B-long 100 mg OD × 10 days prior to M.C. (**Pyridoxin** = 2H-3)
4. Other details in Chapter 14, Page 131.

If Edema Face is more prominent

1. Ask for detailed Renal investigations and Urine for Albuminuria.

2. Confirm that patient is not on steroids e.g. patients of asthma, eczema.
   - Taper off steroids, changing to alternate drugs.
3. If pulse is slow, voice is hoarse or laziness,
   - Ask for serum T_3, T_4 & TSH. for Myxedema.
   - or Therapeutic trial with T. Eltroxin 1 OD × 30 (9B-1)

If Ascites is more prominent, with palpable spleen and portal Hypertension, Then add

1. Tab Aldactone 100 mg OD (**Spironolactone** = 6B-2)
2. Tab Ciplar 10 mg bd (Beta blocker = 6AB-1) to reduce portal pressure
3. High Protein diet.
   GRD Powder 2 tsp in milk × bd (**Proteins** = 2A)
4. Stop Alcohol completely (if alcoholic)
5. Treat cirrhosis - Tab Essential, Liv52, Sorbiline.
6. IV Human Albumin 20% × 50 ml daily if S. albumin is low. (Refer "Ascites" for details)

If Edema of only one leg

1. Inspect legs in standing position for varicose veins.
   i) Elastocrepe bandage (6") from toes to thigh, to be worn throughout the day. or varicose vein stockings.
   ii) Refer for surgery, if repeated leg ulcers, pain or unsightly veins.
2. Examine inguinal nodes & lower abdomen for mass causing lymphatic or venous obstruction.
3. If no visible cause,? Filariasis. - Add
   i) T Hetrazan 50 mg tds × 21 days (**Diethylcarbamazine** = 1E-II4)
   ii) T. Wysolone 5 mg bd × 15 days (**Prednisolone** = 9A-2)

FREQUENCY OF URINE, POLYURIA AND/OR DYSURIA

First palpate the suprapubic region and confirm that there is no retention of urine with overflow. (specially in elderly patients.)

1. If there is burning sensation, fever or chills (UTI)

i) Tab Norflox 400 mg × bd × 5-10 days (**Urinary antibiotic** = 7A-10 and 7C)

Other urinary antibiotics

- Tab Levofloxacin 400 mg OD (7A-10d)
- Cap Chloromycetin 500 mg Qid (7A-2)
- Inj. Gentamycin 80 mg IM × 8 hrly (7A-7)
- Tab Gramoneg 500 mg tds (Nalidixic acid = 7c-1)
- Tab Furadantin 100 mg Qid (Nitrofurantoin = 7c-2)
- Tab Mandelamine 1 g Qid (Methenamine = 7c-4)

ii) Cital × 1 tsp in a glass of water × tds (**Alkaliniser** = 7C-6)
or Barley water 1 glass × tds.

iii) Tab Pyridium 200 mg 1-2 tds × after meals × if there is burning sensation while passing urine. (**Phenazopyridine** = 7c-7a)
or Tab Flavoxate 200 mg tds (**Flavoxate** = 7c-7b)

iv) Plenty of water, and fluids e.g. coconut water, Sharbat.

Ask for urine examination, and whenever possible urine culture to decide the antibiotic.

If burning does not subside within 3-4 days, or recurs, then

i) Urine Culture must be done.
ii) Ask for X-ray K.U.B. & Ultrasonography.

If there is associated Purulent discharge per urethra

i) Ask for urethral smear for Gonococci
ii) Tab Norflox 400 mg 2 Stat

If elderly male patient, is it prostate?

II. If there is no burning sensation (only frequency)

First think of Diabetes. If Diabetes is ruled out, old man = prostate and young patient = Tuberculosis of bladder, or UTI.

If there is increased thirst, loss of weight

Ask for urine sugar & Blood sugar curve. If positive, treat "Diabetes"

If sugar is normal, measure 24 hr. urine output. If it is > 2000 ml, refer to endocrinologist as? Diabetes insipidus.

If frequency is mainly at night, with poor urine stream, in elderly male patient, probably prostate is enlarged.

- Tab Urimax 0.4 mg HS before dinner (Tamsulosin = 15A-2C)
  OR Tab Geriflo 1 OD (**Tamsulosin + Finasteride** = 15A-2C)
- Cital 1 tsp in glass of water x tds
- Tab Himplasia 1 bd (**Ayurvedic-** 15A-5)
- If no relief, Refer to a Surgeon or Urologist for P.R., USG for Prostate, cystoscopy and surgery.

If there is incontinence of urine.

- In bedridden patients, Adult Diapers. Or Condom catheter in males.
- In ambulent patients, intermittent catheterisation, or Foleys catheter.
- In neurogenic bladder,
  Tab Methacol 25 mg bd to stimulate bladder (Bethanechol)
- In chronic cases, Urinary diversion surgery.
- Stress incontinence in females:
  Tab Antidep 25 mg tds x 1-2 mths (Imipramine =) OR
  Refer to Gynaecologist for Sling Surgery/ Cystocele surgery.

- ❖ Elderly male with frequency urine = Diabetes or Prostate.
- ❖ A patient presenting with very severe urethral pain, and urine falls drop by drop with straining - Think of a stone that has come down & lodged in urethra!

SMELLY URINE

Urine with strong pungent smell, is either infected urine or concentrated urine.

1. Check urine for U.T.I. – microscopic & urine culture. Treat infection, if any.
2. If no infection, cause is under hydration and concentrated urine. Advise 1.5 to 2 liters of water everyday.

ENLARGED PROSTATE

Suspect in elderly male patients, if

1. Frequency of micturition, especially at night
2. Difficulty in micturition, poor stream, or interrupted stream of urine.
3. Difficulty in initiation of micturition.

Treatment

1. Check urine for infection and treat infection first. Also control Diabetes, if present.

2. Prescribe Alpha blocker and a DHT inhibitor, in combination or alone.
   i) Tab Geriflo 1 OD (**Tamsulosin + Finasteride** = 15A-2c)
   ii) Or Tab Alfusin-D 1 OD (**Alfuzocin + Dutasteride** = 15A-2e)
   iii) Or Tab Prazopress 2 mg bd (**Prozocin** = 15A-2a)
3. Tab Profar 25 mg bd × 1 mth (**Allyl estranol** = 15A-3)-Second choice drug.
4. Ayurvedic Drugs -
   Tab Himplasia 1 bd (15A-5)
   or Tab Prostina 1-2 tds.
5. If drugs do not give symptomatic relief, Refer the patient for T.U.R. or surgery for prostate.

- Alpha blocker & Finasteride are costly drugs, and of doubtful long-term value. Their main use is temporary relief till surgery.
- If symptoms are severe, urine is passed with great difficulty, then there is no role for drugs. Refer the patient for surgery. But mild symptoms respond well to drugs.

ACUTE RETENTION OF URINE

Acute Retention of urine causes very severe discomfort & pain. Attend to the patient immediately.

If pain is not severe

1. Inj Fortwin 1 cc IM stat (**To relieve pain factor** = 3B)
2. Hot water bag over the lower abdomen.
3. Provide isolation to the patient,
   - Standing or sitting position.
   - Sound of running tap water is helpful.
   - Sitting in a tub of warm water helps.
4. If these measures fail, catheterise the patient with aseptic precautions.

Before Catheterisation

If case of enlarged prostate

- Inj Dibenyline 50 mg IM (Phenoxybenzamine)
  or Tab Dibenyline 10 mg 2 stat, 1 tds
- If patient still cannot pass urine, then catheterise.
  If there is no physical obstruction: e.g. Retention secondary to painful perianal abscess, or postoperative pain or hypotonic bladder.
- Inj Carbachol 0.5 mg IM
- Provide isolation, if patient cannot pass urine within 10 mins, then catheterise.

If catheter is getting obstructed

1. Take 10 cc Xylocaine Jelly in syringe (without needle), and inject it into urethra. Wait for 5 minutes, Pass the catheter, gently, rotating it where it gets obstructed. Do not use force.
   If it does not enter the bladder, take the patient to the nearest hospital or surgeon.
2. If there is no hospital nearby, then to tide over the period of travel to district place, Aspirate the bladder in midline, just above the symphysis pubis, using a 20 cc syringe and 18 No. disposable needle. (For details page 205)

HEMATURIA

Ask the patient to show the urine in glass bottle or test tube. Is it Red blood, Brown Blood (Renal) or colour due B-Complex/ Pyridium/ Rifampicin/ Jaundice etc.? Get urine examined for RBCs.

Mild Hematuria = often due to urinary infection/stone.

Frank red blood = Bladder papilloma/ Ca/ Stone, Prostate vein rupture,

Renal hematuria = Renal TB, Tumour, Stone, Cyst hemorrhage. In children, Acute GN.

1. Plenty of water & fluids.
2. Cital × tsp in a glass of water × tds (**Alkaliniser** = 7C-6)
3. Cap Norflox 400 mg tds × 5 (**Urinary antibiotic = 7B**)
4. Tab Dicynene/ Sylate 250 mg 1 tds (Ethamsylate, **Hemostatic drug** = 6G-4)
5. Refer to a urologist or surgeon for investigations : Hb, WBC, Platelets, Coagulation profile, Urine-R, X-ray KUB, IVP, USG abdomen, Cystoscopy.

Ask for

Urine Routine, AFB, and culture. X-ray KUB and ultrasonography. If no stone, cystoscopy, IVP & CT Scan.

- Painful hematuria is usually due to stones. And in old patients, prostate malignancy.

  Painless hematuria in young = Renal TB or Papilloma of bladder; and in Old = malignancy in Bladder/Kidney, TB, and Prostate.
- If hematuria is fresh red blood with clots or continuous refer immediately to a surgeon/urologist.

NO URINE FOR > 12 HRS.

If a patient has not passed urine for > 12 hrs and bladder is not palpable.

1. First check the B.P.

   Is there marked hypotension?

   Is there H/o Gastroenteritis?
2. Palpate the abdomen for tenderness.
3. If in doubt, catheterise the patient to confirm anuria.

Anuria is no urine output for 24 hrs, Oliguria is <400 ml urine output in 24 hrs.

If BP is low

1. Fast IV Drip × 2 pints RL
2. Inj. Mephentin 2 cc IV. If in Hospital, Dopamin drip 200 mg in 500 ml RL, 10-15 drops /min.
3. If BP does not rise & no urine - refer to hospital immediately.

If abdomen is tender - and guarded or distended, Then it is? peritonitis. Refer to surgeon/Hospital

If BP is normal & abdomen is soft

Then it is? Acute renal failure. There may be anorexia, vomiting, Hypertension, breathlessness.

1. Do not give IV fluids.
2. Inj. Lasix 2-4 amps. IV Stat
3. IV 100 ml 10% Mannitol
4. If no urine, refer immediately.

ACUTE RENAL FAILURE

ARF is not treated by General practitioners. So only principles of treatment are mentioned.

- Monitor - Hb%, Blood urea, S. Creatinine
- S. Electrolytes (Acidosis & hyperkalemia)
- USG Abdomen & Kidneys
- Urine output
- Body weight

1. No Catheter.
2. No IV fluids (except if hypotension)
3. Oral fluids = urine output + G I Loss + 400 ml
4. Diet = Low Salt (No salt if edema or hypertension)
   Low potassium
   Proteins = 30 g/day
   Glucose = 100-150 g/day
5. Inj Lasix 200 mg (10 amps) IV Stat (Frusemide = repeat upto 2000 mg in 24 hrs)
6. Inj. Mannitol 20% x 250 ml over 30 mins.
7. Dopamin IV drip in Renal-low dose = 1-5 mcg/kg/min, to improve renal blood flow
8. If hyperkalemia, Glucose insulin drip & calcium.
   - 500 ml 10% glucose + 20 units plain insulin.
   - Inj. Calcium gluconate 10 ml slow IV Stat.
9. If acidosis,
   - Inj. Sodabicarb 7.5% x 50-100 ml IV Stat
   - Tab Sodamint 2-4 tds.
     or sodabicarb powder 3 gms/day orally.
10. If Hypocalcemia,
    - Inj. Calcium gluconate 10 ml slow IV, then
    - Tab Sandocal 500 mg 1 OD.
11. Blood Transfusion (Packed cells) if severe anemia.
12. Antacids, Antibiotics if required.
13. No Nephrotoxic drugs should be given.
14. Dialysis- If Neurological signs develop
    - If Blood urea > 200 mg % or rising rapidly >7mg/day
    - If S. Creatinine > 10 mg %
    - If S. Potassium > 7 mEq/L
    - If fluid overload & pulmonary edema.

❖ If a patient has not passed urine for more than 12 hrs. and bladder is totally empty, Do not give IV fluids, except if hypotension.

CHRONIC RENAL FAILURE

ARF and CRF are treated by Nephrologists. But patients of CRF will regularly follow up with you for their other complaints. So know the basic treatment well.

Suspect CRF if patient has,

- Edema of face & Anemia
- Persistent Hiccups
- Weakness & fatigue
- With Hypertension
- Raised Blood Urea, S. Creatinine, S. K^+ and GFR < 60 ml/min

A. Standard Routine Treatment:

1. Diet: Protein restricted, High carbohydrate, Low salt diet. Avoid Potassium rich food. Avoid phosphates if osteoporosis. (**Proteins** = 0.3-0.4 gm/kg body weight/day i.e. 16-20 gm, as High Biological value protein).
2. Water intake normal in early phase. Restrict water & salt (Sodium) if there is edema beyond the face.
3. Routine supplements –
   - Cap Autrin 1 OD (**Iron + Folic acid** = 2I)
   - Cap Becadexamin 1 OD (**Multivitamin** = 2H-9)
   - Tab Sandocal 500 mg OD (**Calcium** = 2C)
4. Avoid Nephrotoxic Drugs – Tetracyclines, Gentamycin,

Streptomycin, Steroids, All NSAIDs, Analgin)

5. Adjust the doses of all drugs, by consulting a nephrologist. *Reduce the dose of drugs excreted through Kidneys, such as antibiotics, anti-diabetics, anti-hypertensives etc. Increase the dose of drugs acting after excretion like Probenecid, Thiazide diuretics, Nalidixic acid, Nitrofurantoin.*
6. Check urine regularly. Treat Urinary infections vigorously, because infection = further renal damage.
7. Monitor Renal function tests: Blood urea, S Creatinine, S Electrolytes every 3 months and modify treatment accordingly.

If Serum Creatinine is marginally raised, 2-3 mg%, then these precautions, treatment and routine follow up is sufficient. It is important however to control the Blood pressure strictly to 130/80 mm Hg, If Diabetes be present, keep it strictly controlled with Insulin, and avoid nephrotoxic drugs.

B. Treatment in various situations

If Edema, Hypertension or weight gain,

- Tab Lasix 40 mg OD – BD (Frusemide = 6B-1) *Give non-potassium sparing diuretic. Do not give Thiazides, Spironolactone, Amiloride.*
- Restrict oral fluids = Previous day's urine output + 500 ml
- Salt intake < 5 gm/day. Cook everything without salt. Keep 1 tsp salt separate for each day. Add it as required.

If Anemic

- Cap Autrin 1 OD (Iron + Folic acid = 2I)
- Inj Epofer 2000 iu SC × 3 times/week till Hb is 10 gm%. Then once a week (Erythropoietin = 2J-2)

If S. Potassium is high,

If S. K^+ > 6 mEq/L, Tall T waves in ECG,

- Avoid K^+ rich foods – Citrus fruits, Banana, Coconut water, Fruit juice, Chocolates. Bakery products, Tea-coffee, Green vegetables should be strained to remove K^+.
- Calcium Polystyrene sulphonate 30 mg, as retention enema

If S. K^+ > 8 mEq/L,

- Inj Calcium gluconate 10 ml slow IV stat
- Inj Soda-bicarb 7.5% 50 ml slow IV
- 500 ml 10% Glucose + 20u Plain insulin (Glucose-insulin infusion)
- Dialysis

If Acidosis,

- Tab Sodamint 1 BD to 2 TDS (**Sodabicarb**)
- Inj Soda-bicarb 7.5% 50 ml slow IV

If S. Phosphates level is high,

- Reduce Phosphates in diet – Avoid cereals, nuts, chocolate, cola, dairy products, Protein rich food.
- Tab Sandocal 500 mg BD (**Calcium carbonate** = 2C)
- Tab Foseal 400 – 800 mg just before each meal. (**Sevelamer** – Phosphate binder, to prevent absorption)

If Osteoporosis,

- Inj Deca-durabolin 50 mg IM/week × 6 inj (**Anabolic steroid** = 2B)
- Inj Arachitol 6 lac units IM/week × 6 inj (**Vit D_3** = 2E-1)
- Tab Calcimax forte 1 gm BD × 3 mths (**Calcium + D_3** = 2C)

- Tab One alpha 0.25 mg OD (**Alfacalcidol** = 2E-2)
- Calcinase nasal spray, (200 iu) once a day, alternating nostrils everyday × 6 mths (**Salmon Calcitonin** = 2C-11)
- Tab Osteophos 70 mg tab × once a week × 6 mths × taken early morning on empty stomach, then sit or stand upright for ½ hr to avoid regurgitation. (**Alendronate** = 8I-6)

If weight loss or muscle wasting,

- Inj Deca-durabolin 50 mg IM/week × 6 inj (**Anabolic steroid** = 2B)
- Increase protein in diet – Like egg white, soya extract.
- Cap Aminorich 1 OD (**Essential Aminoacids**)

If Hypertension,

- Control with ACE inhibitor
- Angiotensin II antagonist – if S. K^+ is raised
- Low salt diet

If Diabetes,

- Control with Insulin.
- Even if well controlled on oral drugs, change to Insulin.

If Constipation

- Syr Duphalac 15 ml HS – BD (Lactulose = 1G-9)
- OR Tab Laxatin 2 HS (**Senna** = 2J-7)

❖ CRF is a salt losing nephropathy. So do not restrict salt. Restrict potassium e.g. Mosumbi Juice, Coconut water, canned fruits, chocolates, cocoa.

❖ For Hypertension, drugs of choice = ACE Inhibitors (6A = 16-19)

NEPHROTIC SYNDROME

Generalised Edema, Puffy face, Albuminuria, in a child

1. High Protein Diet.
   Salt & fluid restriction only if gross edema
2. Tab Norflox 400 mg bd × 5 if urinary infection (**Urinary antibiotics** = 7C)
3. Tab Lasix ½ to 1 OD till edema subsides (6B-1 & 6c) with Syr. Potchlor tsp tds (6c)
4. Steroid therapy
   Tab wysolone 5 mg × 2-3 tds (2 mg/kg/day **Prednisolone** = 9A-1)
   - Till urine albumin is controlled i.e. about 24 wks.
   - Then taper off gradually.
5. Refer for Renal Biopsy, if Urine albumin is not reducing.

If Recurrence

1. Repeat steroid course.
2. Refer to pediatrician for cyclophosphamide treatment
   - Tab endoxan 2 mg/kg × 3-4 wks under regular blood count studies.

Drugs to avoid in Renal Damage

- Aminoglycosides – Gentamycin, Streptomycin, Kanamycin
- Terramycin, Ampicillin
- AKT – Rifampicin, Pyrazinamide
- Aspirin, Frusemide, ACE inhibitors like Enalapril
- Most NSAIDs like Ibuprofen, Diclofenac, Nimesulide, Cox-2 inhibitors etc., Steroids, Analgin, Aspirin.
  'Safe analgesic is Paracetamol.'
- Phenytoin, Lithium, Acyclovir

Chapter

7 ENDOCRINE SYMPTOMS

DIABETES

Suspect diabetes in every case of

1. Frequency of urine, with increased thirst and appetite.
2. Loss of weight, in absence of systemic symptoms.
3. Fatigue, tiredness.
4. Delayed healing of wounds, carbuncles.
5. Balanoposthitis in males, vulval itching in females.
6. Tingling of limbs.

Advise regarding diet restriction

I. Say 'NO' to

Sugar, all sweets, cakes, sweetened biscuits, jam, honey, sweetened drinks, sweet fruits like mangoes and grapes, canned sweet fruits, Synthetic juices, Tuberous roots like Potato, Sweet Potato & Tapioca.

II. Eat in plenty

All leafy vegetables, tomato, cucumber, brinjal, cauliflower, lady's finger etc., soup (tomato/vegetable), butter milk, sugar free drinks, tea/coffee with sweeteners, all cereals, sprouted pulses.

III. Eat restricted quantities

Cereals, chapati, roti, bread, cornflour, plain or salted biscuits, rice, meat, eggs, chicken, fish, skimmed milk.

IV. Other instructions

1. Regularise timings and quantity of meals.
2. Be careful in festivals and marriages, compensate for extra sweets by reducing previous and subsequent meals.
3. Do not remain starving for long periods.
4. Avoid alcoholic drinks.

V. Fruits for Diabetics

A. Fruits to Avoid

- Very High in Sugar - Mango, Banana, Grapes, Fig, Cherries, Custard Apple (Sitaphal), Dried dates, Dried apricots & raisins.
- High in Sugar - Orange, Pineapple, Jackfruit, Chikoo.

B. Fruits to Eat: but in moderate quantity-

Apple, Guava, Peach, Apricot, Avocado, Pear (Most fruits with edible skin)

The choice of drugs

If obese, control on Biguanides, diet & weight reductions. Add sulfonyl urea when required.

If thin patient, control on Biguanide or sulfonyl urea, diet & exercise. Both drugs if required.

In either case, if diabetes is not controlled by maximum dose of tablets, add insulin

How to start

A. If Post Prandial (P.P) Blood sugar is 160 to 200 mg % Advise:

- Strict diabetic diet.
- Regular exercise, (Weight reduction if Obese).

Check Bl. sugar-F & PP after 15 days.

If normal, check every 6 mths - 1 yr.

If still High, start

T. Glyciphage ½ daily (for obese patient), after food.

or T. semi-daonil 1 daily (for thin patient), before food.

Adjust the dose as required.

- If a good control is maintained by a very small dose e.g. ½ Tab of Semi-daonil or Glyciphage, then after a few days, stop the drug and observe, whether the patient can be maintained on diet and exercise only.
- If fasting sugar is normal and post-prandial is high, first try Acarbose, which reduces carbohydrate absorption e.g. Tab Glucobay 50 mg tds × to be taken with first morsel of meals (costly drug). If this fails to control the post-prandial hyperglycemia, add sulfonylurea - Tab Semi-daonil/ Glynase 2.5 mg or Glizide.

B. If P.P. Blood sugar is 250 mg % or more, Start with

1. Diabetic diet.
2. Exercise, (Weight reduction if obese)
3. T. Glyciphage 1 OD if obese.

   T. Euglucon/Glynase/Glimy 1 OD if thin.

How to increase the dose?

Example 1

Obese patient - T. Glyciphage 1 OD – 1 BD (Metformin)

Then - T. Glyciphage 1 BD + T. GP1 1 mg OD - BD (Glimepiride)

Then – T. Glyciphage-GP1 1 BD + Tab PPG 0.3 mg OD (Vibligose)

Then - T. Glyciphage-GP2 1 BD + Tab PPG 0.3 mg OD + Inj. Insulin

Example 2

Thin Patient - T Daonil ½ OD - 1 OD - bd - 1 tds (Glibenclamide)

Then - T Daonil 1 tds + T. Glyciphage 1 OD - 1 tds

Then - T Daonil + Glyciphage + T. Pioz 15 mg OD (Pioglitazone) or T Sitagliptin 100mg OD

Then - T Daonil + Glyciphage + T. Pioz 15 mg OD + Insulin

When to start Insulin

1. Type I i.e. Juvenile or Insulin-dependant Diabetes (IDDM)
2. Type II i.e. Maturity onset or NIDDM, if oral drugs fail to control the sugar levels. i.e. PP remains > 160 mg%, and HbA1C > 7%
3. Any Diabetic in a stressful condition, like infection, Surgery, Pregnancy, Jaundice, Keto-acidosis or Diabetic coma
4. Complications of Diabetes - Like Peripheral neuritis, Diabetic Nephropathy or Diabetic Retinopathy

How to adjust Insulin dose?

A. New and complicated case for immediate control-

1. For a New patient, start with 0.5 units/kg body weight. Eg. A 60 kg person will need 30 units.
2. Check urine sugar Before Breakfast,

Before Lunch & Before Dinner.

Urine Sug	-	BB	BL	BD
Start Insulin	-	10u	10u	10u

Then adjust insulin dose according to urine or blood sugar. If Urine sugar is Red = 40 units, Orange = 30 units, Yellow = 20 units, Green = 10 Units, Blue = omit insulin.

3. Once controlled, change to Long acting i.e. Mixtard (30:70) insulin for single daily injection. Dose of Mixtard insulin is approximately 2/3 of total units of Plain insulin required.
4. If daily dose of Mixtard Insulin exceeds 30 u, split it. Give 2/3 before breakfast, 1/3 before dinner.
5. If urine sugar is more before Lunch, add Plain insulin to morning dose,
6. If total insulin requirement is more than 80-100 u, use Human insulin. And consider Insulin resistance.
7. Teach the patient and his relative at home, to give injection.
8. Only Human Insulin is used presently.

B. A patient on Maximal doses of 3 oral drugs, yet not controlled:

1. Start Long acting insulin i.e. Mixtard along with oral drugs.

   Inj Human Mixtard 30:70- single morning dose 10u – 0 – 0

   Monitor Bl sugar – F & PP

   Increase by 2-4 units every 3 days

   If & when dose exceeds 30u/ day, i.e. 30u – 0 – 0, divide into 2 doses 2/3 morning and 1/3 evening eg. 24u – 0 – 12u

   If fasting sugar is high, increase evening dose

   If PP is high, increase the morning dose

2. If PP and HbA1C are high, in spite of mixtard > 50units, Don't increase Mixtard.

   Give Bolus or short acting insulin before Breakfast and/ or Lunch

   eg. Inj Huminsulin-R 8u – 10u – 0u

   If Prelunch sugar is high, increase morning dose.

   If Pre-dinner sugar is high, increase Lunch dose.

   Very severe or insulin resistant cases may need pre-dinner dose also.

   At this stage, stop sulfonylurea. Continue Metformin, Vobligose, Sitagliptin.

Other Instructions

1. Always keep sugar in Pocket. Watch for Hypoglycemia i.e. sweating, Headache, Hunger, irritability & slurred speech.
2. Keep address card in pocket mentioning that he is a diabetic and if found unconscious, he should be immediately taken to doctor and given I.V. 25% dextrose.
3. **Care of the feet:**
   i) Wash the feet daily, dry them & inspect them. Inspect soles with a mirror, inspect interdigital spaces & then sprinkle lot of Talcum Powder.
   ii) Avoid walking barefoot, even at home.
   iii) Wear soft cotton Socks & canvas shoes. Avoid tight fitting shoes & chappals. Use new footwear with care to avoid shoebites.
   iv) Cut nails very carefully and always after bath, when they are soft.

Additional prescriptions in Diabetes

1. Cap. Becozinc 1 daily (Bcomplex

+ Zinc = 2L-1). Advisable for every diabetic, and must be given if diabetes is severe, long standing or associated with peripheral neuritis.

2. Tab Bio-E 400 mg OD (**Vit E** = 2F) or Tab Antoxid 1 BD (**Antioxidants** = 2P). For elderly diabetics with atherosclerosis, IHD or hyper-tension.
3. Tab GLA-120 1 bd (**Omega-3 fatty acid + alphalipoic acid** = 2P) To delay microvascular complications - nephropathy & retinopathy.
4. If you want to prescribe a liquid tonic, avoid the tonics with syrup base. Prefer Tab /Cap.
5. **If a Diabetic patient needs an anti-hypertensive,** prefer ACE inhibitors. If urine shows albuminuria, indicating diabetic nephropathy, ACE inhibitor is the drug of choice e.g. Tab Envas 2.5 - 10 mg OD (**Enalapril** = 6AD-1), or Tab Listril 2.5 - 20 mg OD (**Lisinopril** = 6AD-3)
6. **If Diabetic neuropathy,** with Tingling
   - Tab Meconerv 500 mcg BD × several months.(Mecobalamine = 2H-4a)
   - Change over to Insulin

   If painful Neuropathy:
   - Tab Pregastar 150 mg BD (Pregabalin = 4AB or Gabapentin)
   - Tab Ultracet 1 BD (Tramadol – Opiate analgesic = 3B-3)
   - Tab Amitone 25 mg HS (Amitryptiline = 4FA-12)
   - Capsaicin Oint Locally
7. Diabetic on Beta-blocker: If a beta-blocker has to be given, e.g. due to associated IHD, then the dose of Sulphonylurea has to be reduced, and patient instructed to be careful to avoid hypoglycemia, because hypoglycemic symptoms may not appear and sudden coma may occur.

How to choose a Sulphonylurea?

1. If only P.P. is high and fasting is normal, prefer a short acting sulphonylurea
   - Tab. Glynase 2.5-5 mg OD (**Glipizide** = 10D-4)
   - Tab. Glizide 80 mg OD (**Gliclazide** = 10D-5)
2. If both F & PP are high, select a long acting sulphonylurea
   - Tab. Daonil 2.5-5 mg OD (**Glibenclamide** = 10D-3)
   - Tab. Glimy 1-2 mg OD (Glimepiride = 10D-6)
3. If patient has retinal changes, the drug of choice is Gliclazide (and of course Insulin)
   - Tab. Glizide 80 mg OD - BD (**Gliclazide** = 10D-5)
4. If patient cannot schedule his meals, eats at irregular hours or fasts often, then select a Meglitinide (Ultra short acting), dose as per size of the meal.
   - Tab Rapiline 1-2 mg tab, just before each meal (**Repaglinide** = 10H-2)
   - OR Tab Glinate 60-120 mg 15 min before meals (**Nateglinide** = 10H-2)

Choice of other Drugs

- If optimal dose of Sulphonylurea is reached, instead of increasing it further, you may add alpha-glucosidase inhibitor. It delays glucose absorption and prevents sudden surge of glucose after meals. e.g.
  - Tab Glimy 2 mg BD (optimal dose) + Tab Vocarb 0.3 mg OD to TDS
- If Post-Prandial levels are persistently high, with normal fasting and preprandial levels,

- Tab Rebose 25 mg TDS with first bite of each meal (**Acarbose** = 10 F-2)
- Tab Vocarb 0.3 mg, before each meal (**Voglibose** = 10F-3)

Insulin Dose in difficult cases

- If P.P. sugar is high, increase dose of Lente Insulin in morning or give plain insulin before lunch. But if urine sugar is high before lunch, add Plain Insulin to morning dose.
- If sugar is high at bedtime (Post dinner) or early morning, add Plain Insulin to night dose. But give a lesser dose at night, and do not increase Lente Insulin at night.
- In presence of infection like abscess or pneumonia, Insulin requirement will be much higher, till the infection is controlled.

If insulin requirement is very high, >80 units/day (Insulin Resistance), advise

1. Reduce weight
2. Regular Aerobic exercises
3. Foods with high glycemic index should be totally avoided
4. Tab Glyciphage - SR 1 gm OD (**Metformin** = 10 E-2), to enhance peripheral action of insulin.
5. Tab Pioz 15 mg OD-BD (Pioglitazone = 10G-1)
6. Tab Rebose 50 mg tds, before each meal (**Acarbose**=10 F-2,3,4) to reduce Carbohydrate absorption.

Drugs to reduce insulin resistence:

7. Tab Myoinositol 600 mg OD/ (Vitamin B8)
8. Tab CP500 × 1 BD (Chromi Picolinate = 10 J-2)

Follow up in Diabetes

What to ask?

1. H/O Episodes of sweating, dizzine headache, hunger (suggest hypoglycemia).
2. Frequency of urine and increas thirst (suggest hyperglycemia or p control).
3. Any tingling numbness of limbs.
4. If there is persistent cough, rule tuberculosis – a common associat

What to look for clinically?

1. **Weight:** If there is weight loss, s Biguanides (Metformin). If pa is not on Biguanide and still lo weight, then it is a case of po controlled diabetes – the dose re to be adjusted.
2. **Blood Pressure:** Must be checke every visit.
3. Check **peripheral pulses** on the (even if patient does not have an complaints).
4. Examine **the Feet**: Especially as the interdigital spaces and so infections, ulcer and sensory los
5. If patient is on bovine insulin, ins the injection sites, for allergic rea and fat atrophy.
6. If patient is on Sulphonylurea pioglitazone or Acarbose, loo icterus and palpable liver.

THE 'FIVE STAGE' APPROACH TO DRUG TREATMENT OF DIABETES

As age advances, Beta cell function decreases, and requirement of anti-diabetic drugs initially & insulin later goes on increasing. The drug treatment moves through 5 stages-

STAGE ZERO: If PP is 160-200mg%, Diet & Exercise. Reassess 3 monthly.

STAGE 1 – START METFORMIN:

- Tab Glyciphage 500mg OD
- Tab Glyciphage 500mg BD / TDS

STAGE 2 – ADD SULFONYLUREA :

- Tab Glyciphage 500mg BD / TDS

+

- T. Glimeperide 1-2mg OD BD
  OR T. Glibenclamide 5mg OD BD
  OR T. Gliclazide 80mg OD BD
  OR T. Glipizide 5mg OD BD

OR USE Fixed combinations e.g.

- T. Glycomet GP1/2 BD (Metformin + Glimepiride)
- T. Dipizide-M BD (Metformin + Glipizide)

STAGE 3 – ADD THIRD NEWER DRUG :

- Tab Sitagliptin 100mg OD
- OR Tab Vobligose 0.3 mg OD
- OR Tab Pioglitazone 15mg OD

If in spite of optimum/ maximum dose of 3 drugs, PP remains > 200mg% and HbA1C > 7%, then it is time to start insulin.

STAGE 4 – ADD LONG ACTING INSULIN: (i.e. BASAL)

Step 1: Single dose Inj Mixtard 30:70 in the morning

- Starting dose = 10 U – 0 – 0
- Monitor F & PP
- Increase by 2-4 Units every 3 days.

Step 2 : When dose exceeds 30 U/day, divide in 2 doses – 2/3 & 1/3

- For example - 20U – 0 – 10 U + Continue Tablets

If Fasting is high, increase evening dose;
If PP is high, increase morning dose.

If you want to reduce Tablets in this stage, increase insulin as needed.

STAGE 5 – ADD SHORT ACTING INSULIN (i.e. BOLUS) BEFORE MEAL

Now don't alter the dose of Mixtard, which is already maximum.

Step 1 : Inj. Huminsulin-R 4 U – 0 U – 0 U, or 4 U – 4 U – 0 U,

Monitor Pre-lunch and Pre-dinner sugar

Add 2-4 units to morning dose, every 3 days till Pre-lunch <180mg%

Add 2-4 units to noon dose, every 3 days till Pre-dinner <180mg%

Step 2 : Inj. Huminsulin-R before dinner eg 10 U – 12 U – 8 U for very severe cases

Step 3: When bolus dose is significant, Stop Sulfonylurea.

Continue - T. Metformin 500mg BD
T. Vobligose 0.3mg OD

New concepts:

1 Always start with Metformin, whether patient is thin or Obese.

2. Beta cell stimulators i.e. Sulfonylureas should be added last, so that Beta cells get rest and chance to recover.
So stage 2 = Metformin + Vibligose or Pioglitazone or Sitagliptin, and
Stage 3 = add Glimepiride or other sulfonylurea.

Recommended investigations during follow up

1. In a well controlled diabetic, check **urine sugar, 2 hours after lunch,** once a week. Teach the patient to do it with urostrips at his home. Educated patients may purchase a Glucometer, and do Weekly Blood sugar.
2. **Blood Sugar – Fasting and Post-prandial**, once in 3-6 months. More frequent check up if diabetes is unstable, or if urine sugar shows increase during the weekly check up, or if infection or any complication develops. Instruct the patient to take the drugs as usual at usual times, on the day of check up.
3. **Serum cholesterol and lipid profile** once a year, in elderly patients, and once in 2-3 yrs. in younger patients. If hyperlipidemia is detected, treat it vigorously.
4. **ECG** once a year in elderly and hypertensive patients. If there is slightest suspicion of angina (IHD), do stress test (TMT). Always remember that in long standing diabetes, angina and myocardial infarct are silent – there is no significant pain. Routine TMT once in 2-3 yrs.
5. **Urine for microalbuminuria** every year. Blood urea and S. creatinine if indicated.
6. **Fundoscopy** – once a year in elderly, in myopics, and in severe diabetics.
7. **Glycosylated Hemoglobin** – once a year, and if surgery is planned. The importance of this investigation in routine check up is that, it cannot be manipulated by the patient. Because, by natural tendency patients eat less before going for a blood sugar test, hoping that it will not come high.
8. If patient is on Sulphonylurea: **WBC count, SGPT.**

   If patient is on Glitazone or Acarbose: **SGPT, S. bilirubin.**
9. **Ultrasonography of abdomen** to pancreas, on detection of diabetes

OBESITY

If obesity appears hormonal or pathological refer the patient to an endocrinologist.

Treatment of Simple Obesity

(Detailed discussion in Chapter 33)

1. Low Calorie Diet - 800 to 900 Cal/day

   Don't eat - cereals, potatoes, roots vegetables, sugar, all sweets chocolates, puddings, dried or tinned fruits, butter, ghee, oil and fried foods

   Eat small Quantities - green vegetables, fruits, soup, khakra, lean meat, fish.

   Water intake < 1.5 Liter/day. Avoid minimum salt. Use sugar substitute skimmed milk and low sodium salt
2. Avoid total starvation.
3. Regular exercise - walking and aerobic exercises.
4. Tab. Orlica 120 mg just before or after fatty meals.

   (Lipase inhibitor. Prevents absorption of fats and calories)
5. Dietmann × 1 sachet stirred in 250 ml water for 10 minutes × 1 immediately as Gel is formed × 1 before meals × 3-4 wks.

   (Bulkying agent Glucomannan 15C-4)
6. Watch Regularly (every 6 months) B.P. & Diabetes.

- ❖ Starvation produces dramatic weight reduction, but the weight shoots back equally quickly when normal diet is resumed.
- ❖ Mainstay of treatment is diet + exercise. Drugs are recommended

only for severe obesity, due to their side effects.

- If the patient falls in high risk category i.e. with Diabetes, Hypertension, Angina, family H/O infarct etc., Then it is Family doctor's duty to stress the importance of weight reduction, explain the risks and be after the patient to reduce weight.
- Refer the patient to endocrinologist if
  1. Extreme Obesity.
  2. Obesity at very young age.
  3. Moon face, buffalo hump with thin legs.
  4. If sexual organs are underdeveloped.

HYPOTHYROIDISM

Suspected when patient has a puffy face, hoarse voice, sluggish movements and laziness. Slow relaxation of tendon jerks is diagnostic. Confirm by serum T3, T4 & TSH.

Treatment

- Tab Eltroxin 0.1 mg OD × to be continued lifelong. × increase the dose if necessary after 4 wks (9B-1).

HYPERTHYROIDISM

When to suspect?

When a *thyroid Swelling is seen* with:

1. Loss of weight in spite of Good appetite
2. Tremors & palpitations
3. Tachycardia - in absence of Heart lesion
4. Exophthalmos

Ask for

Serum T3 & T4 (Increased)

Serum TSH (Decreased)

Treatment

1. Tab Neo-Mercazole 5 mg × 2 tds × 2-3 mths. Then 1 tds × maintenance dose. (9B-2)
2. Tab Inderal 10 mg tds till pulse rate is normal (**Propranolol** = 6AB-1 = Beta Blocker)
3. Tab Alprax 0.25 mg bd to HS (**Alprazolam** 4D-8. Tranquiliser)

Once the patient has become euthyroid, refer the patient to a surgeon for subtotal Thyroidectomy.

4. Collosol Iodine 5-10 ml diluted in water × tds × 15 days prior to surgery, to reduce the vascularity of gland (**Collosol Iodine** = 9B-3).

Patients cannot be maintained on medical treatment for more than a few months. Relapses are common and surgery is needed in long term.

Indications for surgery

1. Inadequate response to medical treatment
2. Large Goitre
3. Severe thyrotoxicosis
4. Intolerance to Neomercazole

Where facilities are available for Radioactive Iodine treatment, it is the preferred treatment, if:

1. Age is above 45 yrs
2. Recurrence after surgery
3. High operative risk patient

Chapter

8 GENERAL SYMPTOMS

LOSS OF WEIGHT

First Assess, whether the patient has grossly lost weight and is cachexic, OR whether it is a small weight loss which just needs some good diet and exercise.

Gross Weight loss or Cachexia

Examine and Investigate the patient thoroughly.

1. Hb%, WBC, ESR and
2. Routine Urine (For Diabetes) & Stool (For worms).
3. Blood sugar curve: if polyuria & thirst,(? Diabetes)
4. H.I.V., HBsAg Test as a routine
5. X-ray Chest: if cough, fever, anorexia (TB/Ca Lung)
6. ECG & Echocardiography for RHD / IHD /CCF /Bacterial endocarditis
7. Gastroscopy, if anorexia, vomiting.
8. Ultrasonography of abdomen: for malignancy
9. Sigmoidoscopy or Colonoscopy: if Bleeding P.R.
10. Serum T_3, T_4, TSH: if tachycardia, thyroid swelling, - USG Thyroid.
11. History in details: for addictions to alcohol or drugs, Malabsorption syndromes, and Anorexia Nervosa.

Mild to Moderate Weight loss

Routine tests: Hb, WBC, ESR, Blood sugar curve, H.I.V. Test, X-ray Chest and c tests, if indicated by symptoms.

1. Good food, rich in proteins: (Cere milk, eggs, meat etc.) Advise he breakfast.
2. Proteinules 2 tsp in milk x 2 t day (**Proteins** = 2A)
3. Regular gradually increased exer
4. Inj. Decadurabolin 50 mg IM x e week × 3-4 inj's (**Anabolic Ster** = 2B-1 to 4)
5. Bayer's Tonic 2 tsp × bd × before meals (**Appetisers & Gen Tonics** = 2K to 2M)
   or Syr. Ciplactin 1-2 tsp × bd × before meals (**Cyproheptadi** 2M-1)
6. Cap. Autrin 1 OD × 3 mths, (**Iron** = 2I)
7. Cap Becadexamine 1 OD × (M **vitamin** = 2H-9)
8. Tab Zentel 400 mg 1 stat (A **helminthic** = 1E)

- In a recently emaciated yo patient, think of Tuberculosis. A Diabetes & Hyperthyroidism. old patient, think of malignancy
- Always be aware, that loss of may be the presenting feat some serious disease.
- A Good Practitioner, should a stress on the minds of the pa that Tonics and Injections a

not going to help to build the body mass. Good food & exercise must accompany the medicines for a substantial gain in weight.

FEELING TIRED (FATIGUE)

1. Regular exercise + Walking in fresh air, regularise working Hours.
   Regularise Sleep for 7-8 hrs.
   Yoga for relaxation if Stressed.
2. Inj. Neurobion 2 cc IM × alt days × 5-10 Injs (**B, B, B$_{12}$** = 2H-5)
3. Cap. Becadexamin 1 bd (**Multi-vitamin** = 2H-9)
4. Syr. Elsoma 2 tsp bd (any **General Tonic** = 2M-2)
5. Cap Ginsec 1 bd for elderly patients (**Ginseng** = 2N)
6. Proteinules powder 2 tsp in Milk daily (Protein supplement = 2A-1)

If no relief, examine & investigate thoroughly to look for common causes

1. Auscultate Heart for Valve lesions. ECG & Echo To rule out IHD/ RHD.
2. Hb% for anemia.
3. Blood sugar - Fasting & PP for Diabetes.
4. S. Electrolytes – esp if leg cramps.
5. Blood Urea & S. Creatinine – for CRF
4. X-ray chest for TB.
5. H.I.V. test - for AIDS.
6. Look for features of myxoedema - Serum T3, T4 & TSH.
7. Polysomnograhy for Obstructive Sleep Apnoea, if H/O Snoring

If all tests are normal, try

1. Tab Eltroxin 1 OD × 30 (**Therapeutic trial** = 9B-1)
2. Cap Fluodep 30 mg OD × 30 (**Antidepressant Fluoxetin** = 4F-3) or Tab Depsonil 25 mg tds × 30 (**Imipramine** = 4F-1)

If excessive daytime sleepiness

If it is due to shift duty or drug induced drowsiness, give 1 Tab Modafinil 100 mg 1-2 tabs × OD in the morning as single dose.

If patient snores loudly at night, investigate for Sleep Apnoea.

If associated with muscle pains, memory impairments, lack of concentration, and fatigue not relieved by sleep > 6 mths, refer for Chronic Fatigue Syndrome.

FEVER

When a patient presents with fever, check the temperature with thermometer. It is an important record.

Most fevers encountered in General Practice are viral, self limiting and require only symptomatic treatment.

Symptomatic treatment

1. Tab Crocin 1 stat & S.O.S. (**Paracetamol** = 3A-3)
2. Inj. Febrex 2 cc IM if fever > 100°C or 38°C (3A-3)
3. Tab Trap 1 bd/ tds if bodyache (Tramadol = 3B-3) or combinations with NSAIDs.
   Ibuprofen + Paracetamol (3C-3) eg. Ibuflamar. P.
   Tramadol + Paracetamol (3B-3) e.g. Ultracet, Calpol-T
4. Tab CZ-3 1 OD if colds (**Anti-histaminics** - 5A & 5B)
5. **General measures**
   i) Cold com presses or icebag - over

forehead, axillae, neck etc. (for details, refer Procedures)
ii) Bed rest with blanket.
iii) Semi solid or liquid diet, Avoid cold water. (See page 183)
iv) Avoid exposure to wind. Avoid bath - only sponging.

- Before labeling a fever as viral, you must look for (as a compulsory routine) pallor, jaundice, Neck stiffness, Abdomen for Liver & spleen and auscultate the chest.
- If there is a running epidemic eg. Malaria, influenza, viral hepatitis or typhoid in the locality, then that cause must be thought of first.
- Though many of the fevers in General practice are viral and harmless, the practitioner must be aware of the common causes of fever, and the symptoms & warning signals suggesting that this may not be a simple fever. You should always try to find the cause of the fever by evaluating the associated symptoms.

FEVER WITH CHILLS

Think of Malaria and Urinary Infection

In endemic areas, Rule out filariasis, (and if no cause is apparent, think of hidden abscess) Ask for Blood smear for M.P., Urine, Hb% & WBC.

A. If chills & shivering is severe, OR If fever comes on alternate days, or at the same time everyday OR If spleen is palpable, suspect malaria. (Details in Chapter 30)

1. Tab. Resochin 4 stat, 2 after 6 hrs, then 2 daily × 2 days To be taken after food, with antacids (**Chloroquine** = 7E-1)
2. Tab Reglan 1 tds, if nausea &vomiting due to chloroquine (**Metoclopramide** = 1K-5).
3. Tab Primaquine 7.5 mg × 2 tabs daily × 14 days (For Radical cure in **Pl. Vivax infection** = 7E-3). For details, Chapter 30.

If P. Falciparum Malaria

1. Tab Resochin 4 - 2 - 2 - 2 as above (**Chloroquin** = 7E-1) with antacid & antiemetic.

   To take care of chloroquine Resistance, add two of the following drugs -
2. Tab Falcigo 50 mg 2 bd × 1, then 1 OD × 4 (**Artesunate** = 7E-9)

   Or Cap. Larither 40 mg 1 bd × 1, then 1 OD × 4 (**Artemether** = 7E - 10)
3. Tab Quininga 300 mg 1 tds × 10 days (**Quinine** = 7E-4)
4. Tab Amlar 3 tabs stat-single dose (**Sulfadoxine + Pyrimethamine** = 7E - 6)

B. If associated Burning micturition, cloudy urine, or loin pain - suspect Urinary Infection

1. Tab Norflox 400 mg bd × 5-10 days (**Urinary antibiotic** = 7C)
2. Cital × 1 tsp in glass of water × tds (**Alkaliniser** = 7C-6)
3. Tab Pyridium 1 tds × if burning sensation (**Phenazo- pyridine** = 7C-7a & b) OR Tab Flavoxate
4. Plenty of water & fluids.

C. In Endemic areas of filariasis, think of filarial infection, especially if associated with edema of leg or inguinal lymphadenopathy

1. Tab Banocide 100 mg tds × 21 days (**Diethylcarbamazine** = 1E-II 4)
2. Tab Wysolone 5 mg bd × 10-15 days × after food. (**Prednisolone** = 9A-1).

FEVER WITHOUT CHILLS

1. Tab Zanocin 200 mg bd x 5 days OR
   Cap. Amoxycillin 500 mg tds × 5 days (**Antibiotic** = 7A)
   (For Choice of antibiotic, see the note below)
2. Tab Crocin 1 tds & S.O.S. if fever (**Paracetamol** =3A-3)
3. General Measures,
   i) Cold compresses or icebag - over forehead, axillae, neck etc. (for details, refer Procedures)
   ii) Bed rest with blanket. No Fan.
   iii) Semi solid or liquid diet, Avoid cold water, cold drinks
   iv) Avoid exposure to wind. Avoid bath - only sponging.
4. If high fever with profuse sweating, and dehydration or weakness.
   I.V. D.N.S. 540 ml × 2
5. If associated with Nausea & vomiting, give injectible antibiotics.

If fever does not reduce within 3-4 days of antibiotic treatment, ask for routine investigations - i.e. Hb%, WBC, ESR, Widal Test, Urine & X-ray Chest.

Additional Treatment will depend on the cause of the fever. So evaluate the associated symptoms:

1. **If with colds & cough**
   i.e. Pharyngitis & bronchitis, or Upper Respiratory Tract Infection or the cough, cold, fever syndrome of General practice.
   a) Tab Oflox 200 mg bd × 5 (**Respiratory Antibiotic** = 7A)
   b) Tab Wikoryl 1 tds (**Anti-colds combination** = 5A)
   c) Suppressa 2 tsp tds (**Cough suppressant** = 5C-1)
2. **If with cough, and one sided chest pain or breathlessness**
   Ask for X-ray Chest, to rule out Pleural effusion or pneumonia.
3. **If with severe Headache: Test for Neck stiffness.**
   If Neck stiffness is present, refer immediately for L.P. (? Meningitis). Malaria also gives associated headache.
4. **If with Drowsiness or altered consciousness or restlessness:** Suspect meningitis & refer for L.P. Also consider, cerebral malaria and encephalitis.
5. **If with severe weakness or severe anorexia:** Suspect viral hepatitis, and look for jaundice or tender Liver. (Details under 'Jaundice').
6. **If child with Joint pain/Joint swelling, or murmur or undue tachycardia:** suspect Rheumatic fever start Penicillin and aspirin and refer to Pediatrician, and for 2D-Echo. (Details under Rheumatic fever)
7. **If with splenomegaly:** Suspect Malaria first. Typhoid second and rarely leukemia or lymphoma.
8. **If with hepatomegaly:** First think of Infective Hepatitis. If no jaundice, suspect typhoid. If Liver is nontender, then malignancy & other causes.

If the fever is long drawn, over 2 weeks

Then investigate fully. The seriousness of prolonged fevers is often not realised, if the fever is off & on.

Ask for: Hb%, WBC, ESR, Peripheral smear - for M.P. (during chills) & leukemia
Urine - routine & culture
Widal test
Rapid Malaria test for Antigen

H.I.V. test

X-ray Chest

Ultrasonography of Liver & abdomen

Lymph node biopsy, if Lymph nodes are palpable

If these routine tests are inconclusive, ask for further tests, depending on the symptoms -

- Serum ADA, Mantoux Test – for hidden TB
- Brucella test
- Leptospira Antibody IgM
- Typhidot IgM
- Chikungunya IgM
- Dengue IgM
- Weil Felix test - for Rickettsia
- C-Reactive Protein

❖ Remember, simple viral fevers do not require antibiotics.

❖ If fever does not reduce within 3-4 days of empirical treatment, investigate in details or consult a Physician.

❖ Antibiotics used for common fever:

Short fever: Ampicillin, Amoxycillin, Tetracyclins, Septran, Chloromycetin, Baciclox, Erythromycin.

High, Continuous fever: Ciplox, L-cin or Ofloxacin (Quinolones) Cephalosporins, Aminoglycosides.

Fever with Low Platelet Count or Fever with Haemorrhages

Whenever fever is sudden, very high, with joint pains, vomiting & rash - think of Dengue fever.

Look for: Petechial rash, Bleeding from nose/gums/hematemesis/melena, Restlessness, Thready pulse, Low BP.

Very important to check platelet count of every fever patient, otherwise Dengue will not be detected till bleeding starts.

If Platelet count is < 1,00,000, then Test Blood for: Platelet count everyday, Hb-WBC, Dengue IgM Test.

1. Hospitalise, if Platelet count is < 50,000
2. For fever- give Paracetamol only. No Aspirin or NSAID - for fear of bleeding. Plain analgesics for pains.
3. Plenty of oral fluids; IV Fluids to prevent shock.
4. Bed rest
5. If platelet count is < 20,000, or if bleeding, then Platelet transfusion.
6. If internal hemorrhage, Hematemesis or Melena, then Blood transfusion.
7. If shock, treat with IV fluids, Colloids (Hemacele), Dopamine drip, steroids (Inj Efcorlin 2 amps IV 4-6 hrly).
8. Prevention by prevention of mosquito bites, & mosquito breeding

Fever with Severe Joint Pains

Think of Chikungunya: if high fever, maculopapular rash, severe multiple joint pains which last for weeks to months.

Look for: Leg edema, Epistaxis

Test Blood for: Chikungunya IgM

For joint pains

1. Inj Voveran 3cc IM stat & SOS (**NSAID Injs** = 3C-91)
2. Tab Brufen 400 mg tds OR Naproxen or Voveran or Aceclo (NSAIDs) (with antacid)
3. Short course of steroid
4. Chloroquine 250 mg/day if chronic
5. No Massage of the swollen joints
6. Prevention by prevention of mosquito bites, & mosquito breeding

Swine Flu: A fever with Sore Throat

Think of Swine Flu if a patient was exposed to a possible case of Swine flu or is traveling from an endemic area of Swine flu, complains of sore throat, fever, cough, bodyache, fatigue or Diarrhoea. May rapidly progress to Pneumonia & respiratory failure.

Diagnosis by suspicion. Nose & throat swab taken during first 5 days for H_1N_1 virus, rRT-PCR test.

1. Cap Tamiflu 75 mg bd × 5 (**Oseltamivir** = 7G-C2 - antiviral)

   In children Tamiflu suspension (12 mg/ml) 3 mg/kg/dose BD

   OR Relenza inhaler 10 mg (2 inhalations) bd × 5 days (Zanamivir) N.A.
2. Symptomatic treatment for Fever, colds, cough, & Antibiotics for secondary infections.

TYPHOID FEVER

Suspect when fever is high, continuous, lasting for over a week. Patient looks ill, with mild splenomegaly, relative bradycardia (no tachycardia), Leukopenia, and Widal test is positive.

Rx

1. Bed rest.
2. Small frequent feeds. Soft diet – Avoid chillies, spicy and oily foods. Maintain oral hygiene.
3. IV Ciplox 200 mg bd × 2-4 days, Then Tab Ciplox 500 mg bd for 10-15 days (**Ciprofloxacin** = 7A-10a)

   OR

   IV Oflox 200 mg 12 hrly × 2-4 days, then Tab Oflox 500 mg bd for 10-15 days (**Ofloxacin** = 7A-10c)

   OR

   IV Chloromycetin 1 gm 6 hrly x 2-4 days, then Cap Chloromycetin 500 mg 6 hrly for 2 wks. (**Chlor-amphenicol** = 7A-2)
4. Tab. Ultragin 6 hrly or S.O.S. when there is fever. (**Paracetamol** = 3A-3)
5. Tab. Rantac 150 mg bd (**Acid inhibitors** = 1B)
6. Tab. Wysolone 10 mg tds x 5 days, if the patient is toxic (**Steroid** = 9A-1)
7. Tab. Perinorm 1 tds – if there is vomiting (**Antiemetic** = 1K)
8. IV Fluids – during acute phase, as and when necessary.

If there is no response after 4-5 days

Probably there is resistance to quinolones & Chloromycetin (MDR-Typhoid). So give third generation Cephalosporin. In some areas, doctors prefer it as the first line drug.

1. Inj Monocef 1 gm IV BD to 6 hrly till fever is controlled/ 6 days, then orally Tab Cefil 500 mg 1-2 BD for total 14 days. (**Ceftriaxone** = 7A-9 III c = 75 mg/kg/day).

   OR Tab Cefi 400 mg 1 BD for 10-14 days. (**Cefixime** = 7A-9 III f = 20 mg/kg/day).

   OR Tab Azee 1 gm OD for 5 days (**Azithromycin** = 10-20 mg/kg/day).
2. Inj Decadron 2 cc iv 12 hrly for 2-3 days (**Steroid** = 9A-1)

In pregnant females, prefer third generation cephalosporin.

Prevention

Vaccinate all contacts in home, Also vaccinate people who eat hotel food & drink outside water frequently.

1. Oral Typhoral – one capsule on alternate days, on empty stomach in morning, 3 doses. With booster every 5 yrs. OR

2. Inj. Typhim Vi 0.5 ml IM, Single Dose, Booster every 3 yrs. Better Protection than oral vaccine.

PALLOR

If Pallor is severe or If Liver/Spleen are palpable. Then ask for Hb% WBC and Peripheral smear before starting treatment.

For Nutritional or Iron Deficiency Anemia

1. Cap. Autrin 1 daily × 3 mths (**Iron + Folic acid** = 2I)
2. Tab Mebex 1 bd × 3 days, to be repeated after 10 days (**Ante-helminthic for Hookworms** = 1E-1)
3. Good Food, with Green vegetables, milk, beans & peas and in Non-vegetarians-meat, eggs, Liver & Kidney.
4. Proteinules 2 tsp in milk 2 times/day (**Protein** = 2A)
5. Inj. Vitcofol 2 cc IM × alt days × 5-10 injections (**Bplex** = 2H-6)

   or Inj. Neo-hepatex 2 cc IM × alt × 5 (**Liver extract** = 2K)
6. **If patient gets nausea or constipation with oral iron**
   i) Try another compound of iron like Ferrous ammonium citrate (Dexorange), Ferrous Glycine sulfate (Fezocar), ferrous succinate (Hematrene) etc. (Ref drugs 2I-2 to 8)
   ii) Give injectible (Parenteral) Iron

   Three ways to give parenteral Iron:

   a. Inj. Imferon 2 cc × deep IM by Z-technique with 21 No. needle. × after ½ ml deep IM test dose × daily × 10 days (**Injectible Iron** = 2I-1)

   b. I.V. Imferon drip:

      Give Inj. Imferon ½ cc deep IM on previous week as test dose. If patient gets joint pain, I.V. imferon is avoided.

      Start I.V. 5% dextrose drip. Inject 1 cc Imferon very slowly intravenously as I.V. test dose.

      Wait for 5 minutes.

      If any reaction or hypotension, give Inj decadron 2 cc and Inj. mephentin 2 cc with fast I.V. drip. If no reaction, add 30 ml Imferon to the drip and let it run slowly over 3-4 hrs.

      With any iron preparation oral or injectible, Hemoglobin rises by 1 gm% per week or 1% per day.

   c. Iron Sucrose I.V. Injection:

      Inj. Uniferon or Imferon-S 2 amps = 200 mg (10 ml) I.V. × in 100 ml NS × 3 times/week × till total dose is given.

      OR as a weekly drip,

      5 amps in 500 ml N. Saline IV × over 4 hrs × every week × 4-5 weeks (2I-1c)

   d. Ferric Carboxy Maltose IV:

      Inj. Orafer - FCM 500 mg 1 amp in 100 ml NS drip.

Calculation of total dose of Imferon

Total dose of Iron = 2.38 × body weight in kg × (15 – Hb in gm%)

To this add 1000 mg for replenishing Iron stores.

E.g. 60 kg patient with 6 gm% Hb needs
2.38 × 60 × (15 – 6) + 1000 mg
= 2285 mg of Iron

This is equivalent to –
= 45.7 ml of Imferon (2I-1a)
= 22 ampoules of Uniferon (2I-1c)

If satisfactory response is not seen, Refer to a physician

1. Look for the source of blood loss: Hook worms, piles, PV Bleeding, malignancies.
2. If anemia is severe, Refer for Blood Transfusion.
   If Hb <6 gm%, advise Blood transfusion
   If Hb < 3 gm%, advise Transfusion of Packed cells.
3. In refractory cases, give anabolic steroids or erythropoietin-
   - Inj. Deca-durabolin 50 mg IM × every 4th day × 3 to 5 injections (**Nandrolone Decaonate** = 2B-2)
   - Inj. Epofer 2000 iu (25-100 iu/kg) × thrice weekly × subcut/Slow IV × 4-8 weeks. (Erythropoietin = 2J-2) for CRF, suppressed bone marrow, with chemotherapy & refractory anemias.

- Anemia exaggerates practically all the vague complaints like joint pains, chest pain, backache, weakness, anorexia, digestive disturbances, edema, breathless-ness, palpitations, Tingling limbs etc. So you must look for pallor in tongue & conjunctiva of every patient and prescribe iron in addition to the symptomatic treatment.
- Anemia is very common and Hemoglobin of more than half the patients, even in well-to-do families is below normal.
- Give anthelmintic to every patient with pallor.
- Oral Iron capsules are preferred to liquid preparations which are costlier and stain the tongue black.
- Refer to Physician immediately, if patient is very very pale, if Liver/ Spleen is enlarged or if bleeding tendencies like epistaxis/bleeding gums are seen.

STOMATITIS

One or more tiny ulcers on oral mucosa, which are painful especially to chillies.

1. Local application 3-4 times/day, of:
   i) Soothing lotion like glycerine borax, milk cream.
   ii) Anesthetic lotion like Xylocain 2% or Zytee
   iii) Metrogyl DG Gel: (Metronidazole locally for anaerobic organisms)
2. Cap Becosules 1 bd × 10 days (**Bcomplex** - 2H-6) or Syr. Betonin 2 tsp tds.
3. Inj. Neurobion 2 cc IM × daily × ATD × 5 (**Injection B, B, B$_{12}$** = 2H-1)
4. Tab Folvite 5 mg OD x 30 (Folic acid = 2H-7)
5. General Instructions:
   i) Avoid Chillies.
   ii) Avoid hot drinks & foods. Take Soft & Bland diet.
   iii) Avoid tobacco chewing.
6. If patient is anemic:
   i) Cap Autrin 1 OD × 30 (**Iron + folic acid** = 2I)
   ii) Tab Zentel 400 mg 1 stat, repeat after 1 wk. (**Broad spectrum anthelmintic** = 1E-2)

If apthous ulcers are recurrent

1. Ask for Hb%, WBC, Peripheral smear.
2. If habit of chewing tobacco, stop it completely.
3. Tab Flagyl 200 mg tds × 7 days (**Metronidazole** = 1F-1)
4. If 'white fungal ulcer',
   i) Nystatin solution local application (7D-5) or Gentian Violet local application.
   ii) Tab Phytoral 200 mg tds × 1-2 wks (**Ketoconazole** = 7D-2)
   iii) Ask for HIV test.

5. Inspect mucosa for 'oral submucous fibrosis'.

   If mucosa of cheeks or soft & hard palate looks white, refer to a surgeon for local Hyalase + Hydrocortisone injections.

If Ulcer is persistent at the same site or large

1. Look for sharp tooth. If a hurting tooth is seen, refer to dentist for tooth extraction.
2. Palpate the ulcer. If it is indurated or > ½ cm in size, refer to a surgeon for biopsy.

- Apthous ulcers are usually self limiting, (and recurrent!)
- Incidence of oral cancers is very high in our population due to habit of chewing pan & tobacco. So always be aware of this possibility, when ulcer is large, persistent, firm or raised. Only General practitioners can detect these cases early and early oral cancers are curable by surgery.

ORAL SUBMUCOUS FIBROSIS

White mucosa of cheek, palate & tongue. Inability to open mouth fully, whistle or blowout candle. Intolerance to spicy food.

1. Stop eating Tobacco, Betelnut & Chillies.
2. Cap Becosules 1 OD (Vit B **complex** = 2H-6)
3. Tab Folvite 5 mg OD x 30 (Folic acid = 2H-7)
3. Tab Wysolone 5 mg OD x 20(**Low dose steroid** = 9A)
4. Weekly injection of Hydrocortisone + Hyaluronidase into the submucous fibrous bands.
5. Gradual opening of mouth everyday with a strong mouthgag.
6. For extreme cases, Surgical excision of fibrous tissue in cheek and grafting.

BITTER TASTE IN MOUTH

1. Stop the drug causing it. e.g. Flagyl, Tinidazole, antibiotics, Chloroquine, etc.

   Use enteric coated tablets if available or give injectible form.
2. Digene 2 tsp x 4 hrly (**Antacid** = 1A)
3. Tab Perinorm 10 mg tds if nausea (**Anti-emetic metoclopramide** = 1K-5)
4. Chew cardamom, Chocolates, to mask the bitter taste.

- While Prescribing drugs like Flagyl, Chloroquine etc. instruct the patient about the after taste in the mouth.

CRACKS ON THE SOLES

Inspect the palms also for cracks. Inspect the cracks for depth, white fungal infection or inflammation.

1. Keep the foot dry
2. Wear thick, soft & absorbent socks, and soft canvas shoes. Wear soft Chappals at home.
3. Foment in hot water tub x for 10 mins x 2 times daily followed by drying & application of ointments.
4. Locally apply Salicylix-SF 12% (Salicylic acid oint = 11-D) Keratolytic

   OR Vaseline or Petroleum Jelly (Skin Softener)

   OR Urix 40 ointment Locally (Urea Ointment for deep cracks - softener))
5. Tab Flucos 150 mg x once a week x 8 (Fluconazole – Antifungal = 7D-3)

   OR Tab Grisovin 250 mg 1 tds x 21 days (**Griseofulvin** = 7D-1)

6. Tab Wysolone 5 mg 1 bd × 10 days, (**Low dose Steroid** = 9A-2) for resistent cases

If the cracks are white at depth

1. Locally apply Cloben-G, Canesten or Surfaz ointment. (**Antifungal Ointments** = 11A).

If a crack is inflamed, swollen with cellulitis

1. Cap. Cefalong DS 1 bd × 5 (**Antibiotic** = 7-9)
2. Tab Combiflam 1 tds × 3 (Anti **inflammatory** = 3C-3)
3. Refer to surgeon for incision if abscess is formed.

If crack is very deep/nonhealing/ foul smelling

- Test the sensations of surrounding skin. If absent,
- Ask for skin biopsy to rule out Leprosy.

EXCESSIVE SWEATING

Sweating of Palms & Soles:

1. Tab Ostocalcium 1 bd × 2 mths (**Calcium** = 2C)
2. Soak the palms & soles in 10% formalin for 5 mins. every day.

   May also soak in warm water with salt or potassium permanganate solution. Then dry thoroughly, apply moisturising cream, then apply Talcum Powder.
3. Tab Ativan 1 mg bd × if the person has nervous or anxious personality (**Tranquiliser** = 4D)
4. If the patient has to do a lot of writing or fine work, where wet palms are troublesome, refer to a surgeon for cervical sympathectomy.
5. Instructions:
   - Use footwear that allows evaporation.
   - Wear loose cotton socks. No synthetic socks.
   - Do not use shoes with plastic or synthetic fiber lining.
   - Check regularly between the toes for fungal infections.

Sweating of Axilla & Body odour

1. Wash and scrub the body, especially axillae with deodorant soap 2 times/ day.
2. Shave axillary hair regularly.
3. Apply anti-perspirant Deodorant to axillae.
4. Liberal use of Talcum powder in axilla 2 times/day.
5. Use loose cotton clothes. Keep clothes clean and washed.
6. Avoid Garlic, Onions, Curry, Fish, caffeine which give rise to body odour.
7. Permanent solution in severe cases: Injection of Botox into the sweating area of axilla by Plastic or Cosmetic Surgeon.

Generalised Sweating

1. If Diabetic

   suspect hypoglycemia.
   i) Give sugar/sweets to eat.
   ii) Reduce the dose of antidiabetic drug.

2. **If Elderly person**

   suspect myocardial infarct.
   i) Make the patient lie down.
   ii) If chest pain, Inj. Fortwin 1 cc IM, and Tab Disprin+ Tab Isordil stat
   iii) Ask for ECG.

3. **Any severe pain**

Like renal colic, perforation of duoden ulcer can give rise to severe sweatin Treat accordingly.

4. During recovery from viral fevers

severe sweating may occur. Give orolyte and plenty of oral fluids. & S.O.S. I.V. fluids.

5. Inj. Novalgin

in sensitive individuals, may be followed by severe sweating. Do not give injection Novalgin again.



Chapter

9 DENTAL SYMPTOMS

TOOTHACHE

Ask the patient to open the mouth, and inspect carefully the painful tooth and gums.

I. If gum is not inflamed

1. Tab Disprin 1 tds till pain subsides (**Any analgesic** = 3A & B)
2. Inj. Voveran 3 cc IM stat if pain is severe. (**Analgesic injection** = 3 A, B & C)
3. After the pain subsides, refer to Dentist for filling of the cavity or extraction.

II. If Gum is swollen, inflamed, with pus

1. Tab Odoxil 500 mg 1 bd × 5 (**Antibiotic** = 7A)
   or Ampicillin or Amoxycillin or higher antibiotic.
2. Tab Combiflam 1 tds × 3 (**Anti-inflammatory** = 3C) or Tab Meftal Forte 1 tds
3. Local fomentation.
4. Wokadine gargles (**Povidone - Iodine mouth wash** = 13D)
5. After the inflammation subsides, refer to Dentist.

III. If cheek and jaw are also swollen

1. Inj. Cefaxone 1g IM/IV 8 hrly (**Higher antibiotic** = 7A).
2. Tab Flagyl 400 mg tds × 5 days (**Metronidazole** = 1F) For anaerobic infections
3. Tab Combiflam 1 tds × 3 (Anti-**inflammatory** = 3C)
4. Tab Chymoral forte 1 tds (**Chymotrypsin** = 3E)
5. Inj. Voveran 3 cc IM S.O.S. if severe pain (3C)
6. I & D if abscess forms.
7. Dental treatment after inflammation subsides

IV. If there is impacted food particle

In a tooth cavity or between the teeth, gently remove it with a blunt 24 No. needle, or toothpick.

V. If tooth is shaky or badly carious, but no gum infection

Immediate tooth extraction will give instant relief.

- In every case, proper instructions for dental hygiene must be given to prevent recurrence.
- If tooth is normal, think of referred pain like Trigeminal Neuralgia and in left lower molar pain, always remember angina & try sublingual sorbitrate.
- Mefenamic acid (Meftal) is a better NSAID for Dental Pain.

DENTAL HYGIENE

1. Regular brushing in the morning and at night before going to bed.
   - Brush up & down with rotatory motion of the tooth brush.
   - Each tooth & corner should be brushed at least 5 times.
   - Massage the gums with finger after brushing.
2. Thorough rinsing and light brushing, after every meal, and after eating sweets like chocolates.
3. If there are gaps between the teeth, flossing using Johnson's Dental floss, at least once a week to clean the interproximal surfaces of the teeth or use soft wooden tooth pick.
4. Avoid Chewing tobacco, and excess sweets/chocolates.
5. Antiseptic mouth wash once a week after brushing & flossing the teeth at night. Avoid daily use of mouthwash (13-D).
6. If tartar is present, it will not come off by brushing. Refer the patient to dentist for 'scaling' i.e. removal of tartar & cleaning of teeth.

BLEEDING GUMS

1. Dental Hygiene - as explained above.
2. Gum massage.
3. Sensoform Gum Paint locally (Tannic acid – Glycerine)
   OR Metrohex Gel (Metronidazole + Chlorhexidine)
4. Tab Celin 500 mg OD × 10-30 days (**Vit C** = 2G)
5. Tab Dicynene 1 tds × till bleeding stops (**Hemostatic Drugs** = 6G)
6. If infection & Gingivitis:
   i) Cap Baciclox 500 mg tds × 5 (**Antibiotic** = 7A)
   ii) Tab Flagyl 200 mg tds × 6 (For **anerobic infection** = 1F)
   iii) Tab Combiflam 1 tds × 3 (anti-**inflammatory** = 3C)
   iv) Prudent Mouth wash 2 times/ day after brushing (**antiseptic mouth wash** = 11M)
7. If spongy, hypertrophic gums:
   Ref to surgeon for gingivectomy.
8. If tartar is seen over base of teeth:
   Refer to Dentist for Scaling.
9. If Gums are normal,
   Refer for blood examination & Physician's opinion to rule out blood dyscrasias & bleeding disorders. Ask for - Hb%, WBC with platelet count, Peripheral Smear, BT, CT, PT,

❖ Patients taking Dilantin for epilepsy (**Phenytoin Sodium** = 4A) must be instructed to brush the teeth properly & maintain Dental Hygiene. Otherwise they develop gum hypertrophy.

HYPERSENSITIVE TEETH

1. Desent tooth paste - x to be applied to teeth and kept for 10 minutes before rinsing out, at bed time. (**Strontium chloride** = 13D-2 ii)
   or Sensoform tooth paste (**Formalin** = 13D-2 ii)
2. Avoid harsh & rough tooth powders.
3. Avoid very cold, very sweet & very sour foods.
4. Use soft tooth brush.
5. If Single tooth is sensitive, Refer to Dentist for filling or tooth extraction.

Chapter

10 E.N.T. & EYE SYMPTOMS

THROAT PAIN AND FEVER

Ask the patient to open the mouth, and inspect the throat with a good torch & tongue depressor.

A. If the tonsils are red & inflamed with tender tonsillar lymph nodes below the angle of mandible, then it is acute Tonsillitis.

B. If the entire throat i.e. posterior pharyngeal wall is inflamed, then it is acute pharyngitis.

C. If there are inflamed rough granules over the posterior pharyngeal wall, it is granular pharyngitis (Chronic).

D. If you see a white patch anywhere in the throat suspect 'Diphtheria' and refer immediately.

ACUTE TONSILLITIS

1. Steam inhalations 3-4 times/day.
   Add to the boiling water- Tinc. Benzoin, Vicks or Amrutanjan.
2. Warm salt water Gargles (or Wokadine Gargles) × tds.
3. Syr. Erythrocin 1-2 tsp tds × 5 (**Antibiotic** = 7A).
4. Syr. Flamar 1 tsp tds × 5 (**Ibuprofen = Antiinflammatory** = 3C)
5. Syr. Crocin 1 tsp if fever (**Paracetamol** = 3A)
6. Syr. Tixylix 1 tsp. tds if cough (**Antitussive** = 5C-1).

If recurrent attacks

1. Tab Septilin 2 tds × 1-2 mths. (Ayurvedic).
2. Avoid fried foods, Cold drinks, Icecream.
3. S.O.S. Tonsillectomy.

When to advise Tonsillectomy?

1. If attacks of Tonsillitis are frequent. or Child has had > 5 attacks.
2. If Tonsillar Lymph nodes are persistently enlarged and tender.
3. When a hidden septic focus is suspected, e.g. child having low grade fever, not gaining weight or chronic anorexia.
4. Persistent dry cough, where no other cause is found.
5. Mouth breathing, where adenoids are large and obstructing (with adenoidectomy)

❖ If the child has had rheumatic fever in past or R.H.D., then give Penicillin as antibiotic.

ACUTE PHARYNGITIS

Instructions

1. Rest at home, with Voice rest.
2. Take hot drinks to sip.
3. Stop smoking.

4. Steam inhalations 3-4 times/day with Tinc. Benzoic.
5. Warm salt water Gargles × 3 times/day.

Drugs

1. Tab Althrocin 500 mg tds × 5 days (**Antibiotic** = 7A)
2. Tab Combiflam 1 tds × 3 (**Anti Inflammatory = Ibuprofen + Paracetamol** = 3C-21)
3. Tab Wysolone 1 tds × 3 (**Steroid** = 9A = Short course, if severe attack)

   If no response to antibiotics, then it could be Allergic.
4. Tab Foristal 1 bd × 5 days to 1 mth (**Anti histaminic** = 5B-I-7) or Tab Alerid 10 mg OD (**Cetirizine** = 5B - II).
5. Avoid the Allergens like Dust, colddrinks etc.

BLOCKING OF NOSTRILS

If one nostril is blocked constantly

Then there has to be some obstruction. Look for nasal polyp.

A. If there is mucus discharge and grape-like glistening white polyp - it is nasal polyp from ethmoidal or maxillary sinus.

B. If mucopurulent or bloodstained discharge is seen from the blocked nostril, in children suspect a Foreign body and in elderly patients, suspect a malignant growth.

Intermittent blocking of either nostril

Examine the inside of the nostril, by turning the nose up and pointing a good torch.

i) Look at Nasal septum on Both sides- for deviation to one side.

ii) Inspect both inferior turbinates for hypertrophy.

iii) Shiny white, grape-like polyps.

iv) Test tenderness over maxillary sinuses for sinusitis

v) Mucosa is shiny and Edematous in allergic Rhinitis and colds.

When Blocking is intermittent

1. 3 drops of Ghee or Liquid Paraffin in Both nostrils × tds.
2. Deep Breathing exercise (Pranayam) = Inhale deeply & slowly through one nostril, hold breath for 2 secs then exhale slowly × Repeat 20 times × tds.
3. Nasivion Nasal Drops 1-2 drops × 1-3 times × when nostril is blocked, for symptomatic relief. (**Oxymeta-zolin** 0.05% = 13C-10 or Otrivin or Efcorlin or Dristan nasal drops (13-C).
4. Tab Alday 10 mg OD or BD × 30 days (5B-II) or Tab Foristal 1 bd × 30 (5B-1).
5. If no response, refer to E.N.T surgeon.

Remember that for mild degrees of deviated Nasal septum or Inferior Turbinate Hypertrophy, the above treatment is enough.

COMMON COLD (RHINITIS)

Common cold is a self Limiting condition, the aim is symptomatic relief

1. Steam inhalations.
2. Vicks Inhaler, Vicks or Halls lozenges.
3. Tab Disprin 1 tds (**Aspirin** = 3A-2) or Tab Crocin 1 tds (**Paracetamol** = 3A-3 = for relief from bodyache, feverishness).

T. Allercet — cold, AK, DC, M
(Emeric)
Tab Alatax 0-0-1 (5)

4. Tab Foristal 1 tds (**Anti histaminics** = 5B).
   or Combination drugs eg. (5A)
   - Tab Rinostat ½ - 1 tds.
   - Tab Wikoryl 1 tds.
5. Otrivin nasal drops S.O.S. if blocking of nostrils (**Xylometazolin** = 13C-2).
6. Tab Celin 500 mg OD × 6-10 days (**Vit C** = 2G).
   If it progresses to Pharyngitis or Bronchitis, then add antibiotics -
7. Tab L-cin 500 mg OD × 5 (7A)
   or Ampicillin/ Amoxycillin/ Erythromycin/ Ciprofloxacin etc.

If Attacks are frequent, (Allergic Rhinitis)

1. Tab CZ3 1 OD x 30days (Cetrizine = 5B)
2. Tab Telekast 10/ Telekast-L 1 OD x 30 days(Monteleukast + Levocetrizine = 5G-1)
2. High Protein diet and Regular exercises.
3. Regular Deep Breathing exercises.
4. Inj. Neurobion 2 cc IM × ATD × daily × 5 (2H-6).
5. Cap Becadex. F 1 bd × 30 (**Multi-vitamin** = 2H-9)
6. Tab Ativan 1 mg bd if anxiety/tension (**Lorazepam** = 4D-4)
7. If sneezing and watery discharge, indicate allergic origin, use mast cell stabilisers-(5F)
   - Tab Ketasma 1 mg bd × 3-6 mths.
8. Rhinocort Nasal Spray × in each nostril × 2 times/day × directed to lateral walls, protecting the eyes. (**Budesonide** = 5E-II)
9. Inj. Histaglobulin 2 ml IM × every 4 days × 3 injections (Immuno-globulin + Histamine = 14-18)

Also Refer "Repeated Colds" (Page 35)

EPISTAXIS

1. Ask the patient to sit up, bend slightly forward, and tightly pinch & clamp, full thickness of both nostrils, for 5 minutes.
   Ask him to breath through the mouth and spit out all the blood that comes in the throat.
2. Keep ice cubes in a handkerchief over the nose, to induce vasospasm.
3. Check B.P. If raised, Cap Depin 10mg sublingual Stat (Nifedipine = 6A-B), Repeat SOS after 15 min. If still higher than 180/110, refer immediately.
4. Inj. Calcium gluconate 10 cc I.V. slowly (**Calcium** = 2C)
5. Inj. Dicynene 1 amp. I.V. stat (**Hemostatic drugs** = 6G) or Inj. Strypto-chrome 1 amp IM
6. Tab Dicynene/Stryptovit/C.V.P × 1 tds × 5 days.
7. Tab Anxit 0.25 mg bd (Tranquilliser = 4D-8) To reduce anxiety.

Ask about H/o Bleeding disorders in past or in family, Ask about bleeding from other sites.

If yes, refer immediately to a Hospital with facilities for fresh blood transfusion.

- ❖ If bleeding has not stopped by pinching the nose for 10mins, then keep an adrenalin pack in each nostril.
  - Take 1 amp N.Saline + 1 amp adrenalin in a Bowl.
  - Wet 2 strips of gauze piece in it
  - Insert 1 strip in each nostril, & pinch the nose again.
- ❖ If bleeding does not stop, refer immediately to a ENT surgeon for nasal packing.

PAIN IN EAR

1. Examine external ear canal with a good torch for wax, white flakes or boil.
2. Palpate the mastoid process for tenderness.
3. Inspect Tonsils, Throat & teeth for referred pain.

If Wax

1. Soliwax ear drops 3 times/day × 3 days (13B-1)

   or Glycerine Sodabicarb drops (to soften the Wax)
2. Then Clear the canal using Johnson's ear buds or Refer to ENT surgeon for ear wash.

If fungal infection i.e. white flakes or black spots

1. Clean the ear with earbuds or cotton stick, and
2. Candid ear drops × tds (**Clotrimazole** = 13-2) or Hamycin drops × tds till lesions are cleared.

   Never put Gentian violet or Mercurochrome in ear.

If furuncle or boil in external ear canal

1. Cap. Baciclox 500 mg tds × 5 (**Antibiotic** = 7A)
2. Tab Combiflam 1 tds × 3 (**Anti-inflammatory Analgesic** = 3C)
3. Otogesic ear drops tds (**Anesthetic drops** = 13B-3)

If Foreign Body in external ear canal

1. Pass a ENT curette by the side of the Foreign body, press the FB against the canal wall, and gently withdraw. But if it is too deep or close to eardrum, you may perforate the drum, so refer the patient to a ENT Surgeon.
2. Otogesic ear drops tds (Anesthetic drops = 13B-3)

   or Oxop-D drops if infection or bleeding (Antibiotic drops = 13B-4)

If associated with fever or mastoid tenderness

1. Inj. Cefaxone 1 gm IV/ IM × 12 hrly. (7A-5) or Cap Nufex 500 mg Qid. (**Strong Antibiotic** = 7A-9)
2. Tab Ibuflammar. P 1 tds (**Ibuprofen + Paracetamol** = 3C-21)
3. Tab Trap 1 tds (Tramadol = 3B-3)

If external ear looks normal, ear pain is due to otitis media

1. Inj. Cefentral 500 mg IM 12 hrly. (**Higher antibiotics** = 7A-9)
2. Tab. Combiflam 1 tds (**Ibuprofen + Paracetamol** = 3C-3)
3. Tab. Bidazen 1 tds (**Anti-inflammatory enzymes** = 3E-1)
4. Otrivin nasal drops tds (**Xylometazolin** = 13C-2, to keep eustachian tubes open).

❖ If in a painful ear, external ear is normal, put drops in the nose

DISCHARGING EAR

1. Clean the ear with Johnson's ear buds, every time before putting antibiotic drops.
2. Genticyn or Paraxin Ear drops × 4-6 hrly (Antibiotic drops = 13B-4)
3. Tab Septilin 2 bd × 30 days (ayurvedic), for chronic cases.

After the ear becomes dry, Refer to ENT Surgeon for Tympanoplasty. In children, if there is associated recurrent tonsillitis, Tonsillectomy is advised first to remove the source of infection to ear.

DIMINISHED HEARING

1. Examine the external ear for Wax. If present, clean it.
2. If Eardrum shows perforation, Refer to E.N.T. Surgeon for Tympanoplasty.
3. If patient is on Streptomycin, stop it immediately.
4. If ear is normal,
   - Inj. Neurobion 2 cc IM × OD × 10 (**B_1, B_6, B_{12}** = 2H-5)
   - Cap Becosules 1 bd × 30 (**Bcomplex** = 2H-6)
5. Refer to ENT surgeon for audiometry and hearing aid.

TINNITUS

Ringing sound in the ears

1. Examine the ear for local pathology. Remove wax, if present.
2. Tab Neurobion 1 bd × 2-3 mths (**Vit B_1,B_6,B_{12}** = 2H-5)
3. Tab Complamina Retard 1 bd (**Xanthinol Nicotinate** = 6H-1)
4. Tab Restyl 0.25 mg at Bedtime (**Tranquiliser** = 4D)

Chronic Ear Discharge

1. Zanocin ear drops TDS (**Antibiotic ear drops** = 13B-3)
   Clean the ear discharge with ear buds, before instilling the ear drops.
2. Tab. Odoxil 500 mg bd × 8 days (**Antibiotic** = 7A)
3. Cap Autrin 1 OD × 30 days (**Hematinic** = 2I)
4. Spirit Boric ear drops TDS - after the infection is cleared, and discharge stops.
5. Then refer to ENT Surgeon for Surgery - Tympanoplasty or Mastoidectomy.

F.B. in Ear

FB in ear can be removed with a vectis – a curved loop with a handle.

With clear bright light, spot a gap between the FB and the wall of the ear canal, insert the vectis beyond the FB, press the FB against the anterior wall, and gently pull it out.

Never try to catch it with a forceps, you will only push it further in.

FB in nose is similarly removed, by passing a vectis beyond it, then pressing it against the floor or lateral wall and pulling it out.

OPHTHALMIC SYMPTOMS

Acute Conjunctivitis

Redness of eyes, Foreign body sensation, Sticking of eyelids.

1. Use dark glasses for photophobia
   Do not pad the eye. Keep it open.
   Keep a handkerchief to wipe the discharge repeatedly. Do not touch it everywhere, as the discharge is very infective. Isolate from other family members.
2. Ofloxacin/ Gatifloxacin/ Gentamycin eyedrops 2 hourly till the symptoms and redness subside. (Antibiotic eyedrops = 13A-1) Instill drops in both eyes, even if only one eye has conjunctivitis.
3. Gentamycin or Chloromycetin eye ointment at bedtime.
4. Tab. Combiflam 1 tds × 3-4 days. (**Anti-inflammatory** = 3C)
5. Cap. Ceff 500 mg tds × 5 days, if eyelids show swelling and cellulitis (**Antibiotic** = 7A).

Chronic Blepharitis

Scale formation at the eyelid margin. The margins are swollen and red.

1. Wash the eyes. Rub the eyelid margins gently with a soft, wet cloth to rub away the loose scales.

2. Apply Terramycin or Neosporin ointment to the lid margin with the tip of your finger, and gently rub it into the margin. Apply twice daily for 2-3 weeks.

Acute Dacryocystitis

Redness, swelling and pain near the inner canthus at the root of the nose.

1. Foment repeatedly, with a handkerchief dipped in warm water.
2. Cap. Odoxil 500 mg tds × 5 days (**Antibiotic** = 7A)
3. Tab. Combiflam 1 tds × 3-4 days. (**Anti-inflammatory** = 3C)
4. Gatifloxacin/ Ofloxacin/ Gentamycin eyedrops 4 hrly (**Antibiotic eyedrops** = 13A-1)
5. If the pus points, refer for incision and drainage.
6. After the acute infection subsides, refer to ophthalmic surgeon for Surgery - Dacryocystectomy or Dacryo-cysto-Rhinostomy.

Stye

Painful Nodular swelling at eyelid margin, which forms a tiny abscess around the root of a hair follicle. (If it is painless, and a little away from the lid margin, it is a chalazion.)

1. Foment repeatedly, with a handkerchief dipped in warm water.
2. Cap. Baciclox 500 mg tds × 5 days (**Antibiotic** = 7A)
3. Tab. Combiflam 1 tds × 3-4 days. (**Anti-inflammatory** = 3C)
4. Gatifloxacin eye drops 4 hrly (**Antibiotic eyedrops** = 13A-1)
5. If pus points around the root of a eyelash hair, gently pull out the hair, and drain the pus.

F.B. in Eye

1. First ask the patient to splash water & try to rub it out.
2. Then ask to take water in the hollow of hand, dip the eye in it, and open-close the eyes under the water.

   If these measures fail, examine the eye in bright light.
3. If the F.B. is in the conjunctival sac, it hides under the upper or lower lid. Retract the lower lid and inspect, Then evert the upper lid and inspect. If the FB is seen, touch it with a wet cotton swab. The FB will usually stick to the swab or may have to be gently teased out.
4. If the F.B. is in the cornea, instill Xylocaine drops in the eye, and wait for 5 minutes. Then, ask the patient to look at a fixed point on the ceiling and first try to gently remove it with a cotton swab. It will come on the swab, if it is superficial. But if it is embedded, then it is better to send the patient to ophthalmologist, who under operating microscope, will gently lift it with the tip of a 24 no. needle, without damaging the cornea.

Chapter

11 GERIATRIC SYMPTOMS

PROBLEMS OF THE ELDERLY

A large number of patients attending a General Practitioner's Clinic are old, and they have their own 'age-related problems' in addition to the general Health problems like Diabetes, Hypertension and other common diseases.

INSOMNIA

1. Walking or Exercise in the evening.
2. Early dinner and a glass of milk before sleeping.
3. Reading Books, particularly Philosophical Books at night.
4. Try to engage the mind in some work, which will be useful to the family or the society, OR in some religious activity.
5. Sedative drugs - should be prescribed only if necessary.

   eg. Tab Calmpose 5 mg ½ to 1 HS (**Diazepam** = 4D-3)

   or Tab Ativan 1-2 mg HS (**Lorazepam** = 4D-4)

   or Tab Alprax 0.25 mg HS (**Alprazolam** = 4D-8)

   or Tab Gardenal 30-60 mg HS (**Phenobarbitone** = 4D-8)

   or Tab Hypnotex 5-10 mg HS (**Nitrazepam** = 4D-5 = for induction of sleep)

Use sedatives in rotation. Do not use the same sedative for long periods

- ❖ As age advances, sleep becomes less. And the old person, with no active work to do, feels restless without sleep. This fact must be understood by the patient & he/she should engage his/her mind somewhere.
- # If there is difficulty to fall asleep, use Nitrazepam. If patient gets at 2-4 am and stays awake, use Alprazolam, Diazepam etc.

CONSTIPATION

Bowel atony causing constipation is normal in old age. Patient must learn to accept it to some degree.

1. Regular walking + Yogasanas to improve the tone of abdominal wall muscles.
2. High fiber diet: Green Vegetables, fruits, raw bananas.
3. A glass of hot water in the morning, with 1-2 tsp of ghee.
4. Avoid tobacco, mawa or smoking.
5. **Prescribe a laxative,** preferably bulk laxative.
   i) Isogel granules, 2 tsp stirred in water and swallowed immediately (**Isapghul** = 1G-2)
   ii) Evacuol 1-2 tsp × bd (**Gum karaya** = 1G-3)

iii) Agarol 1-2 tsp HS (Liq. **Paraffin + Phenolphthalein** = 1G-4)

iv) Cremaffin 2 tsp HS (**Paraffin + milk of magnesia** = 1G-4)

v) Tab Dulcolax 5 mg × 2HS (**Bisacodyl** = 1G-5)

For other drugs - see drugs section 1G.

Do not give the same laxative for very long time. Change the drug frequently.

6. Tab Mosapride 5 mg tds × 1-2 mths (Mosapride = 1B - 5/2)
7. Ayurvedic preparations are useful for prolonged use

   eg. Kayam Churn 2 tsp HS

   Triphala Churn 2 tsp HS.
8. Glycerine syringe or Dulcolax suppository or simple soap water enema, if drugs fail.

❖ If patient has alternate diarrhoea & constipation, or if blood is mixed with stools ask for colonoscopy or Ba enema to rule out malignancy.

FORGETFULNESS

1. Tab Neuracetam 400 mg 1 tds × 1-6 mths. (**Piracetam** 4G-2)

   or Tab Encephabol 200 mg tds (**Pyritinol** = 4G-1)

   or Tab Hydergine 1 mg tds (**Co-dergocrine mesylate** = 4G-3)

   or Tab Ginkocer 50 mg OD (**Piribedil** = 4G-5)

   Use one of the cerebral activators, for 2 months and continue it if improvement is seen.
2. Cap Becosules 1 OD (**Bcomplex** = 2H-6) or Cap Becozinc 1 OD (**Bplex + zinc** = 2L-1)
3. Tab Memorin 1 tds × 6mths (Ayurvedic prep.)
4. If early Alzheimer's Disease, Tab Donecept 5 mg HS (**Donepezil** = Acetyl cholinesterase inhibitor)

❖ Long term treatment with cerebral activators causes improvement in some patients, and is worth trying if patient can afford long term treatment.

ALZEIMER'S DISEASE

Early stage: unable to remember newly learnt things or names, confusion, mood swings.

1. Regular exercise, Good nutrition with Vitamin supplements, Social interactions and activity to keep mind engaged like mind games & art. (These play a great role in delaying the progress of Alzheimer's Disease)
2. *Vitamin Supplement (particularly Vit B & E):*
   - Cap Becadexamine 1 OD (**Multivitamins** = 2H-9)
   - Cap Bio-E 400 mg 1 OD (**Vit E** = 2F)
3. *Once diagnosis is established, use specific drug:*
   - Tab Galamer 1.5 mg BD to 3 mg BD (**Galantamine** = 4I-2)
   - OR Tab Dopezil 5-10 mg HS (**Donepezil** = 4I-1) *whichever is better tolerated*

Moderate to severe Stage: Loss of Long term memory, delusions, irritable, aggressive, wandering, needs help for daily chores. As severity increases: Total dependence on caretaker, apathy, cachexia, Bedridden.

1. Care giving is the main treatment. Given best by a caring, loving spouse or close relative. Otherwise in a specialized Center.

- Plan the day and repeatedly remind of activities to come.
- Plan activities like Memory Games (Crossword, Sudoku, Cards, Board games), Walking, Enjoying art like music, humour (jokes)
- Outdoor walks, Family gatherings, Group activities to avoid loneliness.
- Modify the environment for safety, to avoid injuries and to prevent getting lost (identification tag).
- Feeding at regular times, when self feeding becomes difficult.
- In late stages, Care of Bedridden patient, RT feeding & needful.

2. Specific Drug Treatment:
   - Tab Dopezil 5-10 mg HS (**Donezepil** = 4I-1) - Plus add:
   - Tab Admenta 5 mg OD upto 10 mg BD (**Memantine** = 4I-4)
3. *If irritable and violent, if suspicion & Paranoia:*
   - Calmer environment, No noise, Do not get angry with the patient – react calmly.
   - Do not leave the person alone at home
   - Tab Restyl 0.5 mg HS or BD (**Tranquiliser** = 4D)
   - Tab Serenace 1.5 mg BD to 5 mg BD (**Anti-Psychotic** = 4E-3)
   - Do not oversedate
4. *If depressed & quiet,*
   Cap Loftil 20 mg OD (**Anti-depressant = 4F-B**)

FREQUENCY OF MICTURITION

In old age, frequency of micturition is an indication of prostatic enlargement. But rule out Diabetes and urinary infection Details under 'Enlarged prostate.'

TREMORS

Old age tremors have to be accepted. There is no treatment for it. But they have to be differentiated from Parkinsonism. Details under 'Tremors'.

Newer drugs for senile tremors and Huntington's chorea, Tab Revocon (Tetrabenazine) 12.5 mg bd, gradually increased upto 25 mg tds.

MANAGING BED RIDDEN PATIENT AT HOME

A sincere and loving relative can take better care of a bedridden patient at home, than in a costly Nursing home.

Ask to buy or hire - Urine pot, bed pan, Piece of Macintosh, small soft pillows, air cushion ring.

1. Bed should be soft and uniform. Bedsheets should be tightly tucked in without wrinkles. If patient can afford waterbed or airbed, it is ideal for semiconscious patients to prevent Bedsores.
2. Instruct the relatives to change position every 1 or 2 hrs.
3. Feeding should be done preferably in sitting position and by self help. Ryle's tube feeds in semi-conscious patients.
4. Give protein supplements. Avoid foods that may cause diarrhoea.
5. If there is tendency to constipation or if patient's voluntary control is poor, Give enema on alternate days to evacuate the bowels, so that there is no soiling during the day. Use simple enema or disposable Neotonic enema. Use Adult Diapers.
6. Instruct the relatives to sponge the patient everyday with a wet towel followed by dry towel, followed by Eau-de-cologne and Talcum powder

for the back. Teach them to move all the limb Joints through full range, several times a day.

7. Check every 2-3 days for bedsores over sacrum, back, greater trochanter & ankles. If redness, bleb or bedsore is developed, give dressing & soft padding.
8. Avoid soakage of bed by Urine or Stools, as bedsores develop very quickly in such cases. If patient passes stools and urine in bed, - Use Adult Diapers, changed once or twice a day. Treat diarrhoeas vigorously.
9. If Urinary incontinence, apply a condom catheter. If urinary retention, insert a Foley's catheter and give daily bladder wash with boiled water and Piodine.
10. Encourage deep breathing to prevent pneumonia.

❖ With advancing age, many old people become bedridden, semi-comatose or comatose, and they have to be nursed in that state for several weeks or months. Average families cannot afford to keep them in Nursing homes for prolonged periods & the more convenient, economical & loving way is to take care at home under supervision and help of their family doctors.



Chapter

12 PAEDIATRIC SYMPTOMS

IMMUNISATION SCHEDULE

Make it your reflex and routine, to ask about immunisation to every child under 5 years that comes to you, for whatever complaint.

Age : At Birth
Vaccine : BCG 0.1 ml Intradermal over Left deltoid area. + oral polio 3 drops. + HBV 0.5 ml IM (1st)

Age : 6 wks
Vaccine : HBV 0.5 ml IM (2nd)

Age : At 6, 10 & 14 wks
Vaccine : DPT 0.5 ml IM + Hib (H. Influenza). (OR Easyfour vaccine) + Injectible Polio (IPV) 0.5ml IM/Oral Polio (OPV) 3 drops + *Rotavirus 1ml oral* + *PCV- Pneumococcal (1st)*

Age : At 18 wks
Vaccine : Oral Polio 2 drops (Total 5 doses)

Age : 6 mths
Vaccine : HBV 0.5 ml IM (3rd)

Age : 9 mths
Vaccine : Measles vaccine 0.5 ml SC+ Vit. A 50,000 iu

Age : 12 mths
Vaccine : Typhoid conjugate vaccine + *Hepatitis A(1st)*

Age : 15 mths
Vaccine : MMR Vaccine 0.5 ml SC + *Varicella 0.5ml IM(1st)* + *Pneumococcal vaccine (Booster dose)* + Vit. A 1 Lac iu

Age : 1½ yrs.
Vaccine : DPT 0.5 ml IM (Booster)+ Hib (Booster) [OR Easyfour vaccine]+ oral Polio 3 drops (Booster dose)

Age : 2 yrs.
Vaccine : Typhoid Vi Vaccine (Booster) + *Hepatitis A (2nd)*

Age : 4-6 yrs.
Vaccine : D.P.T. 0.5 ml IM (Booster-2) + Oral polio 3 drops (booster dose) + Typhoid (Booster) + *Varicella 0.5ml IM (2nd)*

Age : 10 yrs.
Vaccine : T.T. 0.5 ml IM or Tdap (Adult DPT)
For girls, HPV at 0,1 & 6 mths.

Avoiding multiple injections

1. Easyfour vaccine = DPT + Hib, at 6,10 & 14 wks and at 1½ yrs.
2. Easyfive vaccine = DPT + Hib + HBV, for the 6 wks dose or if HBV is not given at birth, then 6, 10 & 14 wks.

Remember

Vaccines in italics are optional vaccines

1. **BCG** can be given any time upto 9 months, but is ideally given in the first week.
2. **Polio** Should not be given if child has fever or diarrhoea. Breast feeding should not be done 1 hour before and after oral polio vaccine. Baby should wait in the clinic for 1 hour, and in case baby vomits, repeat the dose.

   If one dose of polio is missed for 1 month, give it stat, and continue the schedule.
3. Injectible Polio vaccine (IPV) is recommended for primary immunisation ie 6, 10, 14 weeks. But oral is still routinely given.
4. **DPT:** Vaccine is not given after 5 yrs age, as pertussis is contra-indicated. So at & after 5 yrs, only Dual antigen i.e. DT is to be given.
5. **AIDS:** affected Children should not be given any of the Live attenuated vaccines Like MMR, Measles, Oral Polio, Oral Typhoid, and Varicella Vaccine. Give IPV-Inactivated Polio Vaccine.
6. If Hepatitis B vaccine was not given at birth, it can be given at any age later, with a 0, 1 & 6 mths schedule or with other 4 Vaccines at 6, 10 & 14 wks. (Easyfive).

Also recommended (not compulsory)

1. Typhim Vi (Typhoid vaccine) 0.5 ml IM after the age of 2 yrs– repeat every 3 yrs.

   After 6 yrs age, oral vaccine may be given.

   Ty-21a Oral vaccine 1 cap OD, to be taken early morning on empty stomach on alternate days × 3 capsules, Repeat every 5 yrs.
2. Hib titer (H. Influenza vaccine) 0.5 ml IM, Single dose- if age is > 1 yr.

   For infants, give 4 doses– 6 wks, 10 wks, 14 wks, then 14 mths.
3. Varilix (Varicela vaccine) 0.5 ml Subcut, Single dose, at 1½–2 yrs age.

   If age > 13 yrs & not had Chickenpox, then 2 doses, 6–10 wks apart.
4. Pneumo 23 (Pneumococcal vaccine) 0.5 ml IM or Subcut, at 6, 10 & 14 wks + Booster at 1½ yrs. If age > 2 yrs, single dose only. Immunity for 5 yrs.
5. Meningococcal vaccine 0.5 ml, Subcut, Single dose, after the age of 2 yrs. Earlier only if the infant has come in contact with a patient of Menigococcal Meningitis.
6. Rotavirus Vaccine:

   at 6, 10 & 14 wks.
7. HPV Vaccine (Human Papilloma Virus) for Girls at 10 yrs before Puberty, at 0, 1 & 6 mths, to prevent carcinoma cervix.
8. In Africa & South America, Yellow fever vaccine is given at 9 mths age.

NEONATAL JAUNDICE

1. Physiological Jaundice occurs on 3rd to 6th day. It requires no treatment unless it is deep.
2. Jaundice in First 48 hrs is due to Rh incompatibility. Refer the child to a Pediatrician immediately along with mother's blood, if mother cannot be sent. Investigate- Bl. gr Rh of mother, father & baby.- S.Bilirubin & indirect Coomb's test. Child may require exchange transfusion. Mother should be given anti-D injection.
3. If Jaundice is deep or progressive, admit the Child under a Pediatrician's care. Look for umbilical infection. Jaundice may be the presenting feature of septicemia.

If S.Bilirubin > 10 mg%

- Phototherapy.
- Maintain good hydration with breast feeding.
- Syr. Ampicillin 10 drops tds.
- Tab Gardenal 30 mg × 1/8 tab × tds (of doubtful value)
- Treat the cause

If S.Bilirubin > 20 mg%

- Exchange Transfusion.

Quick clinical assessment:

Examine in good sunlight.

Yellow discoloration seen only in sclera, oral mucosa & face = 5 mg% (S.Bilirubin); seen in upper trunk = 10 mg% in lower trunk & thighs = 15 mg%; in Palms & Soles = 20 mg%.

When to refer immediately?

1. If Jaundice appears in 1st 2 days after birth.
2. If Jaundice is deep.
   S.Bilirubin > 15 mg%
3. If Jaundice persists after 15 days.
4. If stools are white/clay coloured.
5. If hemorrhagic spots are seen.
6. If drowsiness, muscle twitchings or convulsions.

NEONATAL CONVULSIONS

1. Inj. Calmpose ½ cc–1 cc IV or IM (**Diazepam** = 4D-3)
2. Inj. Calcium Gluconate 3 cc I.V.
3. Inj. 25% glucose 5 cc I.V.
4. If Birth trauma or hypoxia is suspected,
   i) Inj. Decadron ½ cc I.V. or IM
   ii) Inj. Vit K 1 mg IM
5. Refer to Pediatrician

EXCESSIVE CRYING

Infant cannot tell what is wrong. It only cries. So examine carefully from Head to toe.

I. If every thing looks normal,

Commonest cause is intestinal colic due to hunger, worms & constipation.

1. Feed the Baby.
2. Give soap stick to empty the bowels.
3. Carmicide 1 tsp × tds
   or Gripe water 1 tsp × tds.
4. For severe colic,
   Inj. Buscopan ½ cc IM (**Anti Spasmodic** = 1L)
5. For older Children,
   Syr. Mendazole 1 tsp bd × 3 (**Anthelmintic** = 1E)
6. Otex-AC ear drops × 2 drops tds × if child is holding the ear.

II. What to look for?

1. Look for Bulging fontanelle & Neck stiffness to R/o Meningitis.
2. Inspect both eardrums carefully with a good torch, especially if the child is pulling at the ear repeatedly. Refer to E.N.T. Surgeon, if redness or swelling or bulging ear drum.
3. Examine the abdomen carefully, for Lump, distension, visible peristalsis or tenderness.
4. Examine & palpate all limbs, Chest & back for signs of injury or swelling.
5. Look at the Genitalia for Phimosis or infection.

Third month Colic: Episodes of crying due to abdominal colic are common in 2nd to 4th mths.

1. Hold the baby in upright position, tap on the back for burping.

2. Bonnisan tsp tds × 15 (Carmicide)
3. Colimex/cyclopam 2 drops tds (**Anti spasmodic** = 1L)
4. Syr. Phenergan 10 drops S.O.S. (As **Sedative** = 5B-1) or Syr. Pedicloryl 0.5 ml/kg bodyweight (5–15 drops) (**Triclofos** = 4D-13)

NEONATAL VOMITING

I. Is it overfeeding or faulty feeding?

1. Teach the mother Burping, by holding the baby in upright position.
2. Avoid overfeeding.
3. Give sugar water, between milk feeds.
4. Syr. Bonnisan ½ tsp tds
   or Gripe water ½ tsp tds
5. Syr. Ondem 5–10 drops tds (**Ondansetron** = 1K-8)
   Or Syr. Domstal 5–10 drops tds (**Domperidone** = 1K-7)
   Or Syr. Vomiteb 2–5 ml tds (Ayurvedic)
   Avoid metoclopramide in infants.

II. If vomiting is forceful & Projectile, or if baby is not gaining weight

Suspect Congenital Hypertrophic Pyloric Stenosis. Ref to pediatrician.

Vomiting in Older children

1. Syr. Perinorm 1–2 tsp tds
2. Tab Emeset 4 mg ½–1 tab or Syr. Emeset 1–2 tsp tds.
3. Syr. Digene 1 tsp tds
4. Inj. Emeset or Inj. Perinorm ½–2 cc IM.

FEEDING ADVICE & PRESCRIPTION

For Infants

First 6 months

- Feed only Breast milk. Nothing else. 10–12 feeds per day.
- If Breast milk is insufficient or unavailable,
  Cow's Milk, after removing fat, without sugar, and without dilution. Next choice Buffalo's Milk.
- Milk formula Prescription: If given along with breast feeding, give after breast feeding.
  - **Lactogen-1/Lactodex**: 1 measure of Powder + 1 Oz (30 ml) Boiled & cooled water (1 measure)
  - **Lactodex-LBW**: Low fat for Premature Babies.

4 to 6 months

Start other liquids to replace or Top up 1 or 2 feeds.

- Rice water, Dal water
- Orange, Sweet lime or Tomato juice (Strained)
- If Formula milk is needed after 5-6 mths age, Prescribe
  Lactogen-2: 1 measure of Powder + 1 Oz (30 ml) Boiled & cooled water
- Baby food Prescription:
  Cerelac stage 1 (Wheat or Rice) Prepared as a thin paste, gradually make it thicker after few days.

6 to 10 months

When child can sit, start soft, semi-solid food. 2 feeds per day, increase gradually. Start weaning.

- Mashed Banana or Papaya, Chickoo, Mango
- Rice + Dal + Ghee mashed in Mixer, Ragi Ganji (Rich in Calcium)
- Well cooked mashed & strained vegetables, Soups, Carrot juice, Stewed fruits
- Milk should now be given with feeding

cup or spoon; Cow's, Buffalo's or Lactogen-2

- Baby food Prescription: **Cerelac stage 2** (Wheat apple or Wheat honey or Rice) upto 2 yrs.

10 months to 1 year

- Increase solid food content, as teeth appear. Weaning from breast feeds.
- Soft Rice with curds, milk or Dal
- Khichadi with moong dal, Ganji, Idli, Bread, Custard, Pudding
- Suji (rava) Upma & Kheer
- Egg yolk, Egg white should not be given till 1 year
- **At one year, child should eat what the parents eat** – softened & less spicy. Commercial precooked cereals should be slowly taken off. Give 500–750 ml milk/day, with adequate solid food.

Prescription

1. **Lactogen-1**, upto 4 mths, then **Lactogen-2** (Formula Milk Powder, if no breast milk).
2. **Cerelac stage-1**, from 4 to 6 mths; then **Cerelac stage-2**, from 6 mth to 2 yrs (Baby Food).
3. **ABDEC** 5 drops OD, from the first week (**Vitamin drops** = 2H-9)/*Zevit, Vimagna, Visyneral.*
4. **Ostocalcium** 2.5 ml BD, after 4th month (**Calcium Drops** = 2C-3)
5. **Ferium** 5 drops OD after 6 months, only if Anemic (**Iron Drops** = 2I-9)/ *Orofer, Ferose, Tonoferone*

PROTEIN CALORIE MALNUTRITION

1. Feeding tests the patience of the mother, but it is the most important part of the treatment.
   i) 200 Cal/kg of expected body weight.
   ii) Small feeds every ½ hour.
   iii) Undiluted milk thickened with 1 tsp. of skimmed milk powder or Casilan.
   iv) Some children refusing to eat may have to be fed through a thin Ryle's tube.
   v) Gradually increase solid foods like Mashed Banana, Potato, sweet potato, pulses etc.
   vi) Threptin or GRD Biscuits, as protein supplement.
2. Vimagna Drops × 10 drops × bd (**Multivitamin Syr** = 2H-9)
3. Syr. Zental 5 ml HS (**Anthelmintic** = 1E-1)
4. Syr. Calcimax 5 ml bd
5. Aquasol-A 50,000 iu × puncture the capsules and squeeze × single dose of 2 lakh units (4 cap.) Below 1 yr. = 1 lakh units (2 cap) (**Vit A** = 2D)
6. Inj. Kenadion 2 mg IM (Vit K)
7. Minimum handling of the baby.
8. Treat infections vigorously as body resistance is poor.
9. Always consult the Pediatrician, as these babies are delicate and can get worse with slightest infection!

GASTROENTERITIS CHILDHOOD DIARRHOEAS

Case No. 1: No Dehydration

Child has watery loose motions but no signs of dehydration = Rx Plan A

1. Orolyte or Relyte is the most important part of the treatment, more important than the drugs. Feed continuously, as much as the baby takes except when there is vomiting or abdominal

distension. Give 100 ml of ORS after every watery stool.

How to prepare ORS?

i) Put 1 sachet of Relyte in 200 ml of boiled & cooled water, in a clean glass.

ii) Home remedy = Take 200 ml boiled & cooled water, & add 1 tsp of sugar and a pinch of salt.

If there are no signs of dehydration, the child may be sent home after proper instructions, Orolyte and intestinal antibiotic.

Case No. 2: Mild Dehydration

If there is irritability, thirst, Dry mouth & Tongue, Decreased skin turgor or slightly sunken eyes, it is mild dehydration = Rx Plan B

1. Prepare a calculated dose of Orolyte as given below, make the child & mother sit in the Clinic and feed it for 4 hours.

   If after 4 hrs, the child is absolutely fine, you may send him home. Otherwise, you must admit the child and observe, preferably under care of a Pediatrician.

   Dose of ORS = 80 ml/kg in first 4 hours. Then 50 ml/kg/day + 50–100 ml for each watery stool. Keep feeding 1 tsp every 1–2 mins.

2. **Give an intestinal antibiotic:**

   Syr. Gramoneg 1 tsp tds (**Nalidixic acid** = 7J-5)

   or Syr. Septran 1 tsp tds (**Sulpha + Trimethoprim** = 7A-1)

   or Syr. Walamycin 1 tsp tds (**Colistin** = 7A-11b)

   or Syr Zanocin 1 tsp tds (**Ofloxacin** = 7A-10c)

   Symptomatic treatment as necessary:

3. *To reduce intestinal colics & pain,*

   Syr Spasmindon 1 ml (10 drops) tds (**Anti-spasmodic for colics** = 1L)

4. *To reduce the frequency of stools,*

   Tab Lopamide 2 mg ½ Tab tds (**Loperamide** = 2J-1) – watch for paralytic ileus & distension.

5. *To increase reabsorption of water (doubtful value)*

   Redotil 15 mg sachet × tds × till watery motions stop (**Racecadotril** = 1J-9)

6. *If Diarrhoea is prolonged > 3 days, or if higher antibiotics are given,*

   Lactiflora 1 sachet daily in water

   or Tab Nutrolin-DT 1 bd (**Lactobacillus** = 2H-8)

7. *If vomiting,*

   Syr Ondem 2.5 ml tds

   Or Inj Emeset ¼–1 cc IM/IV

   Or Inj Perinorm ¼–1 cc IM/IV

8. *If attack is severe, or if fever, or if child is malnourished, give systemic antibiotic*

   Inj Gentamycin 8 mg/kg 8 hrly

   Or Inj Taxim + Amikacin

9. *Gastroenteritis is always a bacterial infection. But if mixed infection is suspected in older children, add:*

   Syr Flagyl 1 tsp tds (1F-1) or

   Syr Gramoneg-M tsp tds (**M + Nalidixic acid** = 7J)

10. General Instructions:

    i) Instruct the mother to clean the nipples before breast feeding.

    ii) If bottle feeding, Boil the bottle & milk before feeding.

    iii) After every motion, clean and Dry the buttocks, and apply Talcum Powder. If redness of Skin is seen, apply Zinc Paste or Siloderm (**Soothing ointments** = 11E).

    iv) Breast feeding can be started after 1 day, but withhold if it triggers loose motions again.

    v) In addition to Orolyte, give- Rice

Ganji, Sago Ganji, Buttermilk, Biscuits, Bananas, Apples.

Case No. 3: Severe Dehydration

Child is very thirsty, Tongue becomes dry, fontanelle becomes depressed, skin turgor is lost i.e. pinched skin fold takes a few seconds to become flat again, Eyes are sunken, Pulse & respiration are rapid & urine output reduces = Rx Plan C.

- In addition to all the treatment as for mild dehydration, the child will require I.V. fluids and antibiotics. Refer the child to a Pediatrician.

Guidelines for I.V. fluids

1. Start Ringer's lactate. **Do not give Isolyte-P to a dehydrated Child.**
   Dose = 30 ml/kg body weight in first hour, then 15 ml/kg every hour for 4 hours (Total 100 ml/kg of Ringer's lactate, over 5–6 hours).
2. Assess the child after every 50–100 ml and continue RL till eyeballs become normal, Skin becomes turgid & fontanelle becomes flat.
3. Once skin becomes turgid, stop RL and start Isolyte-P (Normally 200 to 400 ml RL is required).
4. As soon as child passes urine, add 4 ml Potassium Chloride to the full bottle of Isolyte-P (KCl is never injected directly). Otherwise abdomen gets distended.
5. Mother or Nurse should continue feeding orolyte by mouth.
6. If abdomen becomes distended, stop oral feeds & put Ryle's tube No. 5.

Case No. 4: V. Severe Dehydration

Child looks very sick, dehydrated & is still, quiet or unconscious, skin when pinched remains as a fold, pulse is feeble, Respiration is deep & sighing, and urine Stops.

This Child is very critical. Do not waste time trying to give I.V. Take immediately to a Hospital or Pediatrician.

- Mothers often worry about 2 things- that the child is drinking too much water, and that water is just flowing down. You must explain them, that it is the otherway round, that what is lost in stools is being replaced, & the child needs more water.
- Gastroenteritis puts a great strain on the mother. She has to sit feeding the Child day & night. But that has to be done. There is no alternative.
- If Orolyte is started in time & given with patience, 95% of the babies do not require I.V. fluids
- Never give 5% dextrose or Isolyte-P to a severely dehydrated baby.

FEBRILE CONVULSIONS

From 6 months to 5 yrs. age, the commonest cause for convulsions is Febrile convulsions. If high fever accompanies the convulsions, then diagnosis is certain.

I. Reduce the fever fast

1. Cold compresses.
2. Syr Crocin 1–2 tsp stat (**Paracetamol** = 3A-3)
3. Inj. Neomol ½–1 cc IM (5 mg/kg **Paracetamol** = 3A-3)
4. Juniz-RDS- Rectal Suppository 2.5/5 mg stat (**Diazepam** = 4D-3) Or Rec-Dz (Rectal Gel) 200–500 mcg/kg
5. If Convulsion is prolonged.
   Inj. Gardenal 5 mg/kg IV/IM (**Phenobarbitone** = 4D-1) Or
   Inj. Calmpose ½–1 cc IV/IM = 0.2 mg/kg (**Diazepam** = 4D-3)

II. Further Care

1. In future, avoid high fever by instructing the mother to give Syr. Crocin and cold compresses, at the onset of fever.
2. Rectal Diazepam gel or suppository should be prescribed to keep at home, and mother should insert it, if a febrile convulsion occurs again.
3. If febrile convulsions occur repeatedly,

- Tab Valium 2 mg ¼–½ × 6 hrly × 3 days whenever the child gets fever (**Diazepam** = 0.2 mg/kg/dose

OR Tab Clozam 5 mg ¼–½ tab TDS × 3 (Clobazam)

- Tab Gardenal 30 mg ¼–½ HS × 1 year (**Phenobarbitone** = 4A-3), if not controlled by Diazepam.

III. If convulsions have occurred without high fever

Or If child is drowsy or irritable or has neck stiffness, or crying excessively, ask for L.P. & CSF examination to rule out meningitis.

IV. If meningitis and febrile convulsions are ruled out then treat as epilepsy

1. Syr. Valparin (40 mg in 1 ml) 20 mg/kg/day (**Sodium Valproate** = 4A-5).
2. Syr. Dilantin tsp × 2–3 times (**Phenytoin** = 4A-2)

or Syr. Tegretol tsp × tds (**Carbamazepine** = 4A-4)

3. Tab Gardenal 30mg ¼–½ HS (**Phenobarbitone** = 4-3)

CHILD NOT GAINING WEIGHT

1. Syr. Incremin 1 tsp bd × after meals (**Tonic** = 2M-2)
2. Syr. Mebex tsp bd × 3 (Ant-**helmintic** = 1E-1)
3. Proteinules 2 tsp in milk × bd (**Proteins** = 2A)

or Complan or Bournvita or Nutramul.

4. Syr. Liv 52 2 tsp tds (**Ayurvedic** = 1D-1)
5. Appetising foods as per child's liking.
6. Syr. Ciplactin 1 tsp ½ hr. Before meals, if appetite is poor (**Cypro-heptadine** = 2M-1)
7. In Older Children, encourage outdoor games and exercises, like running, swimming, Gymnasium, Yogasanas, Surya-Namaskar etc.
8. If tonsils are large & septic, and if tonsillar lymphnodes are enlarged, refer the child for tonsillectomy.
9. If persistent cough, low grade fever and anorexia, ask for X-ray Chest, Hb%, WBC and Mantoux test.
10. If weight does not improve with routine treatment,
    i) Inj. Durabolin 10–25 mg IM every week × 3 (**Anabolic steroid** = 2B).
    ii) Inj Neohepatex ½ to 1 cc IM × alt days × 5 (**Liver extract** = 2K).

CHILD EATING MUD (PICA)

Cause: Anemia, Calcium deficiency & Habit.

1. Syr. Bendex 5 ml HS (**Anthelmintic** = 1E-3) repeat after 10 days.
2. Syr. Ostocalcium tsp bd × 30 (**Calcium** = 2C)
3. Syr. Fesocar tsp bd × 30 (Iron = 2I)
4. Instruct the parents to keep a watch and prevent the child from eating mud. This should be done without scolding the child, best done by diverting his attention to something else.
5. Ask about & solve family problems, if any.

- A Child eating mud undoubtedly has worm infestation & calcium deficiency.
- Scolding the child only worsens the situation.

THUMB SUCKING

1. Instruct the parents to give more attention to the child and prevent thumb sucking by diverting the child's attention to something else.
2. Thumb sucking is normal between 2–4 years.
   Just reassure & neglect. Persistence beyond 4 years is socially unacceptable and may cause Dental malalignment.
3. Measures to prevent thumb sucking =
   i) Tie cloth over the thumb
   ii) Apply bitter solution like castor oil to the thumb.
   iii) Splint both elbows, so that thumb cannot reach the mouth.

NOCTURNAL ENURESIS

Instructions

1. Do not scold or punish the child.
2. Avoid excess fluids cold drinks, tea or coffee after 6 pm.
3. Empty the bladder before going to sleep.
4. Wake up the child at midnight to empty the bladder and again in early morning, if necessary.
5. During daytime, the child should hold urine as long as possible.
6. Check the Genitalia and urine for infection.

Drug treatment

If age is above 8 yrs, if it is not controlled by above simple measures and if bedwetting is almost every day, try one of the following drugs–

1. Tab Dapsonil 25 mg 1–2 tabs at bed time × 2 mths (**Imipramine = Antidepressant** = 4F-1)
   or Tab Amitone 25mg 1 HS (**Amitriptylin** = 4F-2)
2. Tab Tropan or Tab Nocturin 2.5–5 mg 1 bd × 1–2 mths (**Oxybutynin**)
3. D-Void Nasal Spray: 1 spray in each nostril at bedtime (Desmopressin nasal solution - Sun Pharma)

- Nocturnal enuresis is physiological upto the age of 3 years. Even later, proper toilet training should be tried for several weeks before giving drugs. Drugs alone won't help.
- Neglect occasional bed-wetting.

INFANT WITH PAINFUL LEG

Infant cannot pinpoint the site of pain. It just cries on touching or moving that leg.

If the child has fever, think of following things

1. Pyogenic arthritis, if joint is red, swollen & tender.
2. Abscess in soft tissues- difficult to identify if it is not yet localised.
3. Acute phase of Poliomyelitis- especially if Child was not immunised.
4. Rheumatic arthritis (in older children) if fleeting joint pain, tachycardia or murmur.

If Child has no fever, think of

1. Injury-examine carefully for fracture or contusion.
2. Scurvy with periosteal bleeding. Ask for X-ray of the part.

CHICKENPOX

Fever, vesicular rash starting on trunk but more on limbs, Polymorphic ie. Papules, vesicles & scabs all seen at the same time.

1. Abstinence from school till scabs fall, to prevent spread. Isolate from other children in the house.
2. Tab Herpex 20 mg/kg × 4 times daily × 5 days (**Acyclovir** = 7H-1)
3. Syr Crocin 1 tsp TDS and if fever (**Paracetamol** = 3A-3)
4. Syr Cetzin 1 tsp daily– if itching (**Antihistaminic** = 5B-II)
5. Syr Wymox 1 tsp tds– if vesicles are infected (**Antibiotic** = 7A)
6. Vaccinate the contacts in the house.

Prevention: Varilix-Varicela vaccine: 0.5 ml subcut, single dose. In adults above 13 yrs, who have never had chicken pox in childhood, second dose after 4–10 wks.

MEASLES

Fever, typical reddish rash, running nose, conjunctivitis with swollen eyelids, Koplik's spots

1. Rest- Abstinence from school
2. Soft diet, more fluids– milk, fruit juice, Dal, Ganji.
3. Syr Crocin 1 tsp TDS and if fever (**Paracetamol** = 3A-3)
4. Gentamycin Eye drops TDS if conjunctivitis is severe.
5. Aquasol-A 1 dose. Age < 1yr = 1 lac units; Age > 1 yr = 2 lac unis. (**Vit A** = 2D)

If Cough

6. Syr. Odoxil 1 tsp TDS (**Higher Antibiotic** = 7A), Injectible if bronchiolitis.
7. Syr. Tixylix 1 tsp TDS (**Cough syrup** = 5C)

Watch for Pneumonia & Bronchiolitis

During recovery,

8. Syr Vitcofol 1 tsp BD (**Hematinic Tonic** = 2H, 2I)
9. Proteinule 2 tsp in milk BD (**Protein supplements** = 2A)

Prevention: Measles vaccine 0.5 ml s over Deltoid, at 6 mths, and MMR vaccin at 15 mths, gives immunity for 15–20 yr

When you see a febrile child with runn nose and conjunctivitis, anticipa measles. Tell the parents, to watch f Measles rash, which appears after 2- days.

MUMPS

Fever, Bodyache, Pain at the angle o mouth, Then swelling of Parotids– on after other, stays for 4–5 days, the subsides.

1. Rest at home.
2. Oral Hygiene– Proper brushing teeth, frequent rinsing of mou with Wokadine solution. (**Medicate mouthwash** = 13D-1)
3. Semisolid and Liquid food– as chew is painful.
4. Syr Wymox 1 tsp TDS for 5 da (**Antibiotic** = 9A)
5. Syr Combiflam 1 tsp TD (**Paracetamol + NSAID** = 3C)

If Orchitis is seen in older children

- Give scrotal support
- Tab Wysolone 5 mg bd for 5 da (**Steroid** = 9A)

RHEUMATIC FEVER

Suspect when a child with fever has jo pain, joint swelling, or has tachyca chest pain or murmur.

1. Complete Bed Rest × 2 wks. (6 wks. if carditis)
2. Inj. Procaine Penicillin 4–8 lac units × IM × ATD × OD 10 days. (**Penicillin** = 7A-5b)

   If Penicillin sensitive,

   Tab Erythromycin 125–250 mg Qid × 10 days (7A-3)
3. Tab Disprin × ½ –1 tds × till there is symptomatic relief (**Aspirin** = 3A-2)
4. Tab Wysolon 5 mg ½–1 tds × 6 wks. if carditis or if Aspirin does not give full relief.
5. Follow up with prophylactic treatment against recurrence.
   i) Inj. Penidure 12 lacs IM × ATD × every 3 weeks, till the age of 25 yrs. (or 5 years after the last attack)

   If penicillin sensitive,

   Tab Erythromycin 250 mg OD.
   ii) Whenever any surgery or tooth extraction is done, Inj. Penicillin 10 lacs IM × ATD × OD × 3 days, to prevent SBE.

❖ Prompt treatment of throat infections (and of rheumatic fever) in childhood will prevent many heart lesions.

PRIMARY COMPLEX

Cough off & on, Low grade fever, failure to grow, Tuberculin test +ve, TB IgM +ve, X-ray shows hilar nodes, and adjoining lung lesion.

1. Tab Akurit-Z Kid × 1 tab/10 kg body wt × OD × 2 mths (**RHZ Combi-nations** = 7F-6) *MontoripKid, Rcinex-Z Kid.*

   Then Rcinex KT × 1 tab/10 kg body wt × OD × 4 mths (**RH Combinations** = 7F-4) *Rimactazide Disped*

   To this, you may add Hematinic, Proteins & Calcium
2. Syr Ferium 1 tsp OD × 6 mths (= 2I)
3. B-Protein 1–2 tsp in milk BD (= 2A)
4. Syr Ostocalcium 1 tsp OD × 6 mths (= 2C) And
5. Symptomatic Treatment for Fever (Syr Crocin), Cough (Syr Tixylix)

In every case of childhood TB, try to trace the contact in the house and treat him/her at the same time.

CERVICAL LYMPHADENITIS

If lymph nodes are discrete, non-tender, asymptomatic, treat as Chronic Non-specific Lymphadenitis.

1. Tab Cefi DT 100 mg × 1 BD × 8–10 days (**Cefixime Antibiotic** = 7A)
2. Tab Ibuclin junior × 1 BD × 5 days (**Anti-inflammatory** = 3C-3)
3. Syr Ferium 1 tsp × OD (**Iron tonic** = 2I)
4. If no response after 2 weeks or if increasing, then FNAC or Excision-biopsy.

If low grade/no fever, no tenderness, Matting, cold abscess or Sinus, Tuberculin test +ve, TB IgM +ve, Treat as Tuberculous. If in doubt, do FNAC or Biopsy first.

1. Tab Akurit-Z Kid × 1 tab/10 kg body wt × OD × 2 mths (**RHZ Combi-nations** = 7F-6),

   Then Rcinex KT × 1 tab/10 kg body wt × OD × 4 mths (**RH Combi-nations** = 7F-4)
2. Tab Ibuclin junior × 1 OD × 15 days (**Mild Anti-inflammatory** = 3C-3)

   Additional treatment is same as in Primary Complex.
3. Residual Lymph nodes after 4–6 mths of treatment should be excised.

Some Clinical Problems

Left Axillary Lymph nodes after BCG vaccination

- Rcinex Kidtab ½ tab OD × 6 mths (1 tab/10 kg wt)
- If node is > 1.5 cms, or if cold abscess is formed, Incision & Excision.

Mantoux test Positive

No symptoms, No Nodes, Normal X-ray of Chest. Should we give AKT?

- If Child is > 3 yrs old, just regular follow up. Check X-ray of chest, ESR after 6 mths. Give AKT if positive, or if symptomatic.
- If Child is < 3 yrs old, Rcinex Kidtab 1 tab OD × 6 mths (1 tab/10 kg wt)

TB MENINGITIS

Suspect TB Meningitis when

1. A child has fever with headache.
2. A child behaves abnormally
3. A child become drowsy, irritable or restless.
4. A child has neck stiffness.
5. An Infant has tense fontanelle, cries excessively or is drowsy.

Refer the patient to a pediatrician for L.P. & treatment.

Summary of Treatment

1. Inj. Streptomycin 40 mg/kg/day.
2. Syr. Isokin 5 mg/kg/day
3. Syr. Rcin 10 mg/kg/day.
4. Tab Ethambutol 15 mg/kg/days.
5. Tab Pyrazinamide 30 mg/kg/days.

   For ease of administration, use RHZ combinations one kid tab per 10 kg body wt, e.g. For 15 kg child,

   Tab Akurit-Z kid 1½ Tab daily (7F-6)
6. Betnesol drops or Tablets.
7. Intrathecal Efcorlin 10 mg (Hydrocortisone hemisuccinate), rarely used.
8. General Nursing care, tube feeding or oral feeding

Additional treatment

If fever

- Syr. Crocin 1–2 tsp
- Cold compresses.

If convulsions

- Inj. Gardenal 5 mg/kg IV/IM (**Phenobarbitone** = 4D-1)

  Second line drugs–
- Inj Eptoin 10-15 mg/kg slow IV (Phenytoin = 4A-2) or
- Inj Calmpose ½ to 2 cc IV

If headache/irritable

- L.P. to reduce intracranial tension.

If dehydration

- I.V. fluids as required.

❖ Whenever an infant cries excessively and has a bulging fontanelle, Think of TB meningitis.

ACUTE BRONCHIOLITIS

Whenever an infant presents with cough & fever, start antibiotic immediately

1. Syr. Erythromycin 1 tsp tds (**Antibiotic** = 7A)

   or ampicillin or amoxycillin or Penicillin or cephalosporin.
2. Tixylix 1 tsp tds (**Anti-tussive** = 4C-1)
3. Predsol 5 drops tds if cough is more (**Steroid** = 9A)
4. Syr. Asthalin ½ tsp tds if dyspnoea, wheezing. (**Salbutamol** = 5D-3)

Refer the patient immediately to a pediatrician

- If Child is breathless & toxic
- If cough increases inspite of treatment, and
- If chest is full of crepitations.

Because these are signs of acute bronchiolitis, which is a very serious condition.

Treatment of acute bronchiolitis

1. **Antibiotic combination:** (7A)
   - Inj Penicillin 2–3 lacs IV × 4–6 hrly
   + Inj Gentamycin 10 mg IV × 8–12 hrly

   or Inj. Cefantral + Gentamycin.
   or Inj. Ampicillin + Gentamycin.
   or Inj. Cetil + Amikacin
   or Inj. Piperacin + Tazobactum
2. Inj Decadron ¼ cc IM/IV × 8 hrly (**Steroid** = 9A)
3. Inj Deriphyllin ¼ cc IM/IV × 8 hrly & S.O.S. (**Bronchodilator** = 5D-7)
4. Oxygen by nasal catheter.
5. Nebulisation with asthalin or Duolin Solution
6. Asthalin inhaler with spacer 2 puffs, repeated as necessary, if Nebuliser is not available.
7. Syr. Asthalin or Deriphyllin tsp tds.
8. Throat suction, as required
9. I.V. Fluids to maintain hydration.

❖ If acute bronchiolitis does not respond to higher antibiotics, then ask for X-ray Chest for miliary Tuberculosis.

POLIO

Treatment in acute phase

1. Bed Rest. Foment & splint painful legs.
2. Do not give any injection.
3. Syr. Crocin 1 tsp tds if fever (**Paracetamol** = 3A-3)
4. Syr. Lederplex tsp bd (**Bplex** = 2H-6)
5. Betnesol 5 drops tds × 10 days. or Tab Betnesol ½ tds (**Steroid** = 9A)
6. Syr. Incremin tsp bd if anemic (**Iron**= 21)

Treatment of established weakness

1. Syr. Bplex tsp bd × 3 mths (Bplex = 24-6)
2. Gentle massage with 'Narayan oil' (ayurvedic).
3. Faradic current stimulation and Physiotherapy during first 6 months.
4. Teach the parents to flex and extend all the joints from hips to toes through their full range × several times × at least 2–3 times per day × to prevent contractures.
5. Later, Refer the Child to an orthotic center for leg splints or corrective shoes.

❖ The most important role of General practitioners is to educate every family and immunise every child against Polio in the 1st year of life.

❖ Do not give gluteal injections to children with fever during June-July. If polio is developing, you will unnecessarily get the blame.

ART OF PRESCRIBING TO CHILDREN

Pediatric doses are calculated as gms/kg body wt/day. But these complicated calculations based on body weight are best left to pediatricians and in General Practice simple rules and calculations are followed:

Catzel's Rule

10–15 yrs – 3/4 of adult dose
6–8 yrs – 1/2 of adult dose
3–4 yrs – 1/3 of adult dose
1–2 yrs – 1/4 of adult dose
< 1 yrs – 1/8 of adult dose

To make it more simple, for 6–10 yrs it's ½ dose and for 1–3 yrs, it's ¼ dose.

Practical hints

1. Most Pediatric medicines are available in syrup forms and generally have following dosage:
   3–6 yrs (montessary age) = 1 tsp tds.
   1–3 yrs = ½ tsp tds.
   < 1 yrs. = 1 ml or 10 drops tds.
   6–10 yrs. = 2 tsp tds or ½ adult tabs.
2. For adolescent Children, give adult tablets in reduced dose.
3. Give minimum medications to children. Avoid too many medicines, because usually it is a very difficult job to feed medicines to Children.
4. Avoid injections to Children, as far as possible.
5. Tablets may be crushed & dissolved in water or the crushed powder is given with spoon of Honey.
6. For infants, medicines are best given with dropper.
7. For Children resisting to take medicines, feeding with spoon is very difficult. Use a 5 cc plastic syringe (without needle), the tip can be placed between the teeth- even if the child holds the mouth shut, and the drug is pushed over the tongue.

In the chart below- we will see the prescriptions of common drugs for common complaints- for various age groups. These are of course rough guidelines, the doses should be adjusted according to the built & weight.

TABLE 12.1: DOSAGES OF COMMON DRUGS

DRUG	< 1 yr.	1–3 yrs.	3–6 yrs.	6–10 yrs.
For Fever				
• Syr. Crocin (Paracetamol)	10 drops	½ tsp tds	1 tsp tds	¼–½ tab
• Tab Mejoral (Aspirin)	—	½ tab	1 tab	1–2 tabs
For Colds				
• Syr. Wikoryl	10 drops tds	½ tsp tds	1 tsp tds	2 tsp tds
• Syr. Pedia-3	—	½ tsp tds	1 tsp tds	1–2 tsp tds
For Cough				
• Tixylix	N.R.	1 tsp tds	1–2 tsp tds	2 tsp tds
• Soventol expectorant	10 drops tds	½ tsp tds	½ tsp tds	1 tsp tds
For Wheezing (Asthma)				
• Syr. Asthalin or	10 drops tds	½ tsp tds	1 tsp tds	1–2 tsp tds
• Syr. Alupent or				
• Syr. Bricanyl or				
• Syr. Deriphyllin	¼ cc	¼–½ cc	½–1 cc	1–½ cc
• Inj. Deriphyllin IM	—	0.05 ml	0.2 ml	0.5 ml
• Inj. Adrenalin Subcut				
Tonics				
For Iron				
• Lysiron drops	10 drops bd	—	—	—
• Syr. Incremin or Syr. Fesocar	—	½ tsp OD	1 tsp OD	1 tsp bd
For Vitamins				
• Syr. Vi-Magna	10 drops bd	½ tsp bd	1 tsp bd	1–2 tsp bd
For Calcium				
• Syr. Ostocalcium	—	½ tsp bd	1 tsp bd	1–2 tsp bd
For Appetite				
• Syr. Practin	—	½ tsp bd	½–1 tsp bd	1 tsp bd
For Worms				
• Syr. Mebex 100 mg 15 ml	—	½ tsp bd x 3	½ tsp bd x 3	1 tsp bd x 3
• Syr. Combantrin	—	4 ml	8 ml	8 ml
• Tab Zentel (albendazol)	—	200 mg	400 mg	400 mg
For Vomiting				
• Syr. Reglan/Perinorm	1 ml tds	½ tsp tds	½–1 tsp tds	1–2 tsp tds
• Syr. Domstal	N.R.	½ tsp tds	½–1 tsp tds	1–2 tsp tds
• Inj. Emeset/Perinorm I.M.	¼ cc	¼–½ cc	½–1 cc	1 cc

(Contd...)

DRUG	< 1 yr.	1–3 yrs.	3–6 yrs.	6–10 yrs.
For Colicky Pain				
• Spasmindon Syr.	10 drops tds	½ tsp tds	1 tsp tds	–
• Bonnisan/Gripe water.	½–1 tsp tds	—	—	–
For Diarrhoea				
• Syr. Pectomycin	½–1 tsp tds	1 tsp tds	1–2 tsp tds	2 tsp tds
• Syr. Dysfur				
• Syr. Gramoneg	½ tsp bd	½ tsp tds	1 tsp tds	2 tsp tds
• Syr. Flagyl	—	½ tsp tds	1 tsp tds	2 tsp tds
Antibiotics				
• Syr. Ampicillin,	2 ml tds	1 tsp tds	1–2 tsp tds	2 tsp tds
• Amoxycillin, Erythrocin,			or	or
• Baciclox, Nufex etc.			Kidtab 1 tds	Kidtab 2 tds
• Inj. Ampi/Amoxy/ Cefalosporins x IM	62 mg bd	125 mg 8 hrly	125 mg 6 hrly	250 mg 6 hrly
• Inj Gentamycin IM	10 mg bd	20 mg bd	40 mg bd	60 mg bd
• Inj. Penicillin 8–12 hrly	2 lacs	3 lacs	5 lacs	8 lacs.
For Pain & Inflammation				
• Syr. Brufen/Combiflam				
• Syr. Flammar P	—	½ tsp tds	1 tsp tds	1–2 tsp tds
• Syr. Meftal				
For Active Convulsion				
• Inj. Paraldehyde IM	1 ml	2–3 ml	4–5 ml	6–8 ml
• Inj. Calmpose I.V.	½ ml	1 ml	1.5 ml	2 ml

TABLE 12.2: THE FOLLOWING CHART GIVES THE DRUGS AND THEIR EXACT DOSAGE AS PER BODY WEIGHT

Name of the Drug	Dosage mg/kg/day	Available as			
		Syrup	Tablet	Drop	Injection
Anthelminthics					
1. Mebendazole	> 5 yrs: 100 mg BD 3 2–5 yrs: 50 mg BD 3	100 mg/ 5 ml	100 mg	—	—
2. Albendazole	Below 2 yrs: 200 mg Above 2 yrs: 400 mg	200 mg/ 5 ml	400 mg	—	—
3. Levamisole	3 mg/kg – Single dose	—	50, 150 mg	—	—
4. Piperazine citrate	75 mg/kg/day for 3 days	75 mg/ 5 ml	300 mg	—	—
Anti-amoebics					
1. Metronidazole	25–40 mg/kg/day	100 mg/ 5 ml	200, 400 mg	—	Infusion: 500 mg/ 100 ml
2. Tinidazole	50 mg/kg/day	75 mg/ 5 ml	300, 500 mg	—	—
3. Secnidazole	3 mg/kg – Single dose		500 mg	—	—
Anti-emetics					
1. Metoclopramide	0.5 mg/kg/day	5 mg/5 ml	10 mg	—	5 mg/ml
2. Domperidone	0.2–0.4 mg/kg/tds	5 mg/5 ml	10 mg	—	—
3. Cisapride	0.2 mg/kg/day	5 mg/5 ml	10 mg	—	—
Anti-spasmodics					
1. Dicyclomin HCl	5–10 mg/dose	10 mg/5 ml	10, 20 mg	10 mg/ml	20 mg/ml
Analgesics					
1. Aspirin	30–60 mg/kg/day	—	300 mg	—	—
2. Paracetamol	30–40 mg/kg/day	125 mg/ 5 ml	500 mg	150 mg/ml	125 mg/ml IM

(Contd...)

TABLE 12.2: THE FOLLOWING CHART GIVES THE DRUGS AND THEIR EXACT DOSAGE AS PER BODY WEIGHT

Name of the Drug	Dosage mg/kg/day	Available as			
		Syrup	Tablet	Drop	Injection
Anthelminthics					
1. Mebendazole	> 5 yrs: 100 mg BD 3 2–5 yrs: 50 mg BD 3	100 mg/ 5 ml	100 mg	—	—
2. Albendazole	Below 2 yrs: 200 mg Above 2 yrs: 400 mg	200 mg/ 5 ml	400 mg	—	—
3. Levamisole	3 mg/kg - Single dose	—	50, 150 mg	—	—
4. Piperazine citrate	75 mg/kg/day for 3 days	75 mg/ 5 ml	300 mg	—	—
Anti-amoebics					
1. Metronidazole	25–40 mg/kg/day	100 mg/ 5 ml	200, 400 mg	—	Infusion: 500 mg/ 100 ml
2. Tinidazole	50 mg/kg/day	75 mg/ 5 ml	300, 500 mg	—	—
3. Secnidazole	3 mg/kg - Single dose		500 mg	—	—
Anti-emetics					
1. Metoclopramide	0.5 mg/kg/day	5 mg/5 ml	10 mg	—	5 mg/ml
2. Domperidone	0.2–0.4 mg/kg/tds	5 mg/5 ml	10 mg	—	—
3. Cisapride	0.2 mg/kg/day	5 mg/5 ml	10 mg	—	—
Anti-spasmodics					
1. Dicyclomin HCl	5–10 mg/dose	10 mg/5 ml	10, 20 mg	10 mg/ml	20 mg/ml
Analgesics					
1. Aspirin	30–60 mg/kg/day	—	300 mg	—	—
2. Paracetamol	30–40 mg/kg/day	125 mg/ 5 ml	500 mg	150 mg/ml	125 mg/ml IM

(Contd...)

Name of the Drug	Dosage mg/kg/day	Available as			
		Syrup	Tablet	Drop	Injection
3. Ketorolac	Not recommended	—	10 mg	—	30 mg/ml
4. Tramadol	Not recommended	—	50 mg	—	50 mg/ml
5. Pentazocin	Not recommended	—	—	—	30 mg/ml
6. Buprenorphin	5 mcg/kg/dose Not for < 6 yrs age	—	0.2 mg SL	—	0.3 mg/ml
NSAIDs					
1. Ibuprofen	10–15 mg/kg/day	100 mg/ 5 ml	200, 400 mg	—	—
2. Mefenamic Acid	15–20 mg/kg/day	50 mg/ 5 ml	100 mg KT	—	—
3. Diclofenac	Not recommended	—	50 mg	—	50 mg/ml
4. Nimesulide	5 mg/kg/day	50 mg/ml	100 mg	—	—
Anti-histaminics					
1. Pheniramine (Avil)	< 3 yrs = 2.5 ml 3–10 yrs = 5 ml	15 mg/ml	25, 50 mg	—	22.75 mg/ml
2.Cetirizine (if age > 2 yrs)	< 30 kg = 5 mg dose >30 kg = 10 mg dose	5 mg/5 ml	10 mg	—	—
Apetiser: Cyproheptadine	0.25 mg/kg/day	2 mg/5 ml	4 mg	1.5 mg/ml	—
Cough Remedies					
1. Codeine	1–1.5 mg/kg/day	22.5 mg/ 5 ml	100 mg	—	—
2. Bromhexeine	< 5 yrs = 4 mg bd	4 mg/5 ml	8 mg	—	—
3. Terbenthin	< 5 yrs = 12 mg tds	12 mg/5 ml	60 mg	—	—
Bronchodilators					
1. Theophyllin + Etophyllin	7 mg/kg loading dose 12 mg/kg/day	14 mg/5 ml	24 mg	—	50 mg/2 ml
2. Salbutamol	0.2 mg/kg/day	2 mg/5 ml	2, 4 mg	—	—
3. Aminophyllin	5 mg/kg Slow IV	—	100 mg	—	10 ml–2.5%
4. Terbutaline	0.1 mg/kg/day	1.5 mg/5 ml	2.5, 5 mg	—	0.5 mg/ml
5. Inhalers with spacehalers	—	—	—	—	—

(Contd...)

Name of the Drug	Dosage mg/kg/day	Available as			
		Syrup	Tablet	Drop	Injection
Antibiotics					
1. Amoxycillin	20–40 mg/kg/day	125 mg/5 ml	250 mg	100 mg/ml	100/250/500
2. Cloxacillin	50–100 mg/kg/day	125 mg/5 ml	125 mg KT	—	100/250/500
3. Amikacin	15 mg/kg/day	—	—	—	100 mg/2 ml
4. Gentamycin	3–5 mg/kg/day	—	—	—	20, 40 mg/ml
Macrolides					
1. Chloromycetin	50 mg/kg/day	125 mg/5 ml	250, 500 mg	—	125 mg/ml IM
2. Erythromycin	30–50 mg/kg/day	100 mg/5 ml	100, 250 mg	100 mg/ml	—
3. Roxithromycin	5–8 mg/kg/day	—	50 mg DT	—	—
4. Azithromycin	5–10 mg/kg/day	200 mg/5 ml	100 mg KT	—	—
Cephalosporins					
1. Cephalexin	25–50 mg/kg/day	125 mg/5 ml	125 mg KT	—	—
2. Cephadroxil	25 mg/kg/day	125 mg/5 ml	125 mg KT	—	—
3. Inj. Cefotaxime	50–100 mg/kg/day	—	—	—	250 mg vial
4. Inj. Ceftriaxone	50–75 mg/kg/day	—	—	—	250 mg vial
Urinary Antibiotics					
1. Norfloxacin	10–15 mg/kg/day	—	100 mg KT	—	—
2. Notrofurantoin	5–7 mg/kg/day	25 mg/5 ml	50, 100 mg	—	—
3. Nalidixic Acid	55 mg/kg/day	300 mg/5 ml	500 mg	—	—
Anti-TB Drugs					
1. Isoniazid	10–20 mg/kg/day	100 mg/5 ml	100, 300 mg	—	—
2. Rifampicin	10–20 mg/kg/day	100 mg/5 ml	150, 300, 450	—	—
3. Pyrazinamide	20–35 mg/kg/day	250 mg/5 ml	300, 500, 750	—	—
4. Ethambutol	15 mg/kg/day	—	200, 400 mg	—	—
5. Streptomycin	20–40 mg/kg/day	—	—	—	0.75, 1 gm
Anti-Leprosy Drugs					
1. Dapsone	1–2 mg/kg/day	—	25, 50, 100 mg	—	—
2. Clofazimine	4–6 mg/kg once a month	—	50, 100 mg	—	—

(Contd...)

Name of the Drug	Dosage mg/kg/day	Available as			
		Syrup	Tablet	Drop	Injection
Anti-Fungals					
1. Ketoconazole	3-6 mg/kg/day	—	200 mg	—	—
2. Griseofulvin	10 mg/kg/day	—	125, 250 mg	—	—
Anti-Malarials					
1. Chloroquine	10 mg/kg stat 5 mg/kg - 3 doses	100 mg/10 ml	250, 500 mg	—	40 mg/ml
2. Primaquine	0.3 mg/kg/day	—	7.5 mg	—	—
3. Quinine	25 mg/kg/day	—	300 mg	—	300 mg/ml
Anti-Convulsants					
1. Phenobarbitone	5 mg/kg/dose	—	30, 60 mg	—	20 mg/ml
2. Phenytoin Sodium	3-8 mg/kg/day	25 mg/ml	100 mg	—	100 mg/ml IV
3. Carbamazepine	< 1 yr = 100-200 mg 1-5 yrs = 200-400 mg 6-10 yrs = 400-600 mg	100 mg/5 ml	100, 200 mg	—	—
4. Sodium Valproate	15-30 mg/kg/day	—	200 mg	—	—
5. Paraldehyde	0.15 ml/kg/dose	—	—	—	1 mg/ml
Tranquilisers					
1. Diazepam	0.2-0.3 mg/kg/day	2.5 mg/ml	2, 5 mg	—	5 mg/ml
2. Alprazolam	Not recommended	—	0.25 mg	—	—
3. Chlorpromazine	0.5 mg/kg/dose	—	25, 50 mg	—	25 mg/ml
4. Haloperidol	25-50 mcg/kg/dose	2 mg/ml	0.25, 1.5, 5 mg	10 mg/ml	—
Steroids					
1. Dexamethasone	0.1-0.2 mg/kg/day	—	0.5 mg	0.5 mg/ml	4 mg/ml
2. Hydrocortisone	3-6 mg/kg/day	—	—	—	100 mg vial
3. Prednisolone	2 mg/kg/day (variable)	—	5, 10, 20 mg	—	—

Chapter

13 SKIN SYMPTOMS & VENEREAL DISEASES

HYPOPIGMENTED PATCHES

Whenever you see a hypopigmented patch, first test its sensations. If sensations are absent look for skin atrophy or loss of hair in the patch and for other signs of Leprosy and refer for Skin Biopsy

1. Rounded, hypopigmented patches over Neck, Back & Chest are usually due to Tenia Versicolor.
2. Irregular hypopigmented patches over the cheeks in children are due to vitamin deficiency or Pityriasis alba.
3. Complete depigmentation is due to vitiligo.

Leprosy

Hypopigmented anesthetic patches, Thickened ulnar, lateral popliteal & Greater auricular nerves, nodules on ear pinna or elsewhere, finger deformities.

1. Tab Dapsone 100 mg × OD × 6 days/wk. (**DDS** =7D-1)
2. Cap Rcin 600 mg × 1 daily × 14 days (loading dose) Then cap Rcin 600 mg once/mth (**Rifampicin** = 7D-3)
3. Cap Hansepran 100 mg × alt days (**Clofazimine** = 7D-2) or 50 mg × daily. And 300 mg (3 caps) once a month.

Duration of treatment

6 mths-1 yr for Paucibacillary group (Tuberculoid Leprosy).

2 yrs or more for Multibacillary group (Lepromatous leprosy, skin AFB + ve)
Other drugs under trial - Ethionamide, Prothionamide, Ofloxacin, Minocyclin, Roxithromycin etc.

If Lepra reaction

1. Stop Dapsone till acute reaction subsides.
2. Tab Hansepran 100 mg × 2 daily × 3 wks (7D-2), then back to 50 mg OD
3. Tab Wysolone 5 mg × 2 tds × 3 days, then 1 tds × 10 days (**Prednisolone** = 9A)
4. After 3 wks, start T. Dapsone 25 mg OD and increase the dose gradually.

Taenia Versicolor

1. Tolnaderm Oint locally bd (**Tolnaftate** = 11A-1) or Surfaz Oint (**Cotrimazole** = 11A-2) × 4 wks.
2. Tab Flucos 200 mg × 2 tabs stat × every week × 4 wks (**Fluconazole** = 7C-3)
3. For resistant cases,
   Tab Phytoral 200 mg × 1 OD × 4 wks (**Ketoconazole** = 7C-2)
4. Boil all clothes, particularly underclothes, during and after treatment.
5. Other drugs:
   i) Selsun Shampoo, applied 1 hr before bath × daily × 4 wks.

ii) Candid-TV lotion, applied x daily × 3-4 wks.

iii) Karpin lotion 1 & 2: Apply lotion no. 1; After 2 mins apply lotion no. 2. Apply twice a day - after bath & at night for 10 days.

Vitiligo

Characterised by complete depigmentation and not hypopigmentation – patches are white.

A. Localised & Small lesions

1. Tacroz forte 0.1% ointment, apply locally to the patch at night × 6 mths – 2 yrs. (**Tacrolimus** = 11-I-5) Drug of choice
2. Dsorolen lotion, apply locally with a Q-tip, in the morning, followed after 2 hrs by limited exposure to sunlight or ultraviolet rays (PUVA)
   - Gradually increase the exposure time till mild redness appears in the patch.
   - For exposed areas like face, dilute in spirit 1:4
   - Apply Paraminol (Sunscreen) over surrounding normal skin, to prevent hyperpigmentation (11-I-4)
   - If excess redness, itching or blebs (sunburn), Cover with sunscreen or calamine, and apply Betnovate oint BD. Later apply diluted Dsorolen every 2nd or 3rd day, wash away after few minutes.
3. Tab Beplex forte 1 OD (**Bcomplex & antioxidants** = 2H-6)
4. *For cosmetic purpose, - to hide a visible patch on the face or hand,*

   Dermacolor camouflage cream, of matching skin colour (Available at cosmetics shops).
5. *If sensitive to Dsorolen lotion, or if no response after 6 months treatment,* Melback lotion locally at night, expose to sunlight/PUVA next morning (Decapeptide 1%)
6. *In children, Tacrolimus oint is drug of choice. But steroid ointment can also be used.*
   i) Tacroz oint locally HS (**Tacrolimus** = 11-I-5)
   ii) Mometasone oint locally, once or twice per day (or **Betnovate** = 11C)

B. Extensive and spreading lesions: Refer early to Dermatologist

Tab Dsorolen forte 1 OD at 8 am, followed by exposure to sunlight or ultraviolet light after 2 hrs.

❖ When lesions are few and in areas covered by clothes, try local treatment under guidance from a skin specialist.

Hypopigmented patches on Cheek (Pityriasis alba or Vitamin deficiency)

1. Tenovate ointment locally bd (Clobetasone) or Futicare oint for 2-3 weeks maximum. (11C-13)

   Use mild steroid ointments like Clobetasone, Fluticasone, or Hydrocortisone.
2. AD Caps 1 bd × 60 (**Vit A & D** = 2D)
3. Syr. Betonin 2 tsp bd × 60 (**Vit Bplex** = 2H-6)
4. Tab Mebex 1 bd × 3 (**Anth-elmintic** = 1E-I)
5. Instructions:
   i) Use oleate soaps like Dove.
   ii) Apply moisturiser cream of coconut oil to skin after bath.
   iii) Drink 6-8 glasses of water everyday to keep skin well hydrated
   iv) Patches resolve on their own, but after several months or at puberty.

❖ Steroid ointments should never be used for more than 3 weeks. They cause skin atrophy & hypopigmentation.

URTICARIAL RASHES

1. Tab Atarax 25 mg stat & 1 tds. (**Antihistaminic** = 5B-I)
2. Tab Cetzine 10 mg OD (**Cetirizine** = 5B II 1 to 5). Or Tab Allegra 180 mg OD (Fexofenadine)
3. Tab Wysolone 5 mg 1 tds × 3-5 days for acute attack (**Prednisolone** = 9A)
4. Tab Mebex 1 bd × 3 (**Broad spectrum anthelmintic** = 1E-I)
5. Tab Calmpose 5 mg HS or 1 bd till itching is reduced (**Tranquiliser** = 4D-3)
6. Apply Calamine lotion locally to the rash (11E) or Elovera Lotion (**Aloe Vera** = 11D-4)

If rash is extensive

1. Inj. Avil 2cc IM/IV stat (**Pheniramine** = 5B-I)
2. Inj. Efcorlin 100 mg I.V. stat (**Hydrocortisone** = 9A-1)
3. Inj. Adrenalin 0.5 ml subcut stat if associated anaphylaxis or angioneurotic edema.

If Urticaria is recurrent

1. Inj. Calcium Sandoz with Vit C I.V. slow × daily × 3 days (**Calcium** = 2C-1)
2. Tab Alprax 0.25 mg bd × 15-30 days (**Tranquiliser** = 4D)
3. Ask for WBC Count.

   If eosinophilia,
   - Tab Hetrazan 1 tds × 21 (1E-4)
   - Tab Wysolone 1 bd × 10 (**Prednisolone** = 9A)
4. Try to find the causative allergen e.g. in foods like fish, drugs like sulpha.

❖ In a patient who has had urticarial rashes, NEVER give any drug or injection, which can potentially give rise to allergic reaction.

GENERALISED ITCHING

Step I - Is it Scabies?

Look for papules in interdigital folds, buttocks and genitals. Ask for itching in any other member of the family.

Treatment

1. Permisol lotion (**Permethrin** = 11 G-5)

   Apply Head to toe at night, leave for 10 hrs, then take bath. Repeat application after 1 wk. OR

   Second choice =

   Benzoscab 25% lotion for local application (**Benzyl Benzoate** = 11G-1)

   Apply all over the body except face, after a hot water bath and thorough scrubbing with a rough towel. Let it dry and remain on the body for 24 hrs. Repeat for 3 successive days.

   Or Gamascab 1% for local application (**Gamma Benzene Hexachloride** = 11 G-2) Apply as above for 3 days or apply 2 times at one week interval.
2. Tab Atarax 25 mg or Avil 25 mg × 2-3 times/day × 10 days or more till the itching is controlled. (**Antihistaminic** = 5B)
3. If there is secondary infection with pustules, treat it first, then treat scabies.

   Tab Althrocin 500 mg × 3 times/day × 5 days (**Antibiotic** = 7A-3a)
4. On the last day of treatment, collect all clothes, towels and bed linen in a large vessel and Boil them in soap water - to prevent reinfection.

5. For total eradication of infection, All family members should be treated simultaneously. Advise Permisol/ Scab-P soap for the family.

Step II - Is it associated with urticarial rashes?

Ask for history of any tablets or drugs taken, any change in food, or any insect bites. Treat as for urticaria.

Step III - Is it related to weather?

1. **Dry skin - crackings & itching in Winter**
   i) Rub Oil into the skin before bath and at night, every day.
   ii) Apply Vaselin or Petroleum Jelly to cracked skin.
   iii) Tab Avil 25 mg 1 HS - if itching. (5 B-I & II) or Tab Alday 1 OD (**Cetirizine** = 5B-II)

2. **Prickly heat in summer**
   i) Bath x 2 times/day.
   ii) Sprinkle Losweat Powder (Miconazole) or Abzorb Powder Ranbaxy (Benzydamine) or Nycil Powder, particularly over Chest & back & affected areas.
   iii) Tab Alday 1 OD S.O.S. (**Antihistaminic Cetirizine** = 5B)
   iv) Apply 6% Sodabicarb solution × 2 times/day × 2 wks.

Step IV - Is the itching persistent or repeated?

1. Check Blood sugar for Diabetes.
2. Check for jaundice. (Obstructive jaundice with high direct bilirubin = itching)
3. Check Blood Urea and Urine albumin for Chronic renal failure.
4. Try I.V. Calcium if no cause is found.
   Inj. Calcium Sandoz 10 cc × I.V. × inject slowly × daily × 3-5 injection.
5. Instrel Gel locally for symptomatic relief (Pramoxine Hcl)

General measures for itching

1. Avoid dry skin, use Glycerine or Dove soap.
2. Apply Coconut oil or Vaselin all over, 1-2 times/ day.
3. Use cotton clothes, Avoid Synthetic/ woolen clothes.
4. Apply Ice bag/ calamine lotion.
5. Tab Restyl 0.25 mg HS (Tranquilliser = 4D)
6. For obstructive Jaundice - Prevalite Powder 4g Sachet x BD (Cholestyramine)
7. For Senile dermatitis, not responding -
   Males- Cap Nuvir 40 mg od x 15 days (Testosterone = 8E-4)
   Females – Tab Premarin 0.625 mg OD x 15 days (Estrogen = 8I-4)

ITCHING AROUND ANUS

Inspect the Anal region

If nothing abnormal, it is usually worm infestation i.e. E Vermicularis - Typically itches at night.

1. Tab Mebex 100 mg 1 bd x 3 (**Mebendazole** = 1-1)
   or Tab Bendex 400 mg 1 stat (**Albendazole** = 1-2)
   or Tab Combantrin 3 stat (**Pyrantel** = 1E-3)
2. Tab Atarax or Avil 25 mg 1 HS & SOS (5B)
3. Cut the nails short.
4. Treat all family members together.

If Taeniasis - hyperpigmented, round & spreading lesions:

1. Cloben Ointment locally (**Clotrimazole** = 11A-2)

2. Tab Gris OD 1 daily × 21 (**Griseofulvin** = 7C-1) or Tab Flucos 150 mg once/ week × 4 (**Fluconazole** = 7C-3)
3. Tab Avil 25 mg 1 tds if itching (5B)

If Fistula-in-ano with purulent discharge

Refer to a surgeon for operation.

If there is no visible cause

1. Tab CZ-3 1 OD (**Cetirizine** = 5B-II)
2. Avoid scratching. Cut nails short.
3. Wear loose cotton underwear.
4. Clean properly after defecation, with warm water. Keep dry.
5. Momet/Diprovate oint locally tds (**Steroid oint** = 11C) for 1-2 wks.

ITCHING OF VULVA

1. Ask about Vaginal discharge. Treat it (Refer 'Leucorrhoea')

   or refer to Gynaecologist.
2. If no leucorrhoea, give sympto-matic treatment.
   i) Cloben. G Ointment locally (**Steroid + Antifungal** = 11)
   ii) Tab Incidal 1 tds (**Anti-histaminic** = 5B)
3. Ask for Blood sugar curve to rule out Diabetes. Look for Taeniasis, scabies, Lice in pubic hair, Threadworms, atrophic vaginitis and allergy to Synthetic underwear.

ITCHING OF SCALP

Usually due to Pediculosis or Lice infestation.

1. Permisol lotion (**Permethrin** = 11G-5)

   Wash the hair with shampoo, Dry; then apply permisol to cover all hair & scalp. Leave on hair for 10 minutes then wash with water and comb the hair to remove nits. Repeat after 10 days.

   Next Choice:

   Scabex emulsion (GammaBenzene Hexachloride + Cetrimide)
   - Wash the hair thoroughly & dry them,
   - Apply scabex lotion & massage it into scalp at night.
   - Keep the scalp & hair covered with a cloth.
   - Next morning, wash the hair protecting the eyes.
   - Then apply hair conditioner, and while the hair are still wet, comb with a fine tooth comb, until all Lice are removed. Repeat combing every 3rd day, 4-5 times.
2. Repeat the treatment after 1 wk.
3. Prevent reinfection by avoiding close contact with infected persons, regular bath & clean clothes.
4. If Lice are not cleared, after repeat application and careful combing, use another drug like Malathion, Phenothrin or Permethrin.

Treatment of Dandruff

1. Apply Selsun Shampoo × 2 times/wk (**Selenium Sulfide** = 12b)
   - Wet the Hair.
   - Apply 1-2 tsp. of shampoo and massage to produce lather.
   - Rinse after 5 minutes with water.

   OR Candid. TV (**Selenium Disulfide + Clotrimazole** = 12b-2)

   OR Cetavlon-conc (**Cetrimide 20%** = 12b-3)

   OR Danclear Shampoo (**Keto-conazole 2% + Zn Pyrithione** = 12b-5)
2. Instructions:
   i) Avoid applying excess oil to hair.
   ii) Once a week, apply warm hair oil, massage scalp gently, then wash with Herbal Shampoo.

iii) Avoid hard water (e.g. Borewell) on hair.

iv) Avoid dust. Use Scarf or cap while traveling.

v) Avoid dehydration. Drink plenty water.

3. If no relief, try steroid lotions:

Betnovate scalp lotion × 2 times/wk × 3 wks. or Flucort lotion × daily × 10 days then alt days for not more than 3 wks.

BALDNESS

1. Apply Gromane/Multigain solution × 2 times/day × for at least 6 months. (**Minoxidil 2%** = 12a)
   - Dry the bald area & surrounding scalp
   - Apply 1 ml solution over affected area and also rest of scalp
   - Wash the finger immediately
2. Tab Finast 1 mg OD × 6 mths, continue if response is good. (**Finasteride** = 15A-4)

   Only for male patients.

❖ Response to minoxidil therapy is seen after 4 to 6 mths. If response is not satisfactory, refer the patient for hair transplant surgery (if he is keen on it!). But for complete baldness, use of a wig is a better alternative.

ALOPECIA AREATA

Characteristic circular bald patches in scalp or beard.

If there is itching or rash

1. Cloben ointment locally tds × 3 mths (**Clotrimazole** = 11A)
2. Tab Grisovin 250 mg tds × 21 days (**Griseofulvin** = 7C-1)

If there is no evidence of fungal infection

1. Betnovate/Flucort scalp lotion × 2 times/day (Steroid)
2. Tab Betnesol Forte 1 mg × 3 tab × 2 times/wk, as Pulse therapy (**Steroid** = 9A)
3. If there is no response to any treatment,
   i) Apply Gromane solution × bd × 6 mths. (**Minoxidil 2%** = 12a)
   ii) Maha Bhringaraj Oil × bd (**Ayurvedic**)
   iii) Intralesional Kenacort 10 mg once (**Triamcinolone** = 9A-4)

PREMATURE GREYING OF HAIR

1. Tab Calcium Pantothenate 100 mg × 1 bd × 6 mths (12d)
2. Maha Bhringaraj Oil × twice daily (**Ayurvedic**)
3. Tab Evion 400 mg OD × 4-6 mths (**Vit E** = 2F)
4. Apply Vitamin E locally, by puncturing Tab Evion and mixing the contents with a little oil.

EXCESSIVE LOSS OF HAIR

1. First examine the scalp for Dandruff, & Seborrheic dermatitis. If seen, treat it first.
2. Local applications:
   i) Betnovate scalp lotion (**Steroid lotion**)
   ii) Maha Bhringaraj Oil (**Ayurvedic**)
   iii) K-5 Hair Oil
   iv) Evion Capsule punctured and contents rubbed into the scalp (**Vit E**)
3. Tab Evion 400 mg OD × 2-3 mths (**Vit E** = 2F)

Instructions:

4. High protein diet - Milk, Pulses, Beans, Sprouts, Cereals, Eggs
5. For hair bath, do not use very hot water. Use warm or cold water.
6. Comb hair when they are dry. Wet hair are weak.
7. Dry the hair naturally. Avoid blow drier & strong heat.
8. Cover hair, while traveling in sun or on scooter.
9. Use protein shampoo 2 times per week.

HYPERTROPHIC SCAR

A scar that grows into neighbouring skin is keloid. Ordinary hypertrophic scar is limited to the scar area and never grows after 1 year.

1. If it is not itching or paining, leave it alone
2. If symptomatic,
   i) Apply Diprovate Oint. locally (**Steroid oint** = 11C-2)
   ii) Inj Kenacort 10 mg in 1 ml, or
   Inj. Hydrocortisone Acetate 2 ml + Xylocaine 2 ml injected intralesional (intradermal) into the entire keloid × every week × 3-4 wks (**Local Hydro-cortisone** = 9A-6). Use disposable 5 cc syringe & 22 No. Needle. Use force to push the fluid into the keloid.
3. Hirudoid ointment locally and gently massage in × 2 wks × to soften hard non-keloid scars. (**Heparinoid** = 11J-2)
4. If patient insists on excision, refer to a Plastic surgeon. But results are not guaranteed. The keloid may grow again.

❖ Intralesional Hydrocortisone is the best treatment. The itching & pain will reduce and further growth of the keloid will be arrested.

HERPES ZOSTER

Are the vesicles still erupting? If Yes,

1. Herpex ointment locally × 4 hrly × 5 days or till the vesicle eruption continues.
2. Tab Herpex 200 mg × 4 tablets (i.e. 800 mg) × 5 times/day × 10 days (**Acyclovir** = 7G-A)

❖ There is no point in giving these costly antiviral drugs, if stage of eruption is already over.

3. Inj. Neurobion 2 cc IM × daily × 5 inj. (B_1 B_6 B_{12} = 2H-5)
4. Cap Becosule 1 bd × 1-2 mths (**Bplex** = 2H-6)
5. Tab Wysolone 5 mg 1 tds × 3 (**Steroid** = 9A) steroids may flare up vesicles & are best avoided.
6. For pain:
   - Tab Ultracet 1 tds & S.O.S.
   - Tab Fortwin or sublingual Norphin for severe pain.
   - Inj. Fortwin/Norphin 1-2 cc IM if severe pain.
7. As the vesicles dry up, stop Herpex oint and apply Calamine Lotion tds (**Soothing lotion** = 11E).
   If vesicles show secondary infection, apply Silver sulphadiazine or Soframycin oint (**Antibiotic** = 11B) and add oral antibiotic.
8. Do not wear clothes over the lesions. Avoid friction.

Treatment of Post-Herpetic Pain

1. Tab Tegretol 200 mg tds (**Carbamazepine** = 4A-4) OR

Tab Gabantin 600 mg bd/tds (**Gabapentin** = 4AB-1)

2. Tab Ultracet 1 tds (**any Analgesic** = 2A, B & C)
3. Cap Becosule 1 bd (**Bplex** = 2H-6)
4. If pain is very severe, Intercostal Nerve Block with long acting supercain × every 3-4 days.
5. Inj. Kenacort (local Hydrocortisone) with xylocaine, local infiltration - if persistent pain. (9A-6)

- If skin is so hypersensitive, that even touch of the clothes is intolerable, then think of developing Herpes Zoster.
- If Herpes Zoster ophthalmicus, put Acyclovir eye drops 4 hrly in the affected eye. Vesicle over the tip of the nose is always associated with corneal involvement.
- Any rash which stops in the midline should be suspected to be Herpes Zoster.
- Test for H.I.V., as Herpes Zoster is common in immuno-compromised patients. If positive, prescribe acyclovir for a longer period.

HERPES SIMPLEX

Crop of vesicles around the mouth, recurring after any fever.

1. Herpex oint locally 5 times per day till vesicles dry up.
2. Tab Herpex 200 mg tds × 5 days. (**Acyclovir** = 7G-A)

ECZEMA

Chronic Eczema - Dry

1. Local application of:
   i) Salicylic Benzoic/Dipsalic Oint (**Keratolytic** = 11D-1), or
   ii) Pragmatar Oint (**2% Coal Tar** = 11H-2), or
   iii) Betnovate/Clobetasol Oint (**Steroid oint** = 11C), or
   iv) Nivea Cream
2. Tab Cetzin 1 OD if itching (**Antihistaminic** = 5B)
3. If lesion is thick & lichenified: Inj L.H.C. (Local Hydrocortisone acetate or Kenacort 40 mg) with xylocain, injected into the lesion × every 3 wks × 3 injections.

Chronic Eczema - Wet - (Acute exacerbation)

1. Local application of
   i) Betnovate-N Ointment (**Steroid + Antibiotic** = 11-2)
   ii) Calamine lotion × 3 times/day.

   Apply 3 times/day till the lesion is dry.
2. Tab Wysolone 5 mg tds × 5-10 days (Steroid course till acute exacerbation is controlled, then taper off = 9A)
3. Tab Avil 25 mg 2-3 times/day. (**Antihistaminic** = 5B)
4. Tab Alprax 0.25 mg 2-3 times/day (tranquiliser to counter **Psycho-somatic Factor** = 4D-8)
5. Tab Erythrocin 500 mg tds × 5 days if infection (**Any Antibiotic** = 7A)

- If eczema is seen on medial aspect of ankle and leg, then make the patient stand and look for varicose veis.
- Always first think of contact dermatitis and check whether any irritant is producing it,

  e.g. **Over hand** - soaps, detergents, disinfectants, Chemicals, gloves.

  Over wrist - Watch strap

  Over feet - Soaps, Plastic foot-wears, shoes etc.

  Over face - Lipsticks, Creams, powders, hair dyes, Perfumes.

Over axillae - Powders, Deodorants, cloths

It is important because these factors can be avoided & eczema controlled with ease.

PSORIASIS

Well circumscribed dry lesions with silvery plaques

1. Low fat diet. No oil, Ghee.
2. Local application
   i) For early reddish lesions:
   Betnovate Oint (**Steroid** = 11C)
   ii) For thicker lesions with silvery plaques:
   Whitfield's = Salicylic Benzoic Oint (**Keratolytic** = 11-D-1)
   OR
   Dipsalic Oint (**Steroid + Salicylic** = 11-D-1)
   iii) For very thick & chronic lesions:
   Pragmatar oint (**2% Coal Tar** = 11H-2)
   OR
   Derobin oint (**Dithranol** = 11H-5)
   OR
   Zorotene Gel HS (Tazarotene = 11H-7)
3. Tab Wysolone 5 mg 1 tds × 5-7 days for acute exacerbation only (**Short course steroid** = 9A)
4. Inj. Human Immunoglobulin 10% × 1 ml IM × every week × 3-4 injection (to increase body resistance)
5. If no response is seen in localised lesions, give intra-lesional corticosteroids.

For resistant and generalised cases

6. Tab Melanocyl 10 mg × 2 tabs in morning followed after 2 hrs. by exposure to sun or to ultraviolet rays. × 3-6 months.
7. Tab Methotrexate 2.5 mg OD × 7 days (A dangerous drug, to be given by a specialist only. WBC counts should be monitored)

TAENIASIS

Circular, hyperpigmented lesions, with tiny vesicular spreading border, commonly in Groins.

1. Use loose cotton underwears. Avoid non absorbent clothes.
2. Locally apply Cloben Oint 3-4 times daily × for 2 wks after lesions have cleared.
   or Tolnaftate, Multifungin (**Any Antifungal Oint** = 11A)
   For Groins, intertrigo and sweaty areas, apply Candid Powder. (11A)
3. Tab Grisovin 250 mg tds × 21 days (**Griseofulvin** = 7C-1)
   or Tab Flucos 150 mg once/week × 4 wks (**Fluconazole** = 7C-3)
4. Take full course, even if lesions subside within a week
5. Boil all underclothes at the end of treatment.

For resistant cases

6. Tab Phytoral 200 mg 1 daily × 4 wks (**Ketoconazole** 7C-2&3) or Fluconazole.

❖ The problem of Treating Teniasis is in its recurrence. To prevent that, it is very important to take complete course of antifungal treatment and boil all underclothes at the end of the treatment.

Taeniasis of nails

1. Tab Flucos 150 mg 1 tab once a week × 6 mths for Finger & 12 mths for Toe. (**Fluconazole** = 7C-3)

2. Tab Daskil 250 mg OD × 6 wks for Finger & 12 wks for Toe. (**Terbenafine** = 7C-7)
3. Cut the nail as high as possible. Apply Candid lotion – one drop to nail bed 2 times/day
4. If nail is badly deformed, remove nail surgically, then treat nail bed with candid lotion daily.

Intertrigo

White lesions between the Toes, due to Moniliasis.

1. Keep the feet DRY. Stop working in water.
2. Check Blood sugar. Control Diabetes if present.
3. Dry the Toes and apply Candid powder – 3 times/day.
4. Tab Flucos 150 mg 1 tab once a week × 4 wks. (**Fluconazole** = 7C-3)
5. If no response, Tab Daskil 250 mg OD × 4 wks. (**Terbenafine** = 7C-7)

ACNE VULGARIS

Instructions

1. Wash the face 4-5 times daily with Dettol soap and keep it dry. Johnson's baby soap is very good for oily skin.
2. Shampoo the scalp twice a week and do not apply oil to the scalp.
3. Avoid puncturing the Acne.
4. Avoid oily foods and excess sweets.
5. Mild cases may not require any drug therapy.

Drugs

If there are comedones (papules) only, no infection

1. Retino-A cream (**Tretinoin** = 11F-4): Apply 15 mins after washing the face & drying × on alternate days at night × 6 wks. Avoid exposure to direct sun. Reduce application if flushing of skin
   OR Adaclin Gel (**Adapalane 0.1% gel** = 11F-6) Best for oily skin. Apply thin layer once daily as above
   OR Eskamel/Clearsil cream (**Resorcinol** = 11F-7) for mild cases
2. Persol Gel × apply & wash away after 15 mins (**Benzoyl Peroxide** = 11F-1) in combination or alone.

If pustules are forming in Acne

1. Apply Erytop (Topical Erythromycin) or Clincin Gel (Topical Clindamycin) × 2 times/day × 1-2 mths (11F-2 & 3), till infection is cleared
2. Persol Gel × apply & wash away after 15 mins (**Benzoyl Peroxide** = 11F-1)
3. Cap Doxy-1 1 OD × 2 mths (**Doxycyclin** = 7A-4D)

If ugly scars or cysts on the face, Refer to Dermatologist for Derma-brasion, scar surgery or laser treatment.

- For oily skin, prescribe Gel or solution. For Dry skin, apply Cream or lotion.
- Advise to apply to all acne prone skin, and not just the acne.
- Advise not to apply when skin is wet. Wait for 10-15 min after washing & drying the face.
- Sweating after exercise, sweat under Helmet or cap worsens acne. Advise to wipe sweat immediately.
- All drugs take 4-8 weeks to show results. Wait for at least 2 mths before changing the drug.
- In female patients with severe acne, advise oral contraceptives for 3 or more months.

SORE ON PENIS

I. **Single, Painless ulcer with firm base = Syphilitic Chancre**

1. Inj. Pencom 24 lacs IM × A.T.D. (7A-5C= **Benzathine Penicillin** - long acting)
2. Send Blood for V.D.R.L. & H.I.V.
3. If VDRL is positive, continue Pencom 24 lacs IM × every week × 3 injections.
4. Locally, Clean & apply Terramycin Ointment × tds.

If Patient is sensitive to Penicillin?

1. Tab Erythromycin 500 mg × 4 times/ day × 4 wks (7A-3a)

II. a. Multiple, painful ulcers with slough = Chancroid

b. Beefy red ulcer with satellite nodules = Granuloma Inguinale

c. Inguinal bubo with healed/ active ulcer = Lymphogranuloma venereum.

1. Tab. Norflox 400 mg bd × 10 (7A-10f)
   or Tab Ciplox 500 mg bd × 10 (7A-10a)
   or Tab Erythrocin 500 mg Qid × 15 (7A-3a)
   or Cap Terramycin 500 mg Qid × 15 (7A-4a)
2. Locally, wash & apply Terramycin ointment × tds.
3. **If there is a bubo,**
   i) Cap Terramycin 500 mg Qid × 30 (7a-4a)
   ii) Tab Suganril 1 tds × 5 (**Anti-Inflammatory** = 3C-2)
   iii) Fomentation.
   iv) If softening occurs, refer to a surgeon for incision.

- If there has been a contact with the wife after the infection, treat the wife also. Otherwise infection will persist within the couple.
- Advise H.I.V. test for all patients with venereal diseases.

PURULENT DISCHARGE PER URETHRA

I. If H/o Exposure, burning urine & Pus per urethra, it is Gonorrhoea. Confirm by examination of urethral smear for gonococci.

1. Tab Norflox 400 mg × 2 capsules - single dose. (7A-10f) or Cap Ampicillin 500 mg × 6 caps - single dose (7A-6a) or Tab Zifi 200 mg 3 stat (7A-9III)
2. Cital 1 tsp in 1 glass of water × tds (**Urinary Akaliniser** = 7B-6)
3. Treat both partners

If Discharge persists, or If Non-gonococcal Urethritis

1. Tab Norflox 400 mg bd × 10 days. (7A-10f) or Cap Terramycin 500 mg Qid x 20 days (7a-4a) or Tab Azithral 1 mg stat (7A-3b)

II. If pus is coming from Prepucial sac, it is Balanoposthitis. Look for phimosis and Diabetes.

1. Clean the part repeatedly and smear it with Soframycin ointment.
2. If prepuce cannot be retracted for cleaning, irrigate it with Potassium permanganate solution using a syringe.
3. Cap Baciclox 500 mg Qid × 5 days (**Antibiotic** = 7A-6)
4. Check Blood sugar, and control diabetes, if present.
5. After infection subsides, refer to a surgeon for circumcision.

AIDS

When to suspect AIDS?

In every case of:

1. Significant weight loss.
2. Fever or Cough > 1 month, especially if other investigations like Widal, X-ray Chest etc. are normal.

3. Prolonged Diarrhoea > 1 mth.
4. Recurrent infections, like Herpes Zoster, candidiasis
5. Generalised dermatitis, rash or condylomas
6. Generalised lymphadenopathies.
7. Unexpected infections – Chicken pox, Warts, Encephalitis, Kaposi's sarcoma
8. Other Sexually Transmitted diseases.

Is Patient's consent necessary for HIV test?

No. If the doctor is suspecting AIDS, the test must be done. The knowledge of HIV positive status makes all medical & paramedical persons exercise extra care to prevent transmission. And preventing transmission to the spouse (which will kill the spouse) is more important than patient's wish to keep it secret. Only, take care to confirm the result by ELISA test.

Care to be taken by General Practitioners

1. Use disposable needles and destroy them after use.
2. Old method not followed now: Keep a stock of about 100 needles use a needle only once during a day. At end of the day, sterilise all the needles in a pressure cooker or by boiling for 30 minutes.
3. If a patient is known H.I.V Positive, behave normally with the patient. Only when Injection is to be given, use disposable needle and syringe, and destroy it after use.
4. Procedures like conduction of deliveries, teeth extraction, or small surgical procedures must be done after wearing double gloves and all gauze, cotton, tissues and blood should be destroyed after treating with sodium hypochloride solution.
5. Risk to doctor, on accidental prick with infected injection needle is 0.3%.

Tests to confirm Diagnosis

1. Slide test: Quick, but always confirm +ve results with Elisa test.
2. Elisa test
3. Western Blot test
4. RIPA test
5. Antigen test, if window period is suspected.

Advise to be given to HIV positive patient

1. Do H.I.V. test of the sexual partner and if partner is H.I.V. negative, maximum care must be taken to protect him/her.
2. Use a good quality condom to prevent transmission of infection. A New condom should be used during every act.
3. Male patient must be specifically instructed to use a condom, even if he goes to a prostitute.
4. The patient must take care to protect himself from infections, as body resistance is very poor.
5. Drug treatment:
   Tab Retrovir 100 mg 2 caps × 5 times/day × 3 mth then maintenance = 1 cap × 5 times/day (**Antiviral - Zidovudine** = 7G-D-b)

Should an H.I.V. Positive patient be isolated?

No. He may lead a normal life in his house and with other family members. But his personal articles should not be used by others, particularly shaving set & blades, tooth brush, nailcutter, underwear etc. which may be contaminated by his blood or secretions.

Instructions to General Public

1. Practice safe Sex. Husband & wife should be faithful to each other.

2. Sex with another partner or with prostitute should never be without a condom.

The only way to control spread of H.I.V. infection is by compulsory use of Condoms

3. When you go to a Barbers Shop, insist that a new blade is used for shaving (or carry your own blade with you).
4. When you go in villages, for injection to a doctor (Particularly if a non-qualified person comes to give injections to you) insist on a disposable needle even if it costs you a little more.
5. Do not accept blood transfusions form professional blood donors. Ask your near relatives to donate blood for you, and Blood should be supplied by a reliable Blood bank after H.I.V. & other recommended tests are done.
6. Tattooing in Village fairs is a dangerous practice. The needles must be boiled for 20 minutes before tattooing.

Post exposure prophylaxis

If you, your nurse or compounder, get a needle prick from an HIV infected needle

1. Squeeze the finger to let out blood freely. Then wash with plenty of soap and running water. Then paint it with 70% alcohol or spirit.
2. Drug treatment:
   i) Tab. Zidovudine 200 mg tds × 28 days
   ii) Tab. Lamivudine 150 mg bd × 28 days

   If contamination is more, e.g. by a large bore needle, deep cut, or high HIV titre patient, then add a third drug.
   iii) Tab. Indinavir 800 mg tds × 28 days
3. Test for HIV – Immediately, after 3 months and after 6 months.
4. Use condom to prevent possible sexual transmission for 6 months. Also, during this period, do not donate blood, semen or organ.
5. It is assumed that every medical and paramedical person is immunised against Hepatitis-B. If not, give – Inj. Energix-B 1 ml – at 0, 1, 2 and 12 months for rapid immunisation.

Treatment for established HIV infection: (One established regimen)

The patient is HIV +ve.

- If CD4 count is > 500/cumm, then no treatment is indicated. Evaluate every 6 months.
- If CD4 count is 200-500, treat only if patient is symptomatic. Some recommend one or two drug treatment.
- If CD4 count is < 200, then start the treatment –
  1. Tab. Zidovudine 200 mg tds (Nucleoside)
  2. Tab. Lamivudine 150 mg bd (Nucleoside)
  3. Tab. Indinavir 800 mg tds (Protease inhibitor)
  4. Plus the treatment of concurrent infection, if any.

Reassess every 3 months.
If CD4 count falls further, then change to 2 new nucleosides and 1 or 3 different protease inhibitors (7G-D).

Chapter

14 GYNAECOLOGICAL SYMPTOMS

LEUCORRHOEA

Look for associated symptoms of Lower abdominal pain, relation to menstrual cycle, itching, foul smell & post-coital bleeding.

Do P.S. & P.V. Examination to note the type of discharge, and look for pathologies like cervical erosion, fibroid, polyp, PID or T.O. mass.

Is it excessive normal vaginal secretions?

1. Hygienic instructions & reassurance.
2. Avoid Medicated Pessary.
3. Placebo, if required.
4. Tab Rediplex 1 OD × 2 mths (**Hematinic** = 2I)
5. Tab Combiflam 1 BD × 5 days (**Anti-inflammatory** = 3C)

Yellowish, frothy discharge of Trichomonal infection

1. Tab Ornida 500 mg BD × 5 days to both Husband and wife simul-taneously. (**Ornidazole** = 1F-4) or Tab Fasigyn DS 2 OD to both (**Tinidazole** = 1F-2)
2. Wokadine Pessary 1 HS × 7 days (**Povidone Iodine** = 8B-1) Or Canesten Vaginal Tab 200 mg × inserted deeply into vagina × for 3 consecutive nights (**Clotrimazole** = 8A-1)

Thick, Curdy white discharge with plaques and congestion i.e. candidial infection

1. Nystatin Pessary, to be inserted deep in the vagina, every night × 2 weeks (**Nystatin** = 8A-6) or Candid-V3 200 mg × vaginal pessary H.S. × 3 consecutive nights (**Clotrimazole** = 8A-1) or Gynoterazole Pessary 1 HS × 3 days (**Terconazole** = 8A-7)
2. Tab. Flucos 150 mg 1 Stat × to both wife and husband × every week × 3 doses (**Fluconazole** = 7C-3)

For mixed vaginal infections i.e. bacterial + fungal + trichomonal

1. Tab. Ciplox-TZ 1 bd × 5 days (**Tinidazole + Ciprofloxacin/ Norfloxacin** = 1F-12 & 13)
2. Tab. Azostat Kit × 1 Kit Stat to both - wife and husband (Fluconazole 150 mg + 2 Tabs. Tinidazole 1 gm)
3. Candid V Gel for local application to male partner.
4. Candid-CL Pessary × 1 HS × 3 nights (**Clotrimazole + Clindamycin** = 8A-1)
5. 1% Sodabicarbonate or Wokadine douche × bd × for better effect.
6. Ask for Blood sugar to rule cut Diabetes and HIV test to rule out AIDS.

Leucorrhoea due to Cervical erosion with endocervicitis

1. Cauterisation of Cervix.

2. Wokadine Pessary × HS × 10 days (**Povidone Iodine** = 8A-II)
3. Fheal Pessary × HS × 6-10 days (Wheat germ oil extract)

Leucorrhoea with pelvic pain & tenderness (PID)

1. Tab Ciplox-TZ 1 bd for 5 days (**Antibiotic + Antianaerobic Combination** = 1F-B) Other = Azithromycin/Doxy with Tinidazole, Ornidazole, or Metronidazole.
2. Tab Combiflam 2-3 times a day for 7 days (**Anti-inflammatory** = 3C)
3. Ask for Pelvic Ultrasonography

Leucorrhoea with Dysuria

1. Check urine for infection, and smear of urethral discharge for gonococci.
2. If Gonococci, Tab Norflox 400 mg 2 stat, single dose.
3. If UTI, treat with urinary antibiotic – Refer 'Renal symptoms – Dysuria'.

- Candidial Infection is common in diabetic patients, patients taking Broad spectrum antibiotics, patients on oral contraceptives and AIDS.
- If leucorrhoea is chronic or repeated, pap smear should be advised to rule out malignancy.

EARLY DETECTION OF CA CX

Cancer of cervix, if detected early, is completely curable. So it is our duty to keep a high degree of suspicion and detect the cases while they are still localised and curable.

For this, remember the following rules

1. Every case of post-menopausal leucorrhoea, or bleeding must be referred to a Gynaecologist. Do not treat old ladies with white discharge or bleeding, symptom-atically.
2. Every case of cervical erosion, which bleeds on touch or does not heal after cauterisation should be subjected to biopsy. Bleeding after intercourse is very suggestive of malignancy.
3. Ideally, every woman above forty should undergo papsmear once a year.
4. Every case of leucorrhoea, in any age group, must undergo per speculum examination to rule out Carcinoma Cervix.

MENSTRUAL DISORDERS

Delayed Puberty & Primary Amenorrhoea

Menarche may normally be delayed to 15th or 16th year

1. Examine the girl in presence of a female relative (Preferably mother) for secondary sex characters like breast, axillary & pubic hair and for imperforate hymen.

   Advise ultrasonography to confirm that there is no congenital abnormality of uterus and ovaries.

   If uterus is normal, imperforate hymen is ruled out and secondary sexual characters are developed, (which indicates good estogenic activity), then advise:
2. Tab. Regestrone 1 bd × 7 days (**Norethisterone** = 8J-2).

   If there is no withdrawal bleeding, then
3. Tab Ovral-G 1 daily × 21 days (**E+P pills** = 8B-1).

   If there is no withdrawal bleeding after this course, then refer to a gynaecologist.
4. If secondary sexual characters like Breast & pubic hair are not developed, hormonal abnormality is likely to be present.

5. Good Nutrition, High Protein diet and exercise are essential.

DYSMENORRHOEA

For Pain relief

1. Tab Anafartan or Meftal Spas 1 tds × 3 days at the time of M.C. (**Antispasmodics** = 1L)
2. Tab Diclonac-50 1 tds × 5 days prior to M.C. (**NSAIDs** = 3C, or **Brufen or Aspirin**)
3. Tab Meftal 500 mg stat, 250 mg tds (**Mefenamic Acid** = 3C-41)

General Measures

1. Tab Milical 1000mg OD (Calcium citrate = 2C-7) High dose Calcium
2. Cap Uprise D3 1000 iu/day (Vitamin D3)

   OR Cap Uprise D3 60,000 iu 1/week x 2 months
3. Cap Biofer-XT 1 OD, if anemic (Iron = 2I-11)
4. Regular aerobic exercise, physical activity or Sports
5. Improve General Health

If relief is not satisfactory after 4 to 6 mths treatment

4. Tab Ovral. L 1 daily for 21 days from 5th day of M.C. for 3 - 6 mths. (**E+P Combination pills** = 8B-1 to suppress ovulation)

If there is no relief with pills, refer to a Gynaecologist to rule out underlying pathologies like endometriosis and for dilatation of cervix.

Surgical procedures, with inconsistent results

1. Dilatation of Cervix
2. Paracervical blocks
3. Presacral Neurectomy.

❖ Pregnancy and a vaginal delivery dilating the cervix is the best cure for Primary Dysmenorrhoea!

HEAVY MENSTRUAL FLOW - DUB

The Treatment varies according to the age group. If adequate relief is not achieved after one month, basic examination i.e. PS, PV and Ultrasonography must be done.

Puberty to 20 yrs age

Usually due to anovular cycles.

1. General improvement of Health with tonics, Hematinics and exercise is usually enough. e.g. Syr. Nutrifil 2 tsp bd × 30 (**Iron** = 2I)
2. Syr. Ashonil tsp bd × 2-6 mths (**Ayurvedic**) Or Tab M2-Tone 1 BD x 3 mths.
3. Tab Calcimax Forte 1 OD × 2 mths (**Calcium** = 2C-2)

If there is no relief with General measures

4. Tab Regestrone 5 mg OD from 6th to 25th day × 3 mths, then from 16th to 25th day. (**Norethisterone acetate** = 8I-2)

   OR Tab Regeeva 10 mg HS from 16th to 25th day for 3-6 months (Medroxyprogesterone = 8K-6)
5. Tab. Sylate 500 mg 6 hrly till bleeding stops (**Ethamsylate** = 6H-4, Hemostatic drugs)

20-40 yrs age (Child bearing age)

1. P.V. Examination and USG to rule out abnormalities of uterus & Pregnancy.
2. Hb, WBC, Bleeding disorder profile, Serum T3, T4, & TSH.
3. Tab Regestrone 5 mg OD from 6th to 25th day × 3 mths, then from 16th to

25th day. (**Norethisterone acetate** = 8I-2)

or Tab Ovlar-P 1 daily from 5th day × 21 (**Contraceptive pill** = 8B-1)

If contraception is desired, use contraceptive pills. Otherwise use Regestronc. If there is post-menstrual Bleeding use Pills.

4. If there is no relief, Refer the patient for endometrial curettage (& Biopsy) followed by Hormone Therapy.
5. If bleeding persists after curettage, advise Hysterectomy.
6. If patient is unfit for Surgery or extremely Obese, or too young for hysterectomy,

   Emily/Mirena intrauterine devise changed every 5 yrs (Levonorgestrel 52 mg)

Peri-Menopausal Age

Do not waste time. First send the patient for PS, PV, Ultrasonography, Endometrial curettage and Biopsy to rule out Malignancy.

If Biopsy is normal, advise hormone Therapy (only Progesterone Pills) for 3 to 4 cycles. But if bleeding is not controlled in 3 to 4 cycles, refer for Hysterectomy.

When a non-pregnant patient comes with excessive bleeding

1. Inj Sylate 1 amp IV stat (**Ethamsylate** = 6H-4)
2. Inj Calcium Sandoz 10 cc slow IV stat
3. Tab Regestrone 1 bd (or 1 tds) × 10 days (**Norethisterone acetate** = 8I-2)
4. Tab Gynae C.V.P 1 tds × 5 days (**Hemostatic drug** = 6H-6)
5. If bleeding is not controlled in 3-4 days, refer for endometrial curettege.

❖ When a woman in reproductive age group presents with excessive bleeding, first rule out abortion. And in an elderly woman, first rule out malignancy.

POSTPONEMENT OF MENSES

- Tab Regestrone 5 mg 1 BD (**Norethisterone** = 8I-2)

  OR Tab Ovral-L 1 HS (**Contra-ceptive pill** = 8B-1)

Note: Start the tablets at least 5 days before the Menses, and continue as long as postponement is desired, but generally not more than 10 to 15 days.

❖ This a common demand in General Practice to postpone menses, to avoid it during religious functions or Traveling.

PREMENSTRUAL SYNDROME

Low pelvic & Back pain or Breast pain or Heaviness in Head, or Nausea & vomiting.

Symptoms start 5-10 days prior to menses, and end with menses. Common in 30-40 yrs age group.

1. Low salt diet. Avoid chillies and oily foods.
2. Regular exercises – walking, and abdominal & pelvic exercises.
3. Tab Evion 400 mg 1 daily for 15 days prior to MC. (**Vit E** = 2F)
4. Tab B-long 100 mg 1 daily for 10 days prior to MC (**Pyridoxin** = 2H-3)
5. Tab GLA 120 1 BD daily for 10 days prior to MC (**Evening primrose oil – Linoleic acid** = 2P)
6. Tab Milical 1000mg OD (Calcium citrate + D3 = 2C-7) x 3 months

7. Tab Combiflam 1 tab 2-3 times/day to relieve pain. (**NSAID** = 3C)
8. Tab Lasix 40 mg ½ Tab OD x 4-6 days prior

If very severe,

9. Tab Ovral-L 1 daily for 21 days from 5th day of MC (**Combination pills** = 8B-1 to suppress ovulation)

To summarise- Vitamin B6,D3, E, Calcium, and NSAID

INFERTILE COUPLE

Basic Information needed

1. Has the couple been together for sufficiently long time?
   i) Are they missing the fertile period?
   ii) Are they using contraceptive?

   Infertility should be considered if a couple having 1 year (Or 6 mths at least) of regular coitus, in the fertile period, without contraceptives, have failed in conception.
2. Ask about sexual dysfunctions like dyspareunia, Premature ejaculation or impotence. Tackle it first before any active treatment.
3. Examine & investigate both partners simultaneously. If Genitalia are normal, ask for:
   i) Semen Analysis of Husband
   ii) Ultrasonography for Uterine anatomy on 3rd day of MC (Basal scan) & follicular study.
   iii) Diagnostic Laparoscopy with tubal patency test
   iv) T3, T4, TSH

Husband with a low sperm count

Examine the testes for small size, epididymitis and varicocele. If in doubt, ask for USG with colour doppler for varicocele. If hypogonadic, refer to endocrinologist for FSH & LH.

I. If Sperm count is < 40 million or motility is poor (<40%)

1. Tab Mamofen 10 mg bd x 3-6 mths (**Tamoxiphene** = 8D-2) or Tab Clofert 25 mg HS x 25 days + 5 days rest x 3-6 mths (**Clomiphene citrate** = 8D-1)
2. Tab CoQ CD 30mg OD x 2-3 months (Coenzyme Q10 + antioxidants = 8E-7)
3. Advise abstinence of 3 days before the fertile period of the wife.
4. Advise measures to keep scrotal temperature low
   i) Wear loose cotton underwears. No tight pants
   ii) Immerse scrotum in a pan of cold water x for 10 mins. x 2 times/ day (during bath and at night).

II. If sperm count is < 10 million

Refer to infertility centre, for intra-uterine insemination (IUI) with sperm concentration techniques, which gives excellent results at Low costs.

If IUI fails, or if count is extremely low, ICSI i.e. Intracytoplasmic sperm injection is used.

III. If sperm count is zero

Refer to endocrinologist. If there is hormonal deficiency or obstruction in vas, it can be treated. But if there is primary agenesis of sperms, then the couple may opt for adoption or Artificial Insemination Donor. But in > 30% cases of azoospermia, spermatogenesis is seen in the testes. They can have their own child by sperm retrieval by testicular biopsy, cryopreservation then I.V.F.

IV. If semen contains pus cells

Tab Norflox 400 mg tds × 10 days (**Antibiotic** = 7C-5)

V. If left spermatic cord shows varicocele

Refer to a Surgeon for operation.

Wife with normal pelvic anatomy and patent Tubes

1. Advise about ovulation cycle, Fertile period, and timing of intercourse.
2. Tab. Clofort 50 mg Daily × 5 days × from 3rd day of M.C. (Clomiphene = 8C-1, to induce ovulation) And coitus daily from 12th to 16th day. Exact day of ovulation may be detected by LH Surge Kit (urine test at home) OR Follicular study on TV probe ultrasonography.
3. Tab. Evion 400 mg OD × 3 mths (**Vit E** = 2F)
4. Tab Beplex Forte 1 OD × 3 mths (**Bcomplex** = 2H-6)
5. Treat cervix erosion, PID etc. if present.

For all other forms of treatment, Refer to a Gynaecologist. If the tubes are blocked, attempt is made to clear the tubal block by Laparoscopy, Hysteroscopy or Surgery. If tubal block cannot be corrected, then in-vitro fertilization (Test-tube baby) is the treatment of choice, second choice being adoption.

The role of the G.P. is mainly to cheer up the couple, give them confidence and keep them tension free during the treatment period which is prolonged and invasive!

- About 10% of couples are infertile.
- Very very few couples require sophisticated techniques like GIFT, Test tube baby etc. But a much large number of couples require just what is mentioned above - a few drugs, proper sex counseling and sex education and reassurance.
- During investigation of an infertile couple, semen report of the Husband must be seen before invasive investigations in the wife are advised.

MENOPAUSAL SYMPTOMS

Hot flushes, Palpitations, Chest pain, Irritability, weight gain, vaginal soreness.

Hormone treatment, due to high risk of malignancy, is reserved for severe cases. Individual symptoms should be assessed and treated.

Treatment

1. If vaginal mucosa is atrophic, dry, with dyspareunia: Dienostrol 1% cream - to be applied intravaginally with the applicator once daily × till vaginal mucosa becomes normal. (8I-5)
2. If patient has osteoporosis
   i) Tab. Sandocal 500 mg 1 BD (Calcium = 2C-2) Or Tab Calcimax -ISO 1 OD (Calcium with Isoflavones)
   ii) Calcirol 1 gm sachet (60,000 IU) × once a week × 8 (Vit D3 = 2E-1)
   iii) Tab. Premarin 0.625 mg × 1 bd (Conjugated Estrogen = 8H-4)
   iv) Tab. Osteofos 10 mg OD (Alendronate = 8H-6)
   v) Regular aerobic exercise & walking. (Also refer to Chapter 5, Page 55, Osteoporosis)
3. If patient has irritability, palpitations
   i) Tab Restyl 0.25 mg bd (Alprazolam = 4D)

ii) Cap GLA-120 x 1 bd after meals x 10 days (Primrose oil = 2P)

iii) If depressive symptoms,

Cap Fludac 20 mg OD (Fluoxetine = 4F-3)

iii) Intermittent course of Calcium Tablets and Aledronate - to prevent osteoporosis.

4. Educate every peri & post-menopausal patient-

i) Self breast examination every month. Report if any lump, discharge or skin change.

ii) Yearly P.V. and Pap smear examination.

iii) Stress importance of reporting immediately, if P.V. bleeding or discharge after menopause.

5. If Hot Flushes-

Tab Lynoral 0.01 mg × 1 OD × 21 days, with Tab Primolut-N 5 mg OD from 12th to 21st day followed by 7-10 days gap. (Ethinyl estradiol + Progesterone = 8I-2 & 8K-2) till hot flushes are controlled.

Or Estraderm TTS 25 × Transdermal patch × to be applied to a clean non hairy area of skin, below waist × to be changed every 4 days (8I-1)

Other drugs:

Tab Premarin 0.625 mg 1-2 tabs/day × 21 (8I-4) with Regestrone for 12th to 21st day (8K-4)

6. **H.R.T.:** Preventive Hormone Replacement Therapy in Post-menopausal age: To be advised for short periods, if above treatment fails to relieve the symptoms.

i) Tab. Premarin 0.625 mg 1 OD × 1st to 25th day every month.

ii) Tab. Provera 2.5 mg HS × 14th to 25th day (**Medroxy-progesterone** = 8C-4)

to counter Estrogen side effects.

❖ All these drugs being Estrogens, should never be advised to patients with carcinoma breast, Fibrocystic breast, thrombo embolic disorders, carcinoma endometrium, & undiagnosed vaginal bleeding.

FAMILY PLANNING ADVISE

I. For Newly Married Couple

1. The best choice is Oral contraceptives. eg. T. Ovral-L 1 OD from 5th day × 21 days Or Mala-D (**E+P combination pills** = 8B-1)

2. The Next choice is condom

Or chemical contraceptive like Today (8H-5)

Newly married couples should also be explained about ovulation cycle, safe period & fertile period.

II. For Couple with Children

The best choice would be between Cu-T, IUPD & Pills.

Copper-T and IUPD have the advantage that the couple does not have to worry everyday about contraception.

Copper-T needs to be replaced once in 3 years.

Intrauterine Progesterone Devise (Emily/ Mirena) changed every 5 yrs (Levonorgestrel 52 mg)

So there is less tension of failure. Of course, any method if followed regularly will be equally effective.

Condoms, diaphragms, chemical contraceptives, all need to be used every time and require proper planning & privacy, which is why failure rates are higher with them.

III. If a couple does not desire any more children

Advise permanent contraception by tubectomy or vasectomy.

But if the couple has only one Child or two, advise to wait till the child is 5 yrs. old before a permanent contraception is done. Till then CuT or any other method should be followed.

If a lady forgets to take a pill?

Ask her to take one extra pill next day. But if 2 or more pills are missed, advise to continue the pills as usual (to prevent irregular bleeding), but the couple should use another method like condom or Today, during that month as a precaution.

What is safe period?

Provided cycles are regular, 10th day to 20th day is considered as fertile period. The remaining days is the safe period, when pregnancy will not occur. However, this is not a reliable method for contraception, as the date of ovulation can be variable.

Emergency Contraception (Morning After Pill):

1. Tab Norlevo 2 tabs stat. To be taken within 72 hrs after sexual contact. (Levonorgestrel 0.75 mg)
2. Tab Perinorm 10 mg SOS if nausea.

Medically suggestible Pre-marriage tests: (Medical Kundali)

1. Blood Group & Rh – For awareness of Rh incompatibility. Anti-D injections to be given to Rh negative mothers immediately after delivery or abortion.
2. HBsAg for Hepatitis B infection – Partner must be immmunised before marriage.
3. HIV test – If positive, risk to partner is too high to accept.
4. VDRL – If positive, must be treated with Penicillin.
5. Thalessemia screening – a must if Thalessemia patient is known in relation.



Chapter

15 OBSTETRICS SYMPTOMS

PREGNANCY

Routine Antenatal Checkup

To be done every month, till 7 months are completed. Then every 15 days in last 2 months.

1. Record weight
2. Record B.P.
3. Look for Edema feet & Pallor
4. Palpate the height of Uterus
5. In late months, palpate the position of the fetus, and auscultate fetal heart sounds

Routine investigations

1. Haemoglobin, Blood group & Rh.
2. Blood sugar - F & PP, VDRL, HIV, HBsAg
3. Urine Albumin - every month.
4. Ultrasonography - in 3rd, 5th & 9th month.

Refer the patient to Obstetrician & for Ultrasound immediately

1. If Uterine height does not correspond to the weeks of Gestation - whether more or less.
2. If fetal Heart Sounds are not heard after 6th month.
3. If fetal parts are not felt or liquor is excess.
4. If there is even slight bleeding per vagina.
5. If fetus is in breech or transverse position.
6. If fetal movements perceived by patient reduce.
7. If Pregnancy Induced Hypertension (PIH) - High BP, Edema, Headache, blurring of vision, albuminuria.
8. Pregnancy with any Medical Disorder, like severe Anemia, Diabetes, Hypertension, Heart Disease, Hypothyroidism etc.

Routine Antenatal Treatment

First Trimester, upto 12-14 wks

1. Tab Folinal 5 mg 1 OD (**Folic acid** = 2H-7) Prevents neural tube defects
2. Tab B-long 100 mg OD (Vit B6- **Pyridoxine** = 2H-3)
3. Cap Becosules 1 OD (**Vit Bcomplex** = 2H-6)

   OR Combination

   Tab L-Methyl Folate 1 OD (Folic acid + B6 + Methylcobalamine)
4. Cap Autrin 1 OD (**Iron** = 2I), only if the patient is anemic

In a planned pregnancy, Folic acid may be started 2-3 months before pregnancy.

After 12 weeks:

1. Inj T.T. 0.5 ml IM × 2 doses × in 5th & 7th month
2. Cap Autrin 1 OD (**Iron** = 2I)

TABLE 15.1: PRESCRIBING IN PREGNANCY

S.No.	Symptoms	Drug to give	Do not give
1.	Pain, Fever	Paracetamol, Aspirin	NSAIDs esp. Oxyphenbutazone Chloroquine
2.	Cough, colds	Plain expectorants Anti histaminic = cetirizine	Codein & Dextrometorphan in 1st Trimester Anti-histaminics
3.	Antibiotics	Penicillins Ampicillin Erythromycin Cephalosporins	Sulphonamides Tetracyclines Chloromycetin Ciprofloxacin (Quinolones) Aminoglycosides New Untested drugs.
4.	Constipation	Isabgol, Liquid paraffin	Strong Purgatives like Castor oil.
5.	Dysentery	Kaolin, Sulphaguanidine. Metronidazole after 4th mth	Diphenoxylate, Furazolidone Metronidazole, Tinidazole.
6.	Hypertension	Aldomet, Nepresol, Nifedipine	Diuretics, ACE inhibitors, Atenolol, Losartan
7.	Tuberculosis	INH, Ethambutol (Rifampicin if disease is extensive)	Streptomycin Pyrazinamide
8.	Leprosy	Dapsone, Rifampicin	Hansepran (1st trimester)
9.	Bronchial asthma	All bronchodilators Oral. Inhaled bronchodilators, Inhaled steroids	Steroids, Fintal spray
10.	Peptic ulcer	Antacids, Diet After 1st Trimester, Ranitidine, Proton pump inhibitors.	Ranitidine/Omezole in 1st Trimester
11.	Investigations	Ultrasonography	X-ray, I.V.P, Barium meal Radioactive Iodine studies.
12.	Vaccines	T.T., Typhoid Vaccine	Measles, MMR, Cholera, Chickenpox, Yellow fever, Hepatitis B, Rubella, Pneumococcal

3. Tab Macalvit 500 mg 1 OD (**Calcium-preferably citrate + D3** = 2C)
4. If IUGR or PIH is suspected,
   Tab Winofit/Cobadex CZS 1 OD (**Anti-oxidant** = 2O-1)
   Tab Ecosprin 75 mg OD (Aspirin)
   Tab Omegared 1 OD (DHA – omega-3 fattyacids)

Routine Antenatal Advise

1. Well Balanced food, with extra proteins - milk, cereals, eggs or meat.
2. Plenty of Green vegetables & fruits.
3. Regular Exercise like walking.
4. Adequate rest, with sleep for 8 hrs. at night and 2 hrs at noon.
5. Daily bath, with special attention to cleanliness of vulva. (No Vaginal Douche.) Nipples should be cleaned, and lifted up if retracted.
6. Avoid Long journey in first trimester and last 2 months. If unavoidable, prefer Train.
7. Avoid sexual Intercourse in last 6 wks., to prevent ascending infections.
8. If constipation, give Liquid Paraffin 15 ml or Isabgol 2 tsp. Do not give strong purgatives.
9. Strechnil or No Marks Cream – Once a day to abdominal skin from 18 wks onwards (to minimise striae).

General Rules to be followed while prescribing to Pregnant Patients

1. In early pregnancy, avoid any medications except Iron, calcium, Paracetamol and antacids.
2. No newly introduced drugs should be given during pregnancy. Only those drugs, whose safety has been established over years, should be prescribed.
3. Avoid antithyroid drugs, cytotoxic drugs, anti-coagulant drugs.
4. In Late pregnancy, do not give Aspirin, (bleeding tendency), Sulfa (neonatal Jaundice), Tetracycline (stains teeth), Chloromycetin (Grey baby syndrome), Aminoglycosides (Deafness).

PROBLEMS OF EARLY PREGNANCY

If Vomiting and Nausea

1. Frequent and small, Dry feeds
2. Digene Tab or 2 tsp × 4-6 hrly (**Antacid** = 1A-1)
3. Tab B-long 1 daily (Pyridoxine = **Vit B_6** = 2G-3)
   or Tab Bethadoxin 1 bd (**Vit B_1, B_6, B_{12}** = 2G-5)
   Or Tab Doxinate 1 HS to TDS (**Doxylamine + B_6** = 1K)
4. Tab Avomine 1 S.O.S. to tds if vomiting (**Promethazine** = 1K-3)
   or Tab. Pregnidoxin 1 SOS (**Meclizine** = 1K-4)
5. Inj. Perinorm 2cc IM, S.O.S. if severe vomiting (**Metoclopramide** = 1K-5)
6. Inj Rantac 1 amp IV stat, then Tab Rantac 150 mg BD (**Ranitidine**= 1B-2)

If nausea & vomiting is severe or persistent, Add

7. Inj. Bethadoxin 1 amp IM × daily × 5 (**B_1, B_6, B_{12}** = 2G-5)
8. IV 25% dextrose 3-4 amps. I.V. daily
9. IV fluids = DNS or 5% dextrose, if intake is affected.

If Bleeding P.V. (1st trimester)

1. Strict Bed Rest.
2. Immediate Ultrasonography for missed or threatened abortion
3. Inj. Duvadilan 1 amp IM Stat (**Isoxsuprine** = 8E-2)
   + Tab Duvadilan 1 tds

4. Inj Sylate 500 mg (2 amps) IV/IM stat (**Ethamsylate** = 4H-4), Then Tab Sylate 500 mg TDS.
5. Inj Lupigest 100 mg IM stat + Tab Lupigest 200 mg BD (**Natural progesterone** = 8K-1)
6. Inj. Anafortan 2 cc IM S.O.S. if pain (**Antispasmodic** = 1L-7)
7. Tab Calmpose 5 mg 1 tds × 3 days (**Diazepam** = 4D-3)

If bleeding continues, then refer for ultrasonography again with further treatment & S.O.S. evacuation to Obstetrician.

If bleeding stops, then

1. Advise ultrasonography to confirm that fetus is alive.
2. Inj. Proluton Depot 250 mg IM × 2 times/wk (**Hydroxy Progesterone** = 8E-3)
   Or Tab Lupigest 200 mg OD × till 16 wks of pregnancy are completed (**Natural micronised progesterone** = 8 -1K)
3. Tab Duvadilan 10 mg 1-2 tds (**Isoxsuprine** = 8E-2)
4. Tab Calmpose 5 mg 1 bd - 1 HS (**Tranquiliser** = 4D-3)
5. Tab Anafortan S.O.S. if pain (1L-7)

Causes of bleeding in first trimester

1. Uterus = Period of Gestation - Threatened Abortion.
2. Uterus > Period of Gestation - Hydatidiform Mole
3. Uterus < Period of Gestation - Missed abortion or Ectopic Pregnancy.

PROBLEMS IN PREGNANCY - 2ND & 3RD TRIMESTER

If Patient is Pale and Anemic

1. Cap Raricap 1 bd × 3 mths (**Iron+ Folic acid** = 2I)
2. Green Vegetables in Plenty.
3. If anemia is severe or oral Iron not tolerated
   - Inj. Imferon 2 cc deep IM (By Z-technique, after IM test dose) × daily × 10 inj. (Iron = 2I-1)
   - Or Inj Ferri 100 mg (5 ml) IV × on alternate days × 10 to 15 Inj (**Iron sucrose** = 2I - 1C)
4. Inj. Epofer 2000 i.u./IV × on alt days × 3 to 6 inj (**Erythropoietin** = 2J-2) if severe/refractory anemia.
5. Blood Transfusion
   - If anemia resistant to Iron
   - If severe anemia near term.

If Patient has Edema or Hypertension-PIH

1. Salt restricted or salt free diet.
2. Strict Bed Rest in left lateral position. (If necessary, admit her).
3. Tab Calmpose 5 mg HS to 1 BD (**Tranquiliser** = 4D-3)

If BP is not controlled with rest & salt restriction

4. Tab Aldomet 250 mg 1 to 4 tabs/day (**MethylDopa** = 6AA-2)
   or Tab Labebet 100 mg 1 to 2 tabs/day (Labetalol = 6AB-5)
5. If not controlled, Add Cap Depin 10 mg 1-4 tabs/day (**Nifedipine** = 6AC-2)
6. Do not use ACE inhibitors (like Ramipril) and Angiotensin II antagonists (like Losartan).
7. Tab Ecosprin 75 mg OD × from 16 wks to 32 wks, stop 2 wks before delivery (**Aspirin** = 6E-1)
8. Tab Macalvit 500 mg BD (**Calcium citrate** = 2C-2)
9. Tab Ultra D3 1000 iu daily (Vitamin D3 = 2E-1))
10. Cap Winofit 1 OD (**Anti-oxidant with DHA** = 2O-A)

11. B-Protein Powder × 2 tsp in glass of milk × bd (**Protein Supplement** = 2A-1)
12. Ultrasonography - every month (for I.U.G.R.) or if fundal height is less than the period of Gestation.
13. If Liquor is reduced in last trimester, Amospan/Argin 1 sachet daily till term. (I-Arginine from soya proteins)

If Patient comes with convulsions

1. Put a spatula or wooden ruler, padded with gauze or handkerchief, between the teeth to prevent tongue bites.
2. Inj. Calmpose 2 cc IV slow (**Anticonvulsants** = 4A-9), then every 15 min till control.
3. Cap. Nifedipine 10 mg sublingually or in nostril (to **control Hypertension rapidly** = 6AC-2)
4. Start IV drip of 10% Dextrose, and
4. Refer immediately to Hospital.

If Patient has Heart Disease,

Treat with Digoxin if breathlessness, tachycardia or Edema (CCF)

1. Salt free diet.
2. Tab. Lanoxin 0.25 mg 1 tds × 3 days
   Then 1 OD × 6 days per week (**Digitalis** = 6J-1)
   ACE inhibitors are to be avoided till delivery. So digitalis is drug of choice.
3. Tab Lasix ½ daily, till edema is reduced (**Frusemide** = 6B-1)
4. Complete Bed Rest (strictly) in last 3 months
5. Cap Autrin 1 OD (For anemia, **Iron** = 2I) +
   Inj Jectofer 2 cc Deep IM × 10, OR
   Inj Ferri 5 cc I.V. × on alt days × 10 (2I-1b & c)
   Anemia must be corrected immediately, if patient has Heart Disease.
6. Inj. Penidure 12 lacs IM × ATD × every 3 wks (**Penicillin** = 7A-5c)
7. Observe repeatedly for signs of C.C.F.
8. Always refer to well equipped Hospital for delivery.

Precautions in delivery if mother has heart disease

1. Propped up position for delivery.
2. No role for trial labour. If doubtful about C.P.D, caesarean should be done early.
3. Very strict asepsis, to prevent infection and Bacterial Endocarditis. Give Ampicillin cover. (Inj. Ampi 2 gm IV 2 hrs before delivery, then 1 gm 8 hrly for 2 days). OR Penicillin
4. Prophylactic forceps to reduce strain.
5. Tab Mesoprostal 600 mg oral or in vagina, after delivery of placenta.
6. No IV inj. Ergometrin (Methergin) - it precipitates C.C.F.
7. No IV Fluids.
8. If PPH, give Inj Methergin 1 cc IM. (Never Intravenous)

If patient has bleeding P.V. (last trimester)

1. Never do a P.V. Examination. (Profuse bleeding will start, if Placenta Previa.) Ask for USG.
2. Strict Bed Rest.
3. Inj. Duvadilan 1 amp IM stat. (**Isoxsuprine** = 8E-2)
4. Inj. Sylate 500 mg (2 amps) IV/IM (**Ethamsylate** = 4H-4)
5. IV Fluids - DNS or RL to maintain BP.
6. Inj. Calmpose 2 cc IM stat (**Diazepam** = 4D-3)
7. Immediately Refer to Obstetrician.

If bleeding is controlled, Pregnancy should be continued to as near term as possible. But if bleeding is excessive, pregnancy will have to be terminated.

If patient has previous H/o baby with birth defects

1. At 11-12 weeks, NT scan. Nuchal thickness > 3mm is abnormal
2. At 18th wk (Between 16 & 20 wks), Ask for Triple test on mother's blood – Alfa-fetoprotein, Beta-HCG & Estriol.

Abnormal result indicates a high risk of Chromosomal abnormality or Neural tube defect, so refer the patient to a specialized center for USG (Anomaly scan- usually at 18-20 wks) and Amniocentesis or Chorionic villi sampling.

If Patient has UTI in Pregnancy

With Dysuria, (Fever & Joint pain if Pyelonephritis), Give one of the following permitted antibiotics.

1. Cap Ceff 500 mg QID × 7 (**Cephalexin** = 7A-9Ib) First & Second generation cephalosporins)

   OR Tab Furadantin 100 mg QID × 7 (**Nitrofurantoin** = 7B-2)

   OR Cap Augmentin 250 mg QID × 7 (**Amoxy-Clavulanic acid** = 7A-6b) or Ampicillin, Amoxycillin, Cloxacllin.
2. Cital 1 tsp with 1 glass of water TDS
3. Plenty of Water and Fluids.
4. Watch for Vaginal Candidiasis during antibiotic treatment.
5. If no relief, ask for Urine culture.

   For B. Proteus infection:
   Tab Gramoneg 1 gm QID × 5 (**Nalidixic acid** = 7A-10h)

   For Pseudomonas infection:
   Inj Aerosporin 2.5 lac units × IM × 4 hrly × 4 days (**Polymyxin-B Sulfate** = 7A-11).

POSTNATAL PROBLEMS

Routine Post-natal Advise

1. Cap Raricap 1 OD × 3 mths. (**Iron** = 2I)
2. Tab Macalvit 500 mg 1 OD × till lactation continues (**Calcium** = 2c)
3. Advise and Insist on Breast feeding:

   Impress upon the mother that Breast feeding is the best for the baby, because:

   i) Breast milk is nature's specially created complete diet for first 4 to 6 mths, in an easily digestible form.

   ii) The antibodies in breast milk give the Child immunity against diseases like diarrhoea, respiratory infections, allergies etc.

   iii) Breast feeding helps to build a strong emotional bond between mother and baby.

   iv) Start breast feeding within one hour of delivery.

   v) Clean the nipples before feeding.
4. Postnatal Exercises

   i) Perineal exercises: to regain the tone of stretched perineal muscles.

   Contract the perineal muscles, as if to hold urine × 15-20 times × 4-5 times/day.

   ii) Abdominal & Back exercises: to regain abdominal muscle tone.

   Straight leg raising & Neck raising in supine & prone position.

   iii) Maintain erect posture while standing & walking.
5. No sexual intercourse for 6 wks.
6. Contraception: avoid pills, as long as baby is breast fed. After 6 wks, use Cu-T or condom, or spermicidal contraceptives or Inj Depo-provera 150 mg IM × every 3 mths (8K-7).

If Breast milk is not sufficient?

1. Assure the mother, that normally every mother produces sufficient milk for the baby.
2. Let the baby suckle on the breast as often as possible. More the baby

suckles more milk is produced. Empty the breast of residual milk after each feed by manual expression.

3. Mother should be confident. Anxiety & tiredness are factors leading to decreased milk. Mother should be quiet at mind.
4. Drugs:
   i) Satavarex Granules × 2 tsp in milk × bd (Ayurvedic)
   ii) Leptaden Tabs × 2 tds × 4 wks.
   iii) Mamtone Caps × 1-2 tds × 4 wks.

If Breast milk is to be suppressed

When baby has died, or breast abscess develops.

- Inj. Mixogen 1 ml IM × daily × 2-3 days (**Oestradiol + Testosteron** = 8H-3) or Inj. Testoviron Depot 1 ml × 2 amps IM stat (**Testosterone enanthate** = 8D-3) or Tab Stiboesterol 5 mg × 2 tds × 4 days, then 2 OD × 3 days.

This traditional treatment is now replaced by newer and safer drugs –

1. Tab. B-long 2 tds × 3 days, then 1 tds × 5 days (**Pyridoxine B6** = 2H-3)
2. Tab Cabgolin 0.25 mg 1 bd × 2 days (**Cabergoline** = 4C-III-5)

PAINFUL CRACKS ON THE NIPPLES

1. Do not feed over the cracked nipple for 2-3 days. But Breast must be emptied by manual expression.
2. Clean the fissure and apply vaselin, or Soframycin oint (antibiotic) or Masse Cream.
3. Instruct about proper feeding position. The baby should not be given only nipple to suck, but with areola.

COSMETIC PROBLEMS IN PREGNANCY

Stretch Marks

Striae Gravidarum over abdomen, hips, buttocks and sometimes breasts. Seen in 90% of pregnancies. They partly regress after delivery, but most of them persist.

Cause: Hormonal factors – (adrenocortical hormones, Estrogen, Relaxin), Stretching of connective tissue and scratching.

1. Stretchnil oint locally (Local creams with Vitamin E and also some herbal products to increase elasticity and to reduce itching). Apply 2 times daily, from 5th month onwards, with gentle massage.
2. Emollient creams and lotions to make stretched skin soft and comfortable.
3. Physical exercises and well balanced diet, to avoid excessive weight gain which increases the striae.

Pigmentation

Sites of pigmentation

Hidden areas: nipples, areola, external genitalia, axilla and medial portions of thighs.

Exposed areas: Linea nigra over lower abdomen, Chloasma or melasma over the face in more than 50% patients.

1. Face washes 3 times a day – use mild cleansing products.
2. Avoid going in direct sun as far as possible. Apply sunscreen to exposed areas, half hour before going in Sun and use an umbrella.
3. Apply sunscreen with SPF (Sun Protection Factor) of > 30 and UVA during daytime.
4. At bedtime, use a cream or moisturizer containing antioxidants like vitamin A, C & E.

5. Cap Cobadex × 1 OD × 3 mths (**Bcomplex** = 2H-6)
6. Tab Evion 400mg x 1 OD (Vitamin E = 2F)
7. Eat plenty of fresh fruits, Drink plenty of water.

Asthma and Pregnancy

1. Use inhalers. All inhaled anti-asthmatic drugs, including steroids are completely safe.
2. All oral bronchodilators- Salbutamol, Terbutaline, Deriphyllin - are safe, but prefer inhaled drugs.
3. Avoid oral steroids, except for emergency. Use inhaled steroids, preferably inhaled Beclomethasone. Use spacer to minimize oral absorption of the drug.
4. Stepwise approach
   i) Inhaled Salbutamol, whenever bronchospasm.
   ii) If repeated attacks, add inhaled Beclomethasone, to reduce bronchial inflammation.
   iii) Add oral Bronchodilators.
   iv) For severe persistent attacks, oral steroids may have to be considered.
5. Regular deep breathing exercises and incentive spirometry.

If mother or father are asthmatic, after delivery, encourage breast feeding, as it definitely reduces the risk of developing atopic diseases in the child.

Chapter

16 SURGICAL SYMPTOMS

BREAST LUMP

Case Type 1

Young female, with well defined, firm & painless lump, which moves within the breast tissue is a fibroadenoma.

It requires simple excision. Refer to a surgeon.

Case Type 2

Young Premenopausal lady,

- C/o Painful Lump in the breast
- Shows the lump by pinching the breast tissue but the lump is ill defined if palpated by flat hand.
- But there is tenderness.
- Pain usually increases before M.C.

This is fibroadenosis

1. Breast support.
2. Fomentations × 2-3 times/day.
3. Tab. Brufen 400 mg tds × 10 days (**Ibuprofen** = 3C-3 = **Anti inflammatory**)
4. Tab Wysolone 5 mg tds × after food × 7 days in acute stage (**Pred-nisolone** = 9A-1 = **Steroid**)
5. Tab B-long 100 mg 1 daily × 3 mths (**Pyridoxin** = 2H-3)
6. Tab Lodogal 100 mg tds × 3-6 mths. if patient can afford. (**Danazol** = 8I-1 = **Anti-gonadotrophin**)
7. If cystic mass is formed, which does not resolve with above treatment, refer to surgeon for excision.

Case Type 3

Lactating mother comes with redness, swelling and throbbing pain & fever. She is developing a **Breast abscess**.

1. Breast support.
2. Fomentation × tds × with hot water bag or wet fomentations.
3. Stop feeding from affected breast. Empty it with breast pump, without squeezing.
4. Cap Baciclox 500 mg tds × 5 (**Good Antibiotic** = 7A)
5. Tab Combiflam 1 tds × 5 (**Anti inflammatory + Analgesic · Ibuprofen + Paracetamol** = 3C-3)
5. If abscess forms & localises; Incision & drainage of abscess. Refer to surgeon.
6. If abscess is large or milk leaks through wound, then suppress lactation. Inj. Mixogen 1 ml IM × daily × 3 days.

Case Type 4

In any lump that appears de novo, after the age of 35 yrs., suspect carcinoma and refer for excision biopsy.

Suspect carcinoma if

1. Painless, hard & irregular lump
2. Fixity to skin, nipple or underlying muscle
3. Lymph nodes in axilla.

❖ Carcinoma of breast, if detected early is completely curable. So keep a high degree of suspicion and refer early for excision biopsy. Particularly, in postmenopausal women, a breast lump is to be considered malignant, unless proved otherwise.

BLEEDING PER RECTUM

1. Piles (Hemorrhoids)

If Bleeding comes Painlessly, as a spurt or as few drops of blood after the motions, it is usually due to "piles".

If bleeding is occasional and in small amounts

i) Proctosedyl Ointment - apply inside the anus with finger (1H-1)

ii) Cremaffin 3 tsp HS × 10 days (**Lubricant Laxative = Liquid Paraffin** = 1G-4)

iii) Tab Venusmin 300 mg × 2 bd × till bleeding is controlled = 4-6 wks. (**Diosmin** = 1H-2)

iv) Tab Pilex 2 tds × 30 (**Ayurvedic** = 1H-3)

v) Cap Autrin 1 OD × 30 (**Iron + Folic acid** = 2I)

vi) Refer the patient to surgeon
   a. if bleeding is not controlled or severe or persistent.
   b. if patient has become anemic.
   c. if piles are protruding out of anus.

2. Fissure

If bleeding comes as a streak, by the side of the faeces, amounting to 3-4 drops, and is associated with severe pain and burning during the act, Plus persistent burning several minutes later, it is due to acute "fissure-in-ano".

i) Lignocaine Jelly × apply locally 4-5 times/day and after every motion to reduce the burning pain.

ii) Diltiazem Gel locally 6 hrly × to reduce the sphincter tone and relax it.

iii) Hot hip bath i.e. sit in a tub of warm water × 10 mins × 2 times/day.

iv) Cremaffin 3 tsp × at bedtime × 2-3 wks. (**Liq. Paraffin to soften stools** = 1G-4)

v) Tab combiflam 1 tds × 5 days (**Anti inflammatory + Analgesic** = 3C-3)

vi) Cap Baciclox 500 mg tds × 5 (**Antibiotic to control infection** = 7A)

vii) If no relief with above treatment, refer to surgeon for fissurectomy or Anal dilation.

3. Blood Mixed with Stools

If Blood is mixed with stools, usually with mucus also - it is due to bleeding in colon.

In Young patients, think of amoebic dysentery. In old patients, think of carcinoma of colon.

i) T. Fasigyn DS 1 bd × 3 (**Tinidazole** = 1F-2)
   or T. Secnil 1g × 2 stat (**Secnidazole** = 1F-3)
   or T. Dyrade.MDS 1 tds × 5 (**Metronidazole combination** = 1F-7)

ii) If no relief, Refer to surgeon or Endoscopist for sigmoidoscopy & colonoscopy.

4. Bleeding P.R. in a Child

Bleeding P.R., with a small cherry red mass coming out is due to a "Pedunculated rectal polyp."

Refer to a surgeon for excision.

❖ If a patient aged 60 yrs or more complains of Bleeding P.R., then sigmoidoscopy or colonoscopy or Barium enema must be done to rule out malignancy.

❖ Always do a per rectal digital examination, with a gloved finger, to look for hard mass in anus or rectum.

PAIN AT ANUS

1. Severe burning pain at anus, during and after defecation = Fissure.

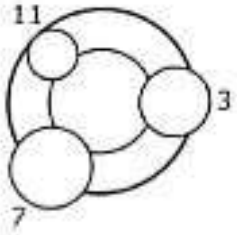
   See above for Treatment.

   If there is severe & continuous pain at anus, not responding to treatment, refer to surgeon to rule out carcinoma.
2. If a patient cannot sit properly on a chair, sits on the edge, then he has a perianal abscess or prolapsed thrombosed piles.

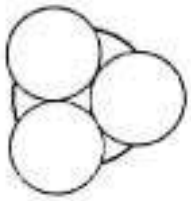
Inspect the anus

1. **Red-Black mass coming out of anus mainly at 3, 7 & 11 O'clock positions = Prolapsed Thrombosed piles.**
   i) Refer to surgeon for reduction of prolapsed mass + anal dilatation under anesthesia.
   ii) Glycerine magsulf - wet dressing till edema reduces.
   iii) Tab Brufen 1 tds × 5 (**Ibuprofen** = 3C-3)
   iv) Tab Bidanzen 1 Qid × 5 (**Serratiopeptidase** = 3E-1)
   v) Cap. Nufex 500 mg tds × 5 (**Antibiotic if infection** = 7A)
   vi) Hemorrhoidectomy after 1 month.
2. **Inflamed, indurated & very tender area on one side of anus = Perianal abscess**
   i) Hot hip bath.
   ii) Inj. Fortwin 1 cc IM stat (Strong analgesic = 3B)
   iii) Cap. Nufex 500 mg Qid × 5 (**Strong antibiotic** = 7A)
   iv) Tab Combiflam 1 tds × 5 (**Ibuprofen** = 3C-3)
   v) Refer to surgeon for Incision.
3. **Discharging sinus or scar**
   A Discharging sinus or scar in the vicinity of the anus is always a fistula-in-ano. Refer to surgeon for fistulectomy.

ANAL LESIONS

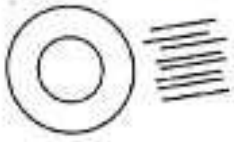


Piles


Prolapsed thrombosed piles


Fissure with sentine pile


Fistula-in-ano


Ischiorectal abscess


Perianal abscess

Chapter

17 PSYCHIATRIC SYMPTOMS

A Person who is too much worried about his illness "ANXIETY NEUROSIS"

Patient displays undue anxiety or fear, extremely worried that something bad is going to happen to him/her (like heart attack, paralysis), neglects work, becomes forgetful. Asks repeatedly "Will I be cured". And has autonomic symptoms - Palpitations, Tachycardia, Excess sweating, Tremors, Headache etc.

1. Tab Alprax 0.25 mg 1 tds (**Alprazolam-Hypnotic Tranquiliser** = 4D-2 to 8)
2. Tab Eskazine 1-2 tds × 30 (Trifluoperazine = **Major Tranquiliser** = 4E-2)
3. If No relief, refer to Psychiatrist for psychotherapy.

A Patient who tells large number of complaints

Like joint pains, backache, indigestion, headache, tingling, Chest pain and so on. But you can sense that his complaints are mainly or at least partly psychological.

1. Listen to the patient carefully
   Do not show disinterest (Very important) Let the patient talk out everything.
2. Prescribe the necessary symptomatic treatment.
3. Tab Melleril 10 mg 1-2 tds × 30 (**Neuroleptic** = 4E-4 = **Thioridazine**) or
4. Cap Prodep 20 mg 1 OD × 30 (**Fluoxetin = antidepressant** = 4F-1 to 4)
5. Try to find out and sort out family problems if any. Family problems or sexual problems are usually the underlying cause.

A confused & Panicked patient running around

"Acute Anxiety or Panic" - Tries to run around, confused, bewildered & afraid.

1. Inj. Largactil 3-4 cc IM stat (**Chlorpromazine** = 4E-1)
   Or Inj. Serenace 1-2 cc IM stat (**Haloperidol** = 4E-3)
   Or Inj. Calmpose 2 cc I.V. stat (**Diazepam** = 4D-3)
2. Keep the patient sedated for 12-24 hrs. Then.
3. Tab Diazepam 5 mg 1-2 tds (4D-3)
   Or Tab Largactil 25-50 mg tds. (4E-1)
4. Refer for psychotherapy.

PHOBIA (UNEXPLAINED FEAR)

Unexplained and excessive fear about an object or situation eg. Darkness, depth, crowds, some insect, Dog etc.

1. Remove the patient away from that situation.
2. Avoid the situation, as far as possible, in future.
3. Generally no treatment is required. But if the Phobia is repetitive & troublesome.
   - Tab Calmpose 5 mg 1-2 tds. (**Diazepam** = 4D-3) or Tab Alprax 0.25 mg 1-2 tds (**Alprazolam** = 4D-8)

A Patient who is eager to demonstrate signs "HYSTERIA"

Hysteria may mimic any illness - Paralysis, anesthesia, convulsions, loss of voice, dyspnoea, Hiccups etc.

Hysteria should be suspected,

i) If Symptoms are exaggerated in front of relatives or during examination.

ii) If signs & symptoms differ at different times and are atypical.

iii) If patient is not worried about the illness, on the contrary, is eager to demonstrate it.

Treatment

1. Talk confidently and assure that you will definitely cure him or her.
2. Give Placebo Injection or I.V. drip.
3. Inj. Largactil 2-3 cc IM x 6 hrly x 2 days (**Chlorpromazine** = 4E-1)
   [to relieve tension & remove secondary gain like sympathy, from mind]
4. Change the environment. Admit the patient and do not allow any relative to meet.
5. Refer later to Psychiatrist for Psychotherapy- the main line of treatment.

A Person who washes his hands whole day "OBSESSIVE COMPULSIVE NEUROSIS"

Has a compulsive urge to perform an act like washing hands, or brushing teeth or counting currency/or checking the doors of the house again and again.

Ref to Psychiatrist: Very resistant to treatment

1. Tab Anafranil 25 mg 1 OD to 2 tds (**Clomipramine** = 4F-A14)
2. Tab Alprax 0.25 mg 1 tds (**Tranquiliser** = 4D-8)
3. ECT in resistant cases.

The Patient who won't stop talking

Talks continuously, usually intermittently or totally irrelevant and just won't stop.

It could be Mania, Schizophrenia or depression.

1. Inj Largactil 3 to 4 cc IM stat & SOS (**Chlorpromazine**= 4E-1)
   or Tab Serenace 10 mg 2-3 times/day (**Haloperidol** = 4E-3)

Maintain with

1. Tab Largactil 25-50 mg tds (4E-1) Or Tab Serenace 1.5 mg bd or more (4E-3). If patient refuses to take medicines, Serenace Liquid may be mixed in food & given.
2. Refer to Psychiatrist, for further treatment.

The 'Slow motion' patient who does not want to work

Depressive Neurosis often following a failure at exams or job. Sits at one place, makes slow movements, c/o weakness, fatigue, no desire to do anything, fed up of life.

1. Talk with the patient, speak encouraging words.
2. Cap Prodep 20 mg 1 OD × 1-3 mths (4F-B = **Any Anti-depressant**)
   or Tab Depsonil 25 mg 1 tds (Imipramine = 4F-A11)
3. Symptomatic treatment & Tonics. eg.
   i) Inj. Neurobion 2 cc IM × OD × 5 (2H-5 or 2B-1)
   ii) Bayer's Tonic 2 tsp bd before meals (2M-2)
4. E.C.T. for severe depression & suicidal tendencies.

Important: If Depression is marked, talks very faint, gives delayed answers. OR if he has ever threatened to commit suicide - Refer immediately to a psychiatrist.

Other Anti-depressants

1. Tab Serdep 50 mg bd (**Sertralin** = 4F-B2)
2. Tab Parotin 20 mg OD (**Paroxetine** = 4F-B5)
3. Tab Dulane 20 mg bd (**Duloxetine** = 4F-B7)
4. Tab Citadep 20 mg OD (**Citalopram** = 4F-B3)

The "I want to commit suicide" Patient

The patient of depression, who says he wants to commit suicide, may really commit suicide, not immediately, but at an unexpected moment, when everything seems alright & he seems out of depression.

Refer him immediately to a psychiatrist.

The Patient who has "Changed" Suddenly

A drastic change of behavior is an early sign of schizophrenia e.g.

- A regular & sincere worker become irregular.
- A teetotaler suddenly takes to drinking.
- A person suddenly becomes religious and spends all time praying.
- A social person becomes aloof, moody.

Refer to a psychiatrist in time

Treatment of Schizophrenia

Schizophrenia is characterised by disturbances of thinking. emotions, behavior, Delusions, Hallucinations, daydreaming, spells of laughter/crying and irrelevant behavior.

A. If patient is overactive,
   1. Tab Largactil 50-100 mg tds (**Chlorpromazine** = 4E-2)
   2. Tab Serenace 1.5-10 mg tds (**Haloperidol** = 4E-3)

B. If Patient is lethargic, catatonic:
   - Tab Eskazine 1-5 mg tds (**Trifluoperazine** = 4E-2)

C. If Hallucinations and Delusions, Add:
   - Tab Serenace 1.5 mg tds (**Haloperidol** = 4E-3) or Tab Melleril 10-25 mg tds (**Thioridazine** = 4E-4) or Tab Calmpose 5 mg tds (**Diazepam** = 4D-3)

In addition to above treatment

1. **Tab Pacitane [2 mg tds]**
   (**Trihexyphenidyl** = 4C-4 = To counter the extra pyramidal side effects of all above drugs)
2. **E.C.T.**
   If symptoms are severe, and when there is depression with suicidal tendencies.

3. **Rehabilitation**

of patient and co-operation of relatives is a very important factor.

Other Drugs for Schizophrenia:

1. Tab Loxapac 25 mg tds (**Loxapine** = 4E-12) *if Paranoid Schizo.*
2. Tab Mozep 2-4 mg bd (**Pimozide** = 4E-7) *if maniac Schizo.*
3. Tab Q-mind 100-400 mg od (**Quetiapine** = 4E-14) *if aggressive Schizo.*

For Chronic cases: Depot Injs

1. Inj. Anatensol 12.5 mg IM × every 2 wks (**Fluphenazine decanoate** = 4E-5) *if Aggressive type*
2. Inj. Fluanxol depot 20/40 mg IM × every 2 wks (Flupenthixol decanoate = 4E-10) *if Depressive type.*

A Person with loss of concentration, sleep disturbances

If he is too concerned about the illness, it is Depressive Neurosis.

If he is unconcerned about the illness, it is Schizophrenia.

Psychosomatic illnesses

Anxiety and tensions in the mind are channelised through Autonomic Nervous system - sympathetic or parasympathetic, and manifest as a physical ailment like - Peptic ulcer, Bronchial Asthma, Ulcerative colitis, Thyrotoxicosis, Hypertension, Migraine, Eczema, Rheumatoid Arthritis etc.

1. Medical treatment of disease.
2. Tab Ativan 1-2 mg tds (**Lorazepam** = 4D-4 = **Tranquiliser**)
3. Psychotherapy to identify & relieve the underlying tension & anxiety.



Chapter

18 MARITAL PROBLEMS AND SEXUAL DYSFUNCTIONS

Marital Problems and Sexual Dysfunctions are very delicate subjects, but of extreme practical importance for family Doctors.

Though Psychiatrists are the best doctors for such problems, our people are hesistant to go to a psychiatrist and it is only the Family Doctor, who is ideally placed to go into details of these very personal problems, getting into confidence of both sides and offering a solution.

The two problems are often interlinked. Marital problems may be due to sexual dysfunctions, and sexual dysfunctions like impotence may be due to tensions created by marital problems.

First the marital Problems

PREMARITAL PROBLEMS

Consanguinity: Doctor, can I marry my cousin?

The incidence of recessive congenital disorders is at least 2 times higher in consanguineous marriages.

E.g. **Autosomal recessive:** congenital deaf mutism, Congenital Heart diseases, Albinism, Fibrocystic disease of Pancreas etc.

X-linked recessive: Hemophilia, Colour blindness, muscular dystrophy etc.

Advise

Generally there is no medical objection to consanguineous marriage. The risk of congenital defects is definitely higher, but the chance of producing a normal child is considerably higher, than the chance of producing an affected Child.

But if any of the recessive congenital defects mentioned above, is known to have occurred in the family & close relation, then the risk of the defect occurring in their offsprings is very very high, and these couples should be strongly advised against marriage.

Do not forget however, that doctor is only a scientific adviser. There are several other social and personal factors involved which are more important, and the ultimate decision to marry a cousin should be left to the couple and their parents.

Engagement Neurosis

The anxiety & nervousness about marriage, about the change in lifestyle, and ignorance & fear about sexual relations - lead to anxiety or depression.

1. Talk with the patient, in privacy, but preferably in presence of a senior family member or a friend in whom the patient can confide.

   Explain about marriage and its needs educate him/her about sexual relations, to remove the fear from his/her mind.

T Anxit 0.5mg o-o-1

2. T. Alprax 0.25 mg HS or BD if necessary (**Tranquiliser** = 4D)
3. This is a shortlived problem that ends with marriage.

MARITAL PROBLEMS

How they present?

Sometimes, the couple may present with their marital problems, but more often, they present indirectly through psychological or psychosomatic symptoms.

1. **Psychosomatic symptoms:** Chest pain, palpitations, abdominal pain, anorexia, diarrhoea, headache, paraesthesias, backache, sexual problems etc.
2. **Anxiety symptoms:** Insomnia, irritability, restlessness, palpitations, inability to concentrate.
3. **Depressive symptoms:** Mood variations, weeping spells, inability to remember/concentrate, weight loss, loss of sexual desire etc.
4. **Marital problems reflected in Children:** disorders of sleep, anorexia, attention seeking tantrums, lying, stealing or addictions.

What are the problems?

First 5 yrs. i.e. Phase of Novelty

i) Wife has social problems: Stress of withdrawal from parents, adoption to new responsibilities, problems with in-laws.

ii) There may be sexual dysfunctions, which couple tries to hide.

iii) Then there may be financial problems, lack of privacy, lack of leisure time together etc.

Second Phase of middle age = 30-50 yrs.

i) Stress of responsibilities of growing children.

ii) Wife depressed because husband does not participate in house jobs. While husband depressed because wife is not sympathetic/interested in his work.

iii) Major stress if financial status deteriorates: due to unemploy-ment, drinking, gambling etc.

iv) Differential interests & attitudes when both work in two different fields.

Third Phase of retirement & old age

i) Early retirement or no promotion at job may cause depression.

ii) Problems with grown up children, their marriages & then problems with daughters in law.

iii) Stress of sudden decline of earnings on retirement.

Other conflicts

i) There may be conflicting differences in their faith in God & Religion, Beliefs about how to raise children, about birth control, sterilisation or abortion.

ii) Sexual dysfunction in husband and wife, which they feel shy & insulting to discuss with anyone else and also amongst themselves.

iii) Another problem in marital conflicts is that one of the partners may just refuse to accept that there is any problem.

MARITAL COUNSELLING

Counselling means allowing people to express their feelings and to listen sympathetically, without acting a judge. Both partners should be made to talk in presence of both, and you should be a good listener. You should never take sides, though that is a very tempting thing to do.

Stage 1

First you should make the couple identify, what is their target problem. If there is associated sexual problem, treat it a little later. Solve other marital problems first.

Let them discuss as to what changes in the other partners behavior does each expect and what will be the result of such a change.

Ask them to write down: what aspects of each other's behavior they like & what they dislike and bring the lists for the second session of discussion.

Stage 2

Once the problems are so defined and the changes expected, made known to each other, you should encourage them to agree to these changes and act accordingly till the next meeting.

Meet them once a week, and encourage them to continue the changed approach. Many times, this is enough to resolve minor conflicts.

Stage 3

If the couple fails to keep up the words, then help them to analyse in detail, why this has failed.

If the expectation was too demanding, suggest a lesser expectation or a different approach.

Also ask them to write down a contract, For example:

The expectations of the wife are:

No.1. He should take her out for movie on Sunday

No.2. He should show her more affection.

The expectations of the Husband are:

No.1. She should keep breakfast & dinner ready in time.

No.2. She should listen to his office problems sympathetically.

Remember that:

1. More stress should be on positive changes, or new changes. Consider negative changes later such as reduce nagging, reduce anger etc.
2. Expectations should not be reciprocal such as 'If you take me to shopping, then I will do this'. They should be independent.

At this stage, you should make specific suggestions and advise. Certain points must be stressed during counselling:

1. Trust: Trust is the base of the marriage altar. Suspicion about small matters should not be allowed to dominate. Troubled couples have higher need for trust than average. They should always inform their whereabouts, be punctual -without feeling controlled or suspected.
2. Independence of working & earning wives has to be accepted by the husbands in today's changed society. Males should not expect wives to be dependent on them.
3. Communication of affection towards each other, through words and action is very important in marriage. Just feeling affection is not enough. Encourage the couple to express their affection and to organise outings together such as a film or a special meal which both of them would like.
4. If alcohol addiction is the problem, tackle it aggressively with the help of a psychiatrist.
5. If extra marital relations is a problem, extensive persuasion to end such relationship is required from you & from elders of the family. Consider Change of Place or city. Otherwise, end of marital relations is inevitable.

The marital problems are innumerable. You should use your own judgement, tacts and authority to solve individual problems.

This is undoubtedly a time-consuming process. But it brings you closer to the family and earns you as much respect as earned by saving the life of a family member.

The role of a Family Physician as a senior member of the family lies here, because you have the advantage of being a very close family member, and at the same time a third person, in whom the couple can confide.

SEXUAL DYSFUNCTIONS IN MALES: PREMATURE EJACULATION

When ejaculation occurs too early, before both partners get sexual satisfaction.

Mild degree Premature Ejaculation

1. Reduce the sensation of Glans, by applying Lignocaine Ointment, or by wearing a condom.
2. Divert the mind to non-sexual activities like sport or business matters.
3. Teach the couple to learn to synchronise the time of sexual activity, by preparing the wife initially through foreplay.
4. Tab Tentex forte 2 tds × 2-3 mths (Ayurvedic).

Grossly Premature ejaculation

Step I: Counselling

1. Patient often associates it with past history of masturbation, and has a strong guilty feeling. Explain in details to remove this guilt feeling.
2. The wife has a very important role to play and she should be motivated, because she may feel neglected and get frustrated. She should be explained that ultimately, it is for her pleasure also. But if she reacts with anger & frustration it will further deteriorate the problem. She has to be co-operative and sympathetic.
3. Are there any other marital problems not related to sex? Then solve them first.

Step II: Developing Ejaculatory Control

Ejaculation & Orgasm can be voluntarily controlled. The patient has to learn to recognise the sensations prior to orgasm and stop.

Stage 1

Man is advised to masturbate himself, and when he can sense that ejaculation is near, stop. Allow the erection to subside. Start again. Repeat this number of times before allowing ejaculation. Practice for 2-4 wks.

Stage 2

Learn the same with the wife. She will masturbate the husband to near orgasm, stop when he indicates, wait for erection to subside, then start again. Repeat this a few times & then allow ejaculation. Practice for 2-4 wks.

Stage 3

Follow the same method for intercourse, initially with female superior position and then with male superior position. The principle is to stop before ejaculation, if necessary disengage, wait for the erection to subside & then start again. Practice for 3-4 mths, or more till perfect control is achieved.

Drug Treatment

1. Inj. Neurobion 2 cc IM × alt days × 5-10 injs. (B_1 B_6 B_{12} = 2H-5)

2. Tab Da Sutra 30/ 60 mg x 1 Tab 1-2 hrs before sexual activity (Dapoxetine = 15B-I-5)
2. Tab Tentex forte 2 tds x 3 mths (**Ayurvedic**) or Shilajeet caps 1-2 tds x 3 mths.
3. Syr. Nutrifil 2 tsp bd (**General Tonic** = 2M-2)

IMPOTENCE OR ERECTILE DYSFUNCTION

If the man can obtain erection on his own by masturbation, but not with the wife during intercourse or cannot sustain it, then the cause is definitely psychogenic.

If Penis & testes are normally developed, primary total impotence is very rare.

The Causes

1. Anxiety about performance - The thoughts of anticipation of impotence further increase the tension and dysfunction.
2. Fear of rejection by wife, in case he fails to satisfy her.
3. Feeling of guilt about sexual enjoyment - especially in orthodox families. Childhood impressions that sex is very bad, haunt the adult mind, create a guilt feeling & erection is lost.

Drug Treatment

- If Patient is taking any drugs which suppress libido, stop the drug & use an alternate drug. eg. Beta-blockers like propranolol, cimetidine, diuretic spironolactone, Estrogen derivatives, addiction to alcohol or opiates, anticholinergic drugs.

If Hypogonadism & low S. testosterone

Inj. Testosterone 250 IM x every week x 3
or Cap Nuvir 40 mg 1 QID x 3-6 mths (**Testosteron Undecanoate** = 8D-4)

If S. FSH & LH level are low

Inj. Pergonal-75 1 amp IM x on alternate days x 3 injections. (FSH + LH 75 iu each = 8C-3)
Give under guidance from endocrinologist.

If no endocrine abnormality

1. Tab Viagra 50 mg x 1 Tab x 1 hour before sexual activity. (**Sildenafil citrate** = 15B-III) Rule out I.H.D. before prescribing
2. Shilajit pills 2 tds x 3-6 mths. (**Ayurvedic**)
   or Tab Tentex 1-2 tds
   or Pepcaps 1-2 caps/day (Ashwagandha + Shatavari)
   or Tab Vigorex 1-2 bd with milk.
3. Cap Nuvir 40 mg 1 tds x 3-6 mths (**Testosterone undecanoate** = 8D-4)
4. Inj. Testanon 25 mg IM x every wk x 3 mths (**Testosterone propionate** = 8D-3 = it will temporarily suppress Spermatogenesis)
5. Himocolin cream locally to penis (**Ayurvedic**)

SEXUAL EXERCISE is the most important part of treatment, and demands tremendous co-operation & motivation from the couple, especially from the wife.

Step 1

Non genital pleasuring. for 4 wks, the couple only limits the activity to caressing each other's bodies. Strictly, no attempt is made for intercourse. This helps to reduce the main problem of performance anxiety & fear of failure, at the same time increases affection.

If one of the two, does not accept this step, then probably there is some marital problem and it is better to refer the couple to a psychiatrist for psychoanalysis.

Step 2

The couple indulges in Genital pleasuring with hand or mouth, but without orgasm, and strictly no attempt at intercourse. The couple is encouraged to talk & express their pleasure to each other. If there is erection, allow it to subside, then stimulate again - to remove the fear of losing erection. Continued for at least 4 wks.

Step 3

The couple is encouraged, to attain extravaginal orgasm. Gradually, penetration is permitted, but withdrawn to have ejaculation outside vagina. The husband is encouraged to practice perineal exercises mentioned below.

Step 4

Finally, after several weeks, when the couple has gained confidence in itself, intravaginal ejaculation is allowed.

- The entire therapy is long drawn and demands tremendous co-operation from the wife. The wife must be motivated and explained her role independently, particularly stressing that if at any point, she shows negative response such as anger or frustration, the treatment will fail and problem will become even more difficult.

Perineal Exercises

When there are partial erections which patient cannot maintain, ask him to practice perineal exercises. While urinating, stop the flow of urine, start again, stop & start again 4-5 times.

The same act of perineal muscle contractions should be repeated several times a day.

If there is total impotence?

Explain the situation to the couple. If both partners are willing to accept the situation and desire sexual pleasure, refer the husband to a plastic surgeon for penile implant.

The semi-rigid implants - keep the penis permanently stiff and hence are uncomfortable.

The inflatable implants - can be inflated only during sexual activity and hence are more comfortable to the patient.

PAIN DURING EJACULATION

Infection in Urethra, Glans or Prostate: Examine urine & semen for pus cells. Also rule out vaginal infection.

1. Tab Norflox 400 mg bd × 10 days (**Urinary antibiotic** = Page 45)
2. If Vaginal infection - treat both Partners -
   i) T. Flagyl 200 mg tds x 7 (**Metronidazole** = 1F-1)
   ii) Canesten 100 mg vaginal pessary × inserted deep in vagina × every night × 6 consecutive nights (**Cotrimazole** = 8A-1)
3. If on per rectal examination, prostate is tender, refer to a surgeon/urologist.

DYSPAREUNIA: PAIN DURING INTERCOURSE

Examine the penis carefully

1. If Phimosis, cracks or ulcer on prepuce, thickening of prepuce, or frenal tear
   Refer to surgeon for circumcision.
2. If Chordee or indurated-hard corpora cavernosa. Ref to a surgeon or Plastic surgeon.
3. If wife has vaginal infections, treat both husband and wife for the same (Details under 'leucorrhoea')

NOCTURNAL EMISSIONS (Wet dreams)

1. Explain to the patient that this is a perfectly physiological phenomenon, by which body relieves its sexual tensions. It is harmless and does not cause any weakness.
2. Do not drink excess water at night. Let the bladder remain empty at night.
3. Tab Ativan 1-2 mg H.S. (**Mild Tranquiliser** = 4D-5)

PASSAGE OF SEMEN OR LOSING 'DHATU'

1. Explain that the white fluid which comes out during micturition or at the time of defecation, is not actually semen but normal secretion of prostatic and urethral glands, which is squeezed out on straining perineal muscles.
2. Since it is very difficult to remove misconceptions from the mind of the patient at one go, Prescribe Placebo treatment e.g.
   i) Inj. Optineuron 1 amp IM × alternate days × 5 (2H-5)
   ii) T. Speman 1-2 tds × 2 mths. (**Ayurvedic**)

MASTURBATION

i.e. self stimulation of genital organs to achieve orgasm.

C/o Weakness, acne, dark circles around the eyes, sexual weakness etc. All wrongly attributed to masturbation. Root cause is Guilt complex.

1. Explain to the patient, that masturbation is a physiological and totally harmless act, which will not cause any weakness.
2. Placebo treatment:
   i) Tab. Neurobion 1 bd x 30 (**Bplex** = 2H)
   ii) Tab. Speman 1 tds x 30 (**Ayurvedic**)
   iii) Tab. Ativan 1mg HS x 30 (**Tranquiliser** = 4D)
3. If guilt complex in the mind of the patient cannot be removed after repeated explanations, then refer the patient to a psychiatrist.

SEXUAL DYSFUNCTIONS IN FEMALES: FRIGIDITY

Impaired sexual interest & impaired sexual response are similar to erectile dysfunction (Impotence) in males.

The Causes

1. Performance anxiety, fear of rejection.
2. Feeling of guilt about sexual enjoyment, due to lack of Sex education.
3. Traumatic sexual experience in past e.g. Rape.
4. Hostility towards husband or marital conflicts.
5. Physiological in old age due to hormonal changes.

Treatment

1. Marital Counselling
   i) Marital conflict not related to sex should be solved first. Let them not be mixed with the sexual problems.
   ii) If the hostility towards the husband is due to smell of alcohol, tobacco, body odour, or due to some demands from the male which she does not like - proper counselling & explanation by the Family Doctor will resolve the anxiety.
   iii) Husbands, in our society, have negative attitude towards the

wife's problems. He should be taken into confidence, motivated and explained that the response from the partner will only be increasing his pleasure!

2. Sexual exercises: same as for impotence.
   First non-genital pleasuring, then genital pleasuring, then extra-vaginal orgasm and finally coitus to orgasm - each stage patiently practiced for at least one month.
3. Petroleum jelly locally for Copious lubrication to compensate for lack of vaginal secretions.
4. Adequate foreplay and if necessary, subsequent manual stimulation of clitoris to help the wife to reach orgasm.
5. Placebo treatment:
   Shilajeet pills 2 tds with milk or water (Ayurvedic) or Tab Pallarywyn 1-2 bd with milk.
6. If no response, refer to psychiatrist.

VAGINISMUS

Attempt at vaginal penetration causes reflex, involuntary spastic contraction of the vaginal entrance.

Couple may present thinking vagina is too small, or hymen is too thick. OR husband may present with erectile dysfunction, which is actually due to wife's screams and resistance. Diagnosis is confirmed by P.V. examination, which also causes the same spasm, constriction of thighs and resistance.

The Cause

1. Mainly psychological due to religious beliefs, past sexual trauma, guilt feeling or homosexual identity.
2. Rule out painful pelvic conditions like endometriosis and P.I.D.

Treatment

1. **Sexual education:** explaining the sexual response cycle and its natural existence.
2. **Vaginal relaxation** by gradual dilatation:

   Step 1

   Give smallest cervix dilator and instruct the wife to insert it in the vagina after proper lubrication, and relax. Practice it for several days and learn to relax.

   Step 2

   On next visit, give slightly larger dilator. Repeat this over several weeks till the largest dilator can be accommodated. Alternatively, patient may use her own fingers & later 2 fingers to achieve the same result.

   Step 3

   Now, the husband should insert the dilators, very gently and under her guidance for several days.

   Step 4

   Finally coitus allowed, with proper lubrication and gentleness to avoid the pain factor.
3. Tab Alprax 0.25 mg HS or bd to reduce anxiety. (**Alprazolam** = 4D-8 = **Tranquiliser**)
4. Explain that the anxiety & spasm is mainly in anticipation of penetration. After penetration, the anxiety will immediately reduce.

LAX VAGINA

Common complaint after vaginal Delivery.

1. Examine the patient for healed perineal tear.
   If perineal tear was unsutured or if muscles were not properly sutured, then refer to a Gynaecologist for perineal repair.

For Laxity due to generalised muscle stretching, advise

perineal exercises

i. Contract the perineal muscles, as if to hold urine × 15-20 times × 4-5 times/day.

This should be a routine advise after normal delivery.

COMMON QUERIES REGARDING SEX AFTER OTHER ILLNESSES

Doctor, will sex be the same after Hysterectomy?

Operation will not affect the sexual feelings and arousal, after operation and the sexual life will remain unaltered. This fact must be explained and assured before the operation. Removal of ovaries may cause menopausal symptoms but will not affect sexual feelings.

Doctor, will our sex be affected after prostatectomy?

Transurethral prostatectomy (T.U.R.) and suprapubic i.e. Fraeyer's prosta-tectomy will generally not affect the sexual function except that retrograde ejaculation will always occur.

However, Never give an assurance of sexual potency, because at that old age the potency may already be very low, preoperatively and this may be the last precipitating factor for impotence.

Millin's or Retropubic prostatectomy will always cause impotence, and this must be explained to the patient and consent obtained before surgery.

Doctor, Can I enjoy sexual relations after the Heart attack?

1. After an uncomplicated Heart attack, when physical activity is gradually increased to normal, sexual activity may be permitted after 4-6 wks.
2. Vigorous activity should be avoided, and female superior position is advised in the initial period. The exertion by the male patient is increased gradually.
3. Avoid heavy meal or alcohol before sex.
4. If anginal pain occurs, give nitrate prophylactically.
   - Tab Sorbitrate 10 mg before retiring to bed (i.e. before sexual activity) + 1 tab sublingual S.O.S. if pain.
   - If not controlled, refer to cardiologist for Holter monitoring.

SECTION 2
EMERGENCIES IN GENERAL PRACTICE

Chapter

19 EMERGENCIES

ANAPHYLACTIC SHOCK

Anaphylactic Reaction may occur to

1. Drugs: Penicillin, Streptomycin, Vit B1, Imferon, Xylocaine.
2. Serum injections: Anti-Tetanus Serum, Anti-Diphtheria Serum, Anti-snake venom.
3. Iodine containing dyes used for I.V.P, CT scan, Myelogram.

All above Injections must be given After Test Dose.

Suspect Anaphylaxis if: After Injection, patient complains of Giddiness, nausea, urticaria, dyspnoea, restlessness and falls down or has thready pulse and low B.P.

Treatment

1. Make the patient horizontal immediately, on ground or bed.
2. Inj. Adrenalin 0.5-1 ml Subcut. (Repeat SOS after 10 mins)
3. Inj. Avil 2 cc IM or I.V. (**Anti-histaminic** = 5B-1)
4. Inj. Efcorlin 100 mg × 1-2 vials I.V. (**Hydrocortisone** = 9A-5) or Inj. Betnesol 8 mg × 1-2 amps I.V. (**Betamethasone** = 9A-3) or Inj. Decadron 2 cc × 1-2 vials I.V. (**Dexamethasone** = 9A-2)
5. If B.P. has fallen:
   i) Inj. Mephentin 2 cc I.V. stat.
   ii) I.V. DNS/RL fast.
6. Inj. Aminophyllin 10 cc-250 mg I.V. slow if bronchospasm and rhonchi.
7. Watch Pulse, BP & Respiration, till the patient recovers completely.

Warnings

1. Always keep Emergency Drugs at hand - in your clinic and in your home - visit bag.
2. Always be alert and prepared to treat anaphylaxis - even after a test dose, and even in a patient who has received the injection before.
3. Act boldly & confidently.
4. Always give a test dose for the drugs known to cause anaphylaxis.
   0.1 ml intradermal
   - Penicillin, streptomycin, Bplex, Xylocaine & serum injections.

   0.5 ml intramuscular
   - For Imferon.

How to give a test dose?

With a Insulin/1 cc syringe and 26 No. Needle, inject 0.1 ml of the drug intradermally. (Refer page 213) Mark the site of injection with a ball pen and let the patient sit in the waiting room for half hour. If there is indurated wheel at the site of Injection, or urticaria & itching or patient feels giddy, then do not give the injection - use an alternate drug.

- In case of anaphylaxis, make the patient horizontal, give inj adrenalin 0.5 ml Subcut, followed by Avil and Efcorlin IM. If reaction is severe, give Avil & Efcorlin I.V. × 2 amps each and start a fast I.V. drip.

CARDIO RESPIRATORY ARREST

When a patient stops breathing suddenly

1. Confirm the absence of pulse and heart sounds quickly. (But do not waste time searching them).
2. Start external cardiac massage 60 times/minute. (Refer page 205)
3. Spread a Handkerchief or gauze over the patient's mouth, and give mouth-to-mouth respiration after every 4th heart massage. Use Ambu's bag, if available.
4. If Patient is on a soft bed or spring loaded cot, then cardiac massage will not be effective. Shift him to a hard surface.
5. After giving cardiac massage and breathing for 1 minute, take short break to give injections. (i.e. if you are alone. When assistants are available, both can be given immediately). Never leave the patient without cardiac massage & breathing for > 2 mins.

Drug Treatment

1. Inj. Dopram 1 cc I.V. (**Respiratory Stimulant = Doxapram** = 5H-1)
2. Inj. Efcorlin 100 mg 1 vial I.V. or Decadron or Betnesol. (**Steroid** = 9A)
3. Inj. Sodabicarb 20 to 50 cc I.V.
4. If heart has not started beating after cardiac massage.
   Inj. Adrenalin 1 cc intracardiac, followed by cardiac massage.

If with this vigorous & quick treatment, heart starts beating or breathing starts, shift the patient to a Hospital immediately, maintaining Heart and Respiration on the way.

- Every Nursing home & Clinic should have a Ambu Bag with face mask for artificial respiration.
- If the patient is young or child, try maximum efforts to resuscitate, because young hearts recover well.
- The most important thing to remember during resuscitation is the critical 3-minute period. At no time, the patient should be left without heart beat or respiration for more than 3 minutes. Particularly remember this, when time is lost in filling injections, searching veins etc.
- You are dealing with a dying patient. Relatives are tense and under psychological pressure. Quickly note who is the responsible relative, tell him clearly that patient is dying and only then start resuscitation. Otherwise you may be blamed for doing something wrong to the patient.
- Order all relatives to be out of the room, because resuscitative procedures look very harsh to non-medical persons.

UNCONSCIOUS DIABETIC PATIENT

The Dilemma is Hypoglycemia or Hyperglycemia?

Try to get a hint from History and Examination.

1. History

If patient has missed his meals, or undergone severe exertion, if he had

sweating & hunger, and if he has become unconscious suddenly - then he is in hypoglycemic coma.

On the contrary, if he had not taken his regular Tablets or insulin, if he had fever or any illness and if he has lost consciousness gradually, then he is in Hyperglycemic Coma.

2. Clinical Picture

If Patient is breathing quietly, pulse is slow & bounding, then he is in Hypoglycemic Coma.

If Patient is febrile, looks toxic, Pulse is feeble & fast and Breathing is rapid, deep with sweet odour, then he is in Hyperglycemic Coma.

3. Blood Sugar Strips

If available, will make the diagnosis clear. Every GP must keep Glucometer in the Clinic.

In case of doubt (hypo or hyper?)

1. Inj. 25% glucose 25 ml × 4 amps I.V. stat, if glucometer is not available.

A. If patient starts waking up

2. Give 25% glucose till he is alert, (upto 10 amps)
3. Then I.V. 10% dextrose drip + Oral sweets. Oral is better.
4. Observe the patient for 6 hrs, till the effect of hypoglycemic drugs is over.
5. If not fully alert after correcting hypoglycemia, give I.V. Mannitol 100 ml and oxygen mask, to reduce cerebral edema.

B. If patient does not wake up

Refer to a physician.

Diabetic coma must be managed in a Hospital.

Principles of management of Diabetic coma

1. Insulin Drip
   i) 20 Units PL. insulin + 500 ml Saline at 15-20 drops/minute, till Bl-sugar comes to below 300 mg%
   ii) Then 5% dextrose 500 ml + 10 u Plain insulin to maintain the level.
   iii) A loading Subcutaneous dose of insulin may be given-
   Inj. Pl. insulin 40u S.C. Stat.
2. I.V. N. Saline 540 ml × 3-4 pints × fast × via a separate I.V. line to correct dehydration.
3. Inj. Sodabicarb 100 ml slow I.V. stat, then as required.
4. Inj. Cefantral 500 mg I.V. 6-8 hrly (**Antibiotic** = 7A-9)
5. Monitor Blood sugar, Urine ketone bodies & S.Electrolytes.
6. Other measures - as required:
   i) Oxygen, bronchodilators.
   ii) Ryle's Tube aspiration.
   iii) Inj. Decadron, if cerebral edema.
   iv) General care of unconscious patient.

❖ Hypoglycemia, when prolonged, causes permanent Brain Damage. So When in doubt, give 4 amps of 25% glucose.

SUSPECTED MYOCARDIAL INFARCTION

- Patient with severe chest pain & sweating.
- Middle aged patient with sudden breathlessness or hypotension.

When Myocardial Infarction is suspected, do not waste time. Shift immediately to a physician or Hospital.

Immediate Measures

1. Allow no exertion like walking or sitting. Make the patient lie down quietly.
2. Inj. Morphine 15 mg IM. stat or I.V. if pain is severe and patient is restless.

   or Inj. Pethidine 100 mg IM/IV

   or Inj. Fortwin 1 cc IM/IV.

   or Inj. Norphin 1-2 cc IM. (**Narcotic Analgesics** = 3B)
3. Tab Isordil 10 mg sublingual stat (**Isosorbide** = 6D-2)
4. Tab Disprin 1 stat (**Aspirin** = 6E-1)
5. If BP is low,
   i) Inj. Betnesol 2-4 amps I.V. (**Steroid** = 9A)
   ii) Inj. Mephentin 2 cc I.V.
6. Shift the patient on stretcher to Hospital/physician, confirm Diagnosis by ECG, SGOT.

If Physician is not immediately available

1. Complete Bed Rest.
2. Inj. Norphin 1 cc I.V. 8 hrly + S.O.S. if pain.
   - If pain is severe, Inj. Pethidine/ Morphin. (3B)
   - If vomiting, Inj. Emeset 2 cc I.V. (1K-8)
3. Tab Isordil 10 mg 6 hrly + sublingual S.O.S (6D-2). Apply NTG skin patch to left chest, unless BP < 90 mm.
4. Tab Disprin 300 mg ½ OD (**Aspirin** = 6E-1 = **Antithrombotic**) or Tab Ticlovas 250 mg bd (**Ticlopidin** = 6E-3)
5. Tab Clopilet 75 mg 4 stat, then 1 OD (**Clopidogrel** = 6F-4)
6. Tab Calmpose 5 mg 1 tds (**Tranquiliser = Diazepam** = 4D-3)

As soon as diagnosis is confirmed

7. Inj. Urokinase 5 lacs slow I.V. (**Fibrinolytic** = 6E-5) followed by 2-5 lac units in I.V. drip (N.S.)

   or Inj. Streptokinase 7.5 lac units I.V. stat (6E-4) followed by 2.5 to 7.5 lac units in IV N. Saline drip 100 ml.
8. Inj. Heparin followed by Oral Anticoagulants to be given by cardiologist only, if indicated.

If Tachycardia

1. Tab Ciplar 40 mg 1 tds (**Propranolol** = 6A-6 = **Betablocker**)

If BP falls

1. Inj. Mephentin 2 cc I.V.
2. Inj. Betnesol 2 amps I.V.
3. Dopamin Drip 20 to 40 drops/min.

If Breathlessness or cyanosis

1. Oxygen by Nasal catheter or Mask.
2. Propped up position.
3. Inj. Aminophyllin 10 cc + 25% glucose 10 cc slow I.V.
4. Inj. Lasix 2-4 cc slow I.V. if LVF with creps.
5. I.V. Nitroglycerin drip - in I.C.C.U. (6D-5)

   Inj Pruside 50 mg in 5 ml, added to 500 ml 5% dextrose × 15 to 40 drops/min.

❖ In a Diabetic Patient, Chest pain may be mild or absent. Sudden sweating, unexpected hypotension, restlessness, uneasiness in chest should raise a suspicion of Heart attack.

ACUTE HYPOTENSION

When B.P. has fallen below 70 mm Systolic

1. Give Headlow position.

2. Start Intravenous drip of Ringer's Lactate or DNS with 18 No. needle, and let it run fast.
3. Inj. Efcorlin 100 mg I.V. stat (**Hydrocortisone** = 9A-5).
4. Inj. Mephentin 2 cc I.V. stat & S.O.S.
5. Inj. Sodabicarb 20-50 cc I.V. (to correct acidosis).
6. If there is evidence of Infection,
   Inj. Cefazolin 1g I.V. stat & 8 hrly. (**Higher antibiotic** = 7A-9)
7. If acute Gastroenteritis, refer next page.
8. If Myocardial Infarct is suspected.
   i) Inj. Fortwin 1 cc IM/IV stat.
   ii) Tab Isordil 10 mg Sublingual stat.
   iii) Tab Disprin 1 stat.
   iv) Shift immediately to Hospital.
9. If, after pushing 2 pints of RL, the BP does not rise, then Refer the patient to a hospital with IV drip running. Also start Dopamin drip, if hospital is not nearby. 500 ml RL + 2 amps Dopamin at 15 drops/min.

❖ When BP is below 70 mm systolic, Think about

1. Gastroenteritis.
2. Myocardial infarction.
3. Septic shock, due to severe infections like peritonitis.

WATERY DIARRHOEA & HYPOTENSION

1. Start IV drip of Ringer's Lactate, with 18 No. or 20 No. Needle, attach a 3-way, and push I.V. fluids fast using a 20 cc syringe.
   Push I.V. fluids till BP rises above 100 mm.
2. Inj. Efcorlin 100 mg × 1-2 vials I.V. stat (**Hydrocortisone** = 9A-5)
   or Inj. Decadron or Inj. Betnesol.
3. Inj. Gentamycin 80 mg I.V. 8 hrly (**Injectible antibiotic** = 7A)
4. Tab Sulfaguanidine 2 tds (**Intestinal antibiotic** 1J-7) or Gramoneg/ Oflox.
5. Tab Lomotil 2 tds (**Antidiarrhoeal** = 1J-2)
6. Tab Spasmindon 1 tds (**Anti Spasmodic** = 1L-6)

If BP does not rise after pushing 3-4 bottles, it is safer to refer the patient to a Hospital.

❖ In a patient with Diarrhoea & Dehydration, NEVER GIVE 5% DEXTROSE. Give Electrolytes - DNS, RL or NS.

❖ The patient may require 10 or more bottles of IV fluids, to be given within a short while.

WHEN BP IS > 200 MM SYSTOLIC

Acute rise of Blood pressure is potentially very dangerous, and can lead to hemiplegia due to cerebral hemorrhage.

1. Immediate and Complete Bed Rest.
2. Cap Depin 10 mg - punctured and squeezed sublingually - (**Nife-dipine** = 6AC-2)
   - May be repeated after 15 mins.
   or Inj Reserpine 1 amp IM stat & SOS (6A-1)
3. Inj. Calmpose 2 cc IM stat (**Diazepam** = 4D-3 = **Tranquiliser**)
4. Simultaneously, start anti-hypertensive treatment. eg. Tab Aten-50 mg 1 bd (**Atenolol** = 6AB-2 = **Betablocker**)
   or Tab Envas 2.5 mg 1 bd (**Enalapril** = 6AD-1 = **ACE Inhibitor**)

Subsequently

i) Adjust the doses of anti-hypertensive drugs
ii) Salt free diet
iii) Instruct the patient to be regular in treatment and check up

If patient is in Nursing Home or ICU set up

1. Inj. Labesol 50 mg IV stat (over 2 mins), then 50 mg IV every 5 min (**Labetol** = 6AB-5)
2. If Bradycardia or AV Block, NO Betablocker.
3. Inj. Pruside 0.25-5 mcg/kg/min Infusion (Sodium Nitroprusside).
   OR Nitroglycerin (NTG) drip at 5 mcg/min i.e. 50 mg in 250 ml at 2 ml/hr.

BREATHLESSNESS WITH WHEEZING

Acute exacerbation of Bronchial Asthma

1. Inj. Deriphyllin 2 cc IM stat (**Theophyllin + Etophyllin** = 5D-7)
2. Asthalin inhaler 2-4 puffs × through a spacer × repeated after 10 mins & as required (**Salbutamol** = 5E-1) Use of spacer is a must, as breathless patient cannot use inhaler correctly.
3. Nebulisation with Duolin Solution. Repeat after 15 mins. (**Salbutamol + Ipratropium** = 5E-V)

If no response, or if attack is severe,

4. Inj. Aminophyllin 10 ml + 25% glucose 10 ml IV × very slowly (5D-2)
   OR Inj. Adrenalin 0.5 ml subcut × in children and young adults. (5D-1)
5. Oxygen by Nasal catheter or mask till dyspnoea is controlled.
6. Beclate/Budamate inhaler 2 puffs × 6 hrly (**Steroid inhaler** = 5E-II) through a spacer.

If there is no relief in 10 minutes,

1. Repeat Inj. Aminophyllin slow I.V. or Adrenalin S.C.
2. Inj. Decadron 2 cc I.V. (**Dexamethasone** = 9A-2 or Betamethasone or Hydrocortisone)
3. Inj. Gentamycin 80 mg I.V. 8 hrly Or inj. Gramocef 1g I.V. 8 hrly (**Respiratory Antibiotic** = 7A)
4. Tab Calmpose 1 stat & S.O.S. (**Tranquiliser** = 4d-3)
5. Oxygen by nasal catheter or mask.

If there is no relief still

1. Refer to a Physician.
2. Start Aminophyllin drip - 2 amps. of aminophyllin in bottle of 5% dextrose × 20 drops/min.
3. Inj. Sodabicarb 50 ml × slow I.V. injection.
4. Repeat Inj. Decadron as required.
   After the attack subsides, start oral & inhaled Bronchodilator drugs. (For details, see "Bronchial Asthma" Page 31)

BREATHLESSNESS WITHOUT WHEEZING

If Pulse is very feeble - ? Left ventricular failure. If Liver is palpable, tender with Leg Edema - ? C.C.F. If only lung signs - Primary Lung disease.

If L.V.F.

1. Oxygen
2. Inj. Morphine 15 mg IM or Fortwin/Norphin (3B-4 to 7)
3. Inj. Betnesol 2-4 amps IV or Decadron/Hydrocortisone (9A-2,3 & 5)

4. Inj. Lasix 1-2 amps I.V. (**Frusemide** = 6B-1)
5. Inj. Aminophyllin 10 ml + 25% dextrose 10 ml × slow I.V. (5D-2)
6. Refer to Hospital to rule out Myocardial Infarct.

If C.C.F.

1. Propped up position.
2. Oxygen.
3. Inj. Aminophyllin 10 ml + 25% Dextrose 10 ml × slow I.V. (5D-2) or Inj. Deriphyllin 2 cc IM (5D-7)
4. Inj. Lasix 2amps I.V. (**Frusemide** = 6B-1) Inject IM, if BP is low.
5. Tab Cardace 1.25 mg OD (ACE-Inhibitor = 6AD-4)
6. Tab Lanoxin 3 stat, then 1 tds × 3 days, then 1 OD.
7. Tab Calmpose 5 mg 1 stat.
8. No IV fluids, No saline (No salt).

If Lung Disease

1. Oxygen.
2. Inj. Aminophyllin 10 ml +25% Dextrose 10 ml × slow I.V. (5D-2) or Inj. Deriphyllin 2 cc IM stat (5D-7)
3. Inj Decadron 2 cc I.V. stat (9A- 2, 3 & 5).
4. Get X-ray Chest as early as possible to decide further line of treatment.

SEVERE HEMATEMESIS OR HEMOPTYSIS

Step I: Quickly Judge the source of bleeding

Hemoptysis	Hematemesis
1. If H/o cough, breathlessness expectoration	1. If H/o epigastric ie. ulcerlike pain. If H/o alcoholism & cirrhosis.
2. If Blood is coughed out & is mixed with sputum.	2. If Blood is vomited out and is mixed with food particles.
3. If Blood is bright red, frothy with sputum.	3. If Blood is coffee ground But it may be fresh red if variceal bleeding.
4. Litmus Paper = alkaline reaction.	4. Litmus test = acid reaction

Step II: Start 18 No. I.V. Line

1. Start RL or DNS, using 18 No. scalp vein needle (or 20 No.) and let the I.V run in very fast.
2. If lot of blood is lost, start Hemacele/ Dextran. (Plasma expanders)
3. Make arrangements to shift the patient to a Hospital with Blood Transfusion facilities.

Step III: Measures to stop bleeding.

1. Inj. Calcium gluconate 10 ml slow I.V. stat (**Calcium** = 6G-3)
2. Inj. Dicynene 2 ml I.V. stat & 4 hrly. (**Ethamsylate** = 6G-4) or Inj. Stryptochrome 2 cc IM stat (**Adrenochrome** = 6G-1)
3. Inj. Morphine 15 mg IM stat (**Narcotic analgesic** = 3B-4 to 7)
4. Inj. Decadron 2 cc I.V. stat (**Dexamethasone** = 9A-2, 3 or 5)

If Hematemesis

1. Ryle's tube and cold water stomach wash.
2. Inj. Ranitidine 1-2 amps I.V. (1B-2)

If Hemoptysis

1. Inj. Cefazolin 500 mg I.V. 6 hrly. (**Higher Antibiotic** = 7A)

2. X-ray Chest and if hilar shadow, then Bronchoscopy.
3. Anti-TB treatment, if Tuberculosis.

SCORPION BITE

Patient presents with very severe pain & sweating.

1. Inj. Pethidine 100 mg IM/IV stat. or Inj. Fortwin/Norphin/Morphine. (3B = 4 to 7)
2. Inj. Local Xylocaine 2%: infiltrate at and around the site of bite. (The site of bite is identified as pinpoint puncture spot, local sweating & edema).
3. Tab Prazopress 1 mg stat (**Prazocin = alpha blocker** = 6A-26) or Tab ciplar 40 mg stat (**Propranolol** = 6A-6)
   - In children, Tab Prazopress 1 mg × ¼-½ Tab or Ciplar 10 mg Tab. In Most cases, where scorpion Poison is mild, this treatment is sufficient.

If there is systemic involvement

Systemic involvement is indicated by- Profuse sweating, Ice cold extremities, priapism, Hypersalivation, Vomiting, Hypertension, Tachycardia and Pulmonary edema.

1. Observe Pulse rate, B.P. and Breathlessness, every 10 mins
2. Tab Prazopress 1 mg stat, ½ tab after 4 hrs, then ½ tab every 6 hrs till systemic symptoms & signs disappear, usually 24 to 48 hrs. (**Prazocin** = 6A-26) or Tab Ciplar 40 mg 1 stat, 1 after 4 hrs, then every 6 hrs.
3. Inj. Fortwin 1 cc IM/IV S.O.S. if pain is severe (3B = 4 to 7)
4. I.V. Ringer's lactate × if profuse sweating & dehydration.
5. **If B.P. > 150/100 mm Hg** Cap Depin 5 mg sublingual, to be repeated S.O.S. after ½-1 hr. (**Nifedipine** = 6A-13)
6. **If Tachycardia > 110/min.**
   - Inj. Calmpose 2 cc IM or slow I.V. (**Diazepam** = 4D-3)
7. **If Breathlessness, fine basal crepts i.e. Pulmonary Edema**
   i) Propped up position.
   ii) Oxygen.
   iii) Inj. Lasix 2-4 amps I.V. stat (**Frusemide** = 6B-1)
   iv) Inj. Efcorlin 100 mg I.V. stat (**Steroid** = 9A-2, 3 or 5)
   v) Inj. Aminophyllin 10 ml + 25% glucose 10 ml × slow I.V. (**Bronchodilator** = 5D-2)
   vi) In Life threatening situation, with severe dyspnoea and frothing through mouth, Give Sodium Nitroprusside drip till pulmonary edema is controlled.
   - Inj Pruside 50 mg in 5ml x added to 500 ml 5% dextrose x 15 drops/min × may be increased upto 40 drops/min.

❖ There is no specific antidote for scorpion poison. The magical effect of Prazocin, which gives total protection against cardiac toxicity of scorpion bite was discovered by an Indian doctor, Dr. Bavaskar from Mahad, Raigad district in Maharashtra.

SNAKE BITE

First Aid

1. A reassurance is often the most important part of treatment to the panicked patient.
2. Tie a tourniquet above the site of bite on the limb, using a handkerchief or long piece of cloth, not too tight - Just to occlude venous & lymphatic return.

3. Immobilise the limb with splint, because movements = more absorption.
4. If snake was poisonous, make a cruciate incision through the bite marks, and allow the blood to flow.

Signs of Poisoning

Two Puncture marks, ¾-1 cm apart, should make you suspicious of poisonous snake bite.

There are 2 types of Snake Poisons - Paralytic type and Hemolytic type.

Paralytic type

Stage I : Ptosis.

Stage II : Difficulty in Swallowing

Stage III : Respiratory difficulty & paralysis.

Hemolytic type

Local swelling around the bite, develops rapidly.

Blood collected in test tube does not clot.

If no signs of poison

1. Tab Calmpose 1 stat (**Diazepam** = 4D-3 = to relieve anxiety)
2. Tab Disprin 1 stat (**Analgesic** = 3A-1)
3. Inj. T.T. ½ cc IM stat.
4. Reassure the patient.
5. Observe for 6 hrs. Watch for the 4 signs of snake poison - local swelling, ptosis, dysphagia and respiratory difficulty.

If signs of Poison are seen

A. Paralytic type

Act immediately if ptosis or dysphagia is seen. If you do not have A.S.V., take the patient quickly to a Hospital where A.S.V. is available. Remember that Respiratory Paralysis is imminent.

1. Inj. Decadron 2 cc I.V. stat (**Steroid** = 9A-2, 3, 5)
2. Inj. Avil 1 amp. I.V. stat (**Anti-histaminic** = 5B-1)
3. Inj. A.S.V. 1 to 4 vials, slow I.V. × after test dose. Then 1 vial, every 15 mins. till the signs start reversing (**ASV-Polyvalent** = 14-16I). A.S.V. vial contains powder. Dissolve in 10 ml. distilled water. Inject ½ cc I.V. as test dose. Wait for 2 mins. and watch for Urticaria. Then inject the full dose of A.S.V.
4. Inj. A.S.V. 1 ml locally around the site of bite.
5. Inj. Neostigmine 4 amps I.V.
   Preceded by Inj. Atropine 2 amps I.V. (to counter excess salivation caused by Neostigmine)
6. Throat suction - repeatedly, if dysphagia.
7. Endotracheal intubation and artificial respiration with Ambu Bag - if respiratory paralysis.
   - Give A.S.V. 1 vial every ½ hr. till respiration starts. A total of 10 to 25 vials may be required if respiratory paralysis has occurred.

How to give ASV

First start IV line, give 0.5 ml ASV x IV and watch for reaction for 2-3 minutes. Give Avil, Decadron till then.

Then initial loading dose is given steadily nonstop, each one vial (10 ml) taking 8-10 minutes to inject. Assistant dissolves and prepares the next vial simultaneously.

After loading dose, repeat ASV – 1 vial every 15-30 min, till voluntary breathing starts, and dysphagia reduces i.e. patient can swallow. The Ptosis will remain, it will reverse slowly, after several hours.

Loading Dose of ASV

Patient who has Ptosis, which does not progress to Dysphagia, will need 3 to 5 ASV vials over 30-45 minutes.

One who has dysphagia, will need 8-10 vials stat (over 60-70 minutes), then 1 vial every 15 minutes till he can swallow water and saliva and can lift the neck.

Patient who has laboured breathing, shallow breathing or respiratory arrest, will need 12- 15 vials stat, then 1 vial every 15 minutes, till breathing starts – which usually requires 20 to 25 vials, along with artificial respiration if needed, and Neostigmine as mentioned above.

There is no exact dose or formula. You have to watch the patient's clinical condition and adjust the dose – i.e. see how much is the paralysis and how fast it is developing.

Ptosis is an early danger sign, but Dysphagia is dire emergency, because within next few minutes, patient may progress to respiratory failure.

Ask patient to swallow. If he struggles to swallow, or cannot swallow, or throat is full of secretions – it means that he has dysphagia. Keep Ambu bag and endotracheal intubation set ready.

Patient's heart is healthy. So in emergency, just maintain the respiration, with Ambu bag and mask. Prepare for intubation, call for help and intubate, and then Ambu till respiration recovers.

B. Hemolytic type

If there is local swelling around the area of bite, First collect 1 cc blood in a test tube and see if it clots. If it doesn't-

1. Inj. Decadron 2 cc I.V. stat (9A-2)
2. Inj. Avil 1 amp I.V. stat (5B-1)
3. Inj. A.S.V. 2-6 vials slow I.V. × A.T.D. × depending on the severity of local swelling.
   - Repeat clotting time every 4-6 hrs.
   - Repeat Inj. A.S.V. 1 vial if local swelling continues to increase.
4. Inj. A.S.V. 1-2 ml locally around the site.
5. Elevate the leg, apply Thrombophob ointment, and give Magsulph compresses.

   or If edema is minimal, apply Elastocrepe and remove the bandage - watch the skin - reapply every 6 hrs.

If edema becomes severe, skin becomes bluish black or if circulation to toes is impaired, then immediate faciotomy incisions must be taken to save the limb.

In late cases, watch for Hematuria, urine output and bleeding from other sites.

If Urine output reduces

1. I.V. Mannitol 300 ml.
2. Inj. Lasix 2 amps I.V. stat & S.O.S.
3. Inj. Decadron 2 cc I.V. 6 hrly.
4. Peritoneal Dialysis if renal failure.

If Bleeding occurs

1. Fresh Blood Transfusion.
2. When available, Platelet transfusion and I.V. Fibrinogen 300-600 mg
3. Inj. Heparin if D.I.C

Rough dosage for hemolytic snake bite, based on extent of swelling. No formula.

Consider a bite near the toes.
Note the area of 'swelling and tenderness'

1. 3"-4" i.e. swelling just over the dorsum of foot = Give 3-4 vials ASV stat. Then more if swelling is increasing.
2. 9"-10" i.e. swelling reaching around and above the ankle = 8-10 vials stat. Then more if swelling is increasing.
3. >18" i.e. swelling reaching to knee and above = 12-15 vials stat. Then more if swelling is increasing
4. Large swelling reaching thigh and inguinal region = 18-20 vials stat + Mannitol, Lasix and observe carefully for renal failure and internal bleeding.

Patients who present late – after 3-4 days, without taking ASV are more prone to develop these complications.

Clotting time is only of Diagnostic value. It remains high for >24 hrs, and does not indicate how much dose to give. Dose depends on amount of swelling. Clotting Time becomes normal after 24-48 hrs, and swelling subsides over 3-4 weeks

DOG BITE

It is most important to watch the Dog for next 5 days

If Dog is normal & live at the end of 5 days = No worry.
If Dog behaves abnormal & dies = Rabies

If Dog is unknown or is killed = Give full immunisation as for Rabies.

I. Local Treatment

1. Wash the wound thoroughly & repeatedly with soap (or cetavalon) and flowing water.
   Then under local anesthesia, Clean with 70% alcohol or Iodine.
2. Do not suture CLW, if small.
   If large CLW, then suture loosely with drain.

II. Active Immunisation

3. Inj. Rabipur × 6 injections × on 1st day, 3rd day, 1 wk, 2 wks, 1 mth & 3 mths. (cell culture vaccines = 0, 3, 7, 14 & 28)

   or Inj. A.R.V. 5 ml subcut daily × 14 days. (21 days if infection is severe) × injected at different sites over the abdomen.

   If the dog is domestic and immunised against Rabies, then wait and watch for 5 days. If immunisation status of the dog is not known, start immunisation immediately and if dog is well after 5 days, stop it (i.e. 2 doses Rabipur or 5 doses A.R.V.). Don't take risk, as Rabies has no cure.

III. Passive Immunisation

If multiple & deep bites, If bites on face and neck, then additional passive immunisation should be given with hyperimmune serum i.e. T.I.G.

4. Inj. Serum T.I.G. 'Berirab' (300 iu in 1ml amp) 3-4 ml × I.M. × injected away from the site of injection of ARV or Rabipur × A.T.D. (20 iu/kg body wt of Rabies antibodies = 14-8-3)
5. Serum T.I.G. 1 ml is applied locally to the wound or infiltrated around it.

Note: If Serum T.I.G. is given, 2 booster doses of A.R.V. must be given every 10 days after the 14 or 21 days course, Dose of Rabipur is not affected.

- Dose of cell culture vaccines is same for children and adults. Dose of ARV if body wt < 30 kg = 2 ml. per day.
- Persons exposed to Rabid animals must take prophylactic vaccine (cell culture vaccines)
  - Inj. Rabipur 1 ml on Days 0, 7, 21, 1 yr, then every 3 yrs.

e.g. Veterinary Doctors & other workers, Forestry workers, workers in slaughter houses, Research workers, rural postmen.

PATIENT SAVED FROM DROWNING

First Aid Treatment

1. Place the patient prone, on hard ground and compress the chest to bring out fluid from the chest and respiratory tract.
2. Then make him supine, clear the airway and pull the jaw forwards.
3. If respiration stops, give mouth to mouth respiration.
4. If Pulse stops, give external cardiac massage.
5. Shift the patient to hospital, where a cuffed endotracheal tube is passed, airways are sucked clear, and artificial respiration is maintained, if necessary.

Further Treatment

I. Fresh water Drowning: causes hemodilution and hemolysis.

1. Inj. Lasix 2 amps I.V. stat (**Frusemide** = 6B-1)
2. Inj. Sodabicarb 100 ml I.V. stat
3. Blood Transfusion.
4. Inj. Cefazolin 1 g I.V. 8 hrly. (7A-9 = Antibiotic to prevent aspiration pneumonia).

II. Sea Water Drowning: Causes Pulmonary edema and hypovolemia.

1. I.V. Hemacele or Dextran 70 × 500 ml (Plasma expander)
2. Inj. Lasix 2 amps I.V. (**Frusemide** = 6B-1)
3. Inj. Efcorlin 100 mg × 2 vials I.V. (**Steroid** = 9A-2, 3 or 5)
4. Inj. Mephentin 2 cc I.V. × if BP is low.
5. Inj. Cefazolin 1 g I.V. 8 hrly (7A-9)

❖ Every child must learn to swim. Insist on parents to make their children to learn to swim.

TEMPERATURE > 104°F

1. Tepid sponging with towels soaked in cold water. Mix a small quantity of alcohol or eau d'cologne to the water to enhance cooling effect. Do not use ice cold water.
2. Ice-cap over the forehead.
3. Inj. Calpol 2 cc IM stat (**Para-cetamol** = 3A-3)

   or Inj. Paracip infusion 1000 mg in 100 ml IV over 15 minutes.
4. Tab Crocin 2 stat and 1 S.O.S. after 2-3 hrs. (**Paracetamol** = 3A-3)
5. Tab Gardenal 60 mg 1 stat (**Phenobarbitone** = 4D-1)
6. If dehydration,
   i) I.V. Glucose saline 540 ml.
   ii) Oral fluids and Electral or Relyte solution.
7. Check Blood for Malaria.

❖ Any fever can be brought down by Tepid sponging within 15 minutes.

BURNS

Assess the severity of Burns by Rule of Nine

Each upper limb = 9%, Each lower limb = 18%

Front of Chest & abdomen = 18%

Back of Chest & abdomen = 18%

Head & face = 9%, Genitalia = 1%

If surface area involved is > 10%, then hospitalisation and I.V. fluids are required.

If area is more than 15-20%, then do not handle the case. Refer to a Hospital or Burns center.

First Aid

1. Pull the patient away from the site of fire or heat, and put out the flames with water. (or by covering with thick Blanket)
2. Then pour water generously over the burnt area, to bring down the tissue temperature immediately and minimise deep tissue damage.
3. Check Pulse, Respiration & Blood Pressure. Assess the degree and depth of Burns.

If Burns < 15%

1. Inj. Fortwin 1 cc IM/I.V. stat (**Narcotic analgesic** = 3B-4 to 7)
2. Clean gently with Savlon and water.
3. Then smear antiseptic ointment = Silver sulfadiazine or Betadine or Soframycin (11B-4)
4. Inj. T.T. ½ cc IM stat & after 6 wks. (14-7i)
5. Cap. Cefalong DS 1 bd × 5 days (7A-9 = **antibiotic**)
6. Inj. Decadron 2 cc I.V./IM 12 hrly × 2 days (9A = **Steroids**)
7. I.V. fluids = Ringer's lactate & DNS if dehydration

   Parkland's Formula for fluid requirement = 4 × Body weight in Kg × Percentage of area burnt

When to refer to a Hospital?

1. If surface area of Burns is > 15%
2. If Burns are very deep
3. If face, neck or eyes are involved.
4. If fumes are inhaled with possibility of lung injury.

ELECTRIC BURNS

1. First pull the victim away from contact with the live wire.
   a. Push/ pull him away, using a non conducting i.e. wooden stick or chair, and standing on rubber footwear, wooden chair, or Newspaper/Book.
   b. Turn off main switch immediately.
2. Check Pulse and Respiration. If OK, then ECG.
   a. If Cardiac or Respiratory arrest, Start external cardiac massage and mouth-to-mouth respiration. Shift the patient to Hospital immediately maintaining CPR.
   b. If Pulse is irregular, shift patient to ICU immediately. Take ECG for Ectopics and Arrhythmias and treat accordingly. Observe with cardiac monitor for 24-48 hrs.
3. Next, Examine point of Entry and point of Exit, Legs, axilla and Groins for burns. Check for muscle tenderness, Joint dislocations and Fractures.
4. **In High voltage burns**, and where necrosis is more, check-
   a. Blood CPK & CPK-MB
   b. Urine for Myoglobinuria

   To prevent obstructive nephropathy due to Myoglobinuria, give-
   - IV fluids RL 1000 ml fast, then slow.
   - Inj. Soda bicarb 50-100 ml IV
   - Inj. Mannitol 20% 100 ml 6 hrly.
5. If semi-conscious, restless, irritable, = ? Cerebral edema

   Inj. Decadron 4cc IV stat, and 2cc x 8 hrly

Inj. Mannitol 20% 100 ml x 8 hrly

MRI of Brain

6. If severe limb edema, colour change, or compromised capillary filling, immediate fasciotomy to save the limb.
7. Later, Desloughing and skin grafting for the wounds. Full thickness grafts, if tendons and bones are exposed.

HEAD INJURY

What will you look for?

1. Ask H/o Unconsciousness
   H/o Vomiting
   H/o Convulsions
   H/o Bleeding through Ears, Nose or mouth.
2. Examine Scalp for
   - Hematoma - Boggy swelling
   - Bruising
   - Black eye
3. Look for bleeding or CSF leak (thin watery blood) from ears & Nose.
4. Examine & note -
   - Size and reaction of pupil
   - Level of consciousness
   - Neurological weakness in limbs
   - Pulse rate.
5. Examine Head to toe-for any other injury.

❖ Head injury alone does not cause low Blood pressure. If BP is low, examine carefully for 1) internal hemorrhage in chest or abdomen and 2) Spinal cord injury.

Treatment

1. Inj. T.T. ½ cc IM stat + 2nd dose after 6 wks (14-7i)
2. Inj. Voveron 3 cc IM stat if Pain. (**Diclofenac** = 3c - 51) or Tramadol

   Do not give Morphine/Norphin/ Pethidine, which will interfere with pupillary changes.
3. Tab Combiflam 1 tds for pain (3C-3)
4. Inj. or Cap. Baciclox 500 mg tds x 5 (**Antibiotic** = 7A)

   If there is CSF leak, use higher antibiotic e.g.
   Inj. Cefentral 1 g I.V. 12 hrly (**Cefotaxime** = 7A-IIIa)
5. Inj. Decadron 2 cc I.V. 8 hrly x 3-4 days x if evidence of cerebral edema/ injury (**Injectible steroids** = 9A-2)
6. Locally - Dressing of abrasions
   - Suturing of CLWs
   - Cold compresses to Hematoma & black eye
7. I.V. fluids - generally avoided.
   - Ringer's lactate, if Hypotension.

Ask for C.T. scan if patient develops

1. Limb weakness (In unconscious patient, look for asymmetrical movements of limbs on giving a painful stimulus.)
2. Pupils become unequal.
3. Bradycardia - esp if < 60/min.
4. Decrease in level of consciousness.

ORGANO PHOSPHORUS POISONING

Take the patient to a Hospital. This is a Medico legal case. Typical smell and constricted pupils make the diagnosis obvious.

1. Insert a stomach tube and give a thorough stomach wash.
   - Preserve the sample of stomach contents in an empty saline bottle.

- Continue stomach wash every hour for 2 days.

2. Start I.V. drip of 5% dextrose.
3. Inj. Atropine 10 amps I.V. stat.
   - If pupils do not dilate within 10 minutes, repeat 10 amps atropine, every 10 minutes till pupils dilate.
   - Then give 2-5 amps of atropine every 1 hr plus more, if pupils constrict again.

- If patient has tremors or convulsions on First day, then Prognosis is poor.
- Patient may recover initially, but die of Respiratory paralysis on 6th to 8th day. Warn the relatives in severe poisoning cases, that nothing can be said for 8 days till all poison is driven out of the body.
- In any ingested poison, stomach wash is as important as the specific antidotes.
- High dose atropine may precipitate acute retention of urine (insert catheter) and in old patients, glaucoma.

4. Inj. P.A.M. 2 amps. I.V. slow x stat then 2 amps 4 hrly to 10 amps in 1st 24 hrs. Then 1-2 amps everyday if dose of poison was high.
5. If Patient becomes violent or agitated due to atropine toxicity
   - Inj. Largactil 2-4 cc IM. (**Chlorpromazine** = 4E-1)
6. If and when Respiratory difficulty, Patient is intubated and put on ventilator, till respiration becomes normal, which takes upto 1-2 wks.

POISONING

General Principles of Management

1. First assess the General condition- Pulse, Respiration, Blood pressure, Pupils and Level of consciousness.

   If unconscious,

   i) Suck throat and maintain adequate airway.

   ii) Head low position.

2. Ryle's tube wash: Insert a large bore Ryle's tube or preferably stomach tube, and give a thorough stomach wash.
3. Activated Charcoal - after giving stomach wash.
4. Give specific antidote if available.
5. General Care:
   i) Inj. Calmpose 2 cc I.V. slow, if convulsions
   ii) Catheterisation if retention.
   iii) Endotracheal intubation and artificial respiration if respiratory failure.

TABLE 19.1: TREATMENT OF SPECIFIC POISONS

POISON	ANTIDOTE & OTHER MEASURES
1. **Ethanol (Alcohol)**	1. I.V. 25% glucose 4 amps. 2. Inj. Polybion or M.V.I in 10% dextrose drip 3. Inj. Mannitol 300 ml slow I.V.
2. **Methyl Alcohol**	1. Inj. Sodabicarb 150 ml I.V. Then 100 ml I.V. every 2 hrs. 2. Ethyl Alcohol 50 g. 3. Inj. Folinic acid 30 mg I.V. 4. Hemodialysis S.O.S.

(Contd...)

TABLE 19.1: TREATMENT OF SPECIFIC POISONS (CONTD.)

POISON	ANTIDOTE & OTHER MEASURES
3. Barbiturates	1. Repeated Gastric lavage 2. Forced alkaline Diuresis - 4 × 500 ml DNS + 10 cc KCl. I.V. - 150 ml Sodabicarb 7.5% I.V. - Mannitol 20% × 350 ml × I.V. 3. Inj. Lasix S.O.S. 4. Hemodialysis S.O.S.
4. Tricyclic Antidepressants like Imipramine	1. Gastric lavage 2. Activated Charcoal 3. Inj. Sodabicarb 150 ml I.V. if acidosis 4. Inj. Physostigmine salicylate 2 mg I.V. repeat after 15 mins & then 1 hrly. - Dialysis does not help
5. Salicylates	1. Gastric Lavage & Activated Charcoal 2. Antacids - Gelusil 60 ml × 4 hrly 3. Icecold milk by nasal drip 4. Hemodialysis S.O.S. **Other** 1. Inj. Sodabicarb 100 ml I.V. stat, then as per blood pH & Electrolytes 2. Inj. Calcium gluconate 10 cc I.V. if tetany 3. Inj. Paraldehyde 10 ml IM if convulsions 4. Inj. Vit K 10 mg IM OD, if bleeding
6. Paracetamol > 15 gm	1. T.Methionine 2.5 gm Orally × every 4 hrs × 4 doses or N.acetyl-cysteine 150 mg/kg slow I.V. then 50 mg/kg I.V. every 4 hrs.
7. Morphine, Pethidine, Pentazocin, Codeine	1. Artificial ventilation if respiration is depressed 2. Gastric lavage, if oral administration 3. Inj. Nalorphin 0.4 to 1.2 mg I.V. slow or Inj. Nalorphin 10 mg I.V. stat, & repeat ½ hrly upto 40 mg
8. Kerosene	1. Careful Gastric Lavage. Do not induce Vomiting 2. Liq. Paraffin 250 ml Oral stat 3. Inj. Cefazolin 1 g I.V. 12 hrly if aspiration pneumonia

(Contd...)

TABLE 19.1: TREATMENT OF SPECIFIC POISONS (CONTD.)

	4. Inj. Deriphyllin 2 cc IV, if Bronchospasm 5. X-ray Chest after 12-24 hrs to look for pneumonia
9. Napthalene	1. Gastric Lavage 2. Inj. Sodabicarb 100 ml I.V. stat, Then 50 ml I.V. 4 hrly S.O.S. 3. Inj. Lasix 40 mg I.V. stat & S.O.S. 4. Hemodialysis, if acute renal failure
10. Acids	1. Never put a Ryle's tube 2. Milk 200 ml oral & S.O.S. 3. Digene 30 ml 1-2 hrly 4. Inj. Calmpose 2 cc I.V./IM stat 5. I.V. Fluids
11. Alkalis	1. Lime Juice or 10% Vinegar orally 2. Milk 200 ml oral, then milk diet 3. Xylocaine Viscous 10-15 ml, 1-2 hrly
12. Datura Poisoning	1. Gastric lavage 2. Inj. Calmpose 2 cc I.V./IM stat 3. Inj. Neostigmine 5 mg I.V./S.C.
13. Mushroom	1. Inj. Atropine 2 amps I.V. stat & S.O.S. 2. Inj. Largactil 2-4 cc IM if Hallucinations
14. Rat Poison (Phosphides/ Warfarin)	1. Gastric lavage with 1:10,000 $KMnO_4$ (just pink) 2. Then with 2% Sodabicarb 3. Activated Charcoal 4. Inj. Vit K 10 mg IM 5. Blood Transfusion, if bleeding



SECTION 3
DIET AND EXERCISE PRESCRIPTIONS

Chapter

20 DIETARY ADVICE

ADVISING THE DIET

The most important advice the patient and the relatives seek from the Doctor – next of course to medicines – is the dietary advice. Unfortunately, we doctors usually tell the patients only what not to eat. The patient then goes home and ponders at every feed, as to what is allowed and what is not. **Dietary advice is also about what to eat, and not just what not to eat.**

This chapter is written in the format of the Doctor advising the patient, and we shall see what one can advise in commonly faced health problems.

These are the gross guidelines. Take into consideration the eating habits of the local people. (Advice to eat idli may be right in the Southern states, but may not go well in the North). Also consider the eating habits of the person and his family. (Don't tell a poor man to eat pudding & cheese sandwich). And then using the guidelines given below, form your own menu.

For more interested Doctors, there is a Diet prescription at the end of the chapter, which may be Xeroxed, or printed in Local language on your letterhead. For selected patients, like Diabetes, Jaundice, Ulcer, IHD, Typhoid etc, you may tick mark what to eat and what not to eat, and give this prescription.

Fever: Viral fevers, Typhoid

"Take soft foods – Ganji (Rice or Sago), Kheer (Payasam), Soft rice with milk/ghee/ plain Daal, Boiled vegetables (Cauliflower, Beet, Cabbage). You may take little lime pickle or papad for taste but **no chillies. Don't take any oily or fried foods.**

Take plenty of water and fluids every 2-3 hrs. Take plain water, Limewater, Coconut water or Electral water. Take milk with Horlicks or Bournvita. With the meals you may take soups, Buttermilk. **But avoid Cold drinks, Cold water, Ice-cream.**

For snacks you can take Plain Idli with butter, Bread butter, Toast-jam, Gujarati Plain Khakra, or Cornflakes. Take fruits like Apple, Bananas, Pear, Citrus fruits, Watermelon. You may also take dry fruits & Biscuits."

Cough

"**Take warm or hot drinks often** – like hot tea, coffee, milk or soups 5-6 times a day. Totally avoid fried foods like Wada, Samosa, Dosa, Pakodas, Papad, Namkeens & Potato chips. Avoid Hotel food.

Do not take any Cold drinks, Cold water, Ice cream, chilled food from refrigerator.

Avoid sour fruits like Citrus fruits, Grapes. Take Sweet fruits – Bananas, Papaya, Mango.

Take mainly Soft diet - Rice, Chapati or Phulka, with Non-spicy vegetables. Take Boiled vegetables".

Asthma

"**Avoid Deep fried foods** like Samosa, Dosa, Pakodas, fried Papad, Namkeens & Potato chips, Hamburgers & Pizzas.

Avoid too cold foods like Ice-cream, Kulfi, Cold drinks.

Avoid Sour foods like Non-fresh curds, Sour Lassi, Srikhand, Raw Onion.

Avoid Sour fruits like Citrus fruits (Mosambi, Orange, Lemon), Sour grapes

Important: By trial & error method and keen observation, note if any particular food precipitates attack of bronchospasm. Any such food must be totally avoided.

Take a glass of warm water early morning. Take warm drinks often like tea, Coffee, Soups.

For Breakfast & snacks, take Bread sandwiches, Idli, Sheera, cornflakes, Khakra, Biscuits, Sweet fruits like Apple, Papaya, Mango, Dry fruits.

For meals, have Roti, Chapati, Rice. Take plenty of leafy vegetables like Palak, Methi, Cabbage, and salads like Beet, Carrot, Cucumber. Cooking should use minimum oil, Non-vegetarian foods may be taken, only if tolerated.

Avoid heavy meals – eat small frequent meals. And take early dinner. Avoid sleep for at least 2 hrs after meals. Emphysema patients should have early dinner at 6 pm."

Acidity, Peptic Ulcer

"**Avoid periods of starvation**. Take small meals every 3 hrs. Do not keep the stomach empty, also do not take heavy meals. **Avoid Tea & Coffee** - Never on empty stomach. Milk is good – Cold milk is better. Add Horlicks, Bournvita, or Kesar for taste.

For Breakfast & snacks, Bread or toast with Jam, cheese or butter, Idli, Sheera, Cornflakes, Plain Khakra. Avoid deep fried & hot foods like Samosa, Pakoda, Masala Dosa, Hamburger. You may take sweets, Cakes.

Avoid all chilies. Avoid Chaat preparations.

For meals, vegetables and other preparations should be non-spicy. Take plenty of raw and boiled vegetables. Take Rice with plain dal or milk or ghee. Take chapati, Phulka or Roti. You may take Jelly, Pudding or Ice-creams after meals.

Avoid sour fruits like Citrus fruits, Imli, Grapes. Take sweet fruits, Dry fruits."

When there is acute exacerbation of Peptic ulcer, patient should take absolutely bland diet. Take plenty of Cold Milk, Chocolate milk shake, Ice-cream, and food without chillies like Bread butter, Rice with plain dal, Boiled vegetables, sweet biscuits, sweet fruits, plain idli, etc. till acute phase is controlled.

Flatulence

Avoid all oily & fried foods – like Pakodas, Samosa, Namkeen, Potato chips, Puri-Bhaji.

Avoid Tubers like Potato, Sweet potato. Avoid flatulent foods like Harbara dal, Chana dal, Brinjal.

Take easily digestible foods. Wheat causes flatulence in many. So Roti (Jawar) is preferred to Chapati (Wheat). All Preparations should be less spicy. Vegetables and fruits contain fiber and should be taken in plenty.

Avoid aerated drinks. Avoid Paan chewing and smoking.

Avoid over eating, Do not sleep immediately after food. Have a small walk after each meal.

Chronic Constipation

"Aim" should be to provide more roughage in the diet. So take plenty of green vegetables like Cabbage, Cauliflower, Palak, cucumber, Lady's finger etc.

Eat plenty of fruits. Fruits with edible covers like apples, pears, (inner covers of Mosambi or Orange), should preferably be eaten with the cover. Eat Just ripe (slightly raw) Bananas.

Take 2 tsp of ghee with warm water early in the morning.

For breakfast, take Bread, Toast, Cornflakes.

For meals, start with plenty of Salads and boiled vegetables, have preparations of sprouted cereals and vegetables, with rice and Roti.

Avoid oily & fried foods. But in general, there is no restriction to taking any particular food."

Acute Diarrhoea

Principle is to take adequate quantities of water and electrolytes.

Take plenty of Fluids – Orolyte (Electrolyte solutions), Lime water with salt and sugar, Coconut water, Black tea, Buttermilk, Soups, Daal water, Ganji, Fruit juices, Cocum syrup.

But avoid aerated drinks. Avoid milk. Avoid Chilies, avoid all deep fried foods.

Take over ripe Bananas, Bread, Biscuits.

Once the acute phase is controlled, start on soft diet like Bread, Toast, Idli, Sheera, Cornflakes, Soft rice, dry fruits, Salads.

Irritable Bowel Syndrome

1. Eat small portions, frequently and at leisure. Chew thoroughly. Avoid heavy meals and hurried meals. If in hurry, eat less.
2. Avoid ice cold water, cold drinks, Icecreams.
3. Bulk of the diet should be food with soluble fibers:
   a) Rice & Rice products (Idli), Pasta, Jawar roti, oatmeal, cornflakes, Barley, White bread.
   b) Potato, Sweet Potato, Beet, Carrot, Pumpkin, Mushroom.
   c) Banana, Papaya, Peeled apple.
   d) Cook with minimum oil.
4. Food with insoluble fibers should be taken in small quantities and not on empty stomach. More quantity may be taken in IBS with constipation:
   a) Whole wheat flour (Chapati), Cereal, Bran, Beans, Seeds, Lentils, Popcorn
   b) Cabbage, Cauliflower, Broccoli, Sprouts, Peas, Tomato, Cucumber
   c) Pineapple, Citrus fruits, Grapes, Raisins, cherry.
5. Trigger foods that induce diarrhoea should be completely avoided:
   a) Milk & dairy products, coconut,
   b) Fried food (Pakodas, Namkins, French fries), Spicy foods, Curry
   c) Oil, Butter, Solid chocolates, artificial sweeteners
   d) Egg yolk, Red meat
   e) Coffee, Carbonated drinks, Alcohol

Jaundice

The principle is Fat free diet. No oil, ghee, fried foods. Plenty of sweets. No alcohol.

Take Rice, wheat, Jowar, Daals.

For breakfast, you can take Toast-Jam (No Butter), plain Idli, Tea with skimmed milk.

For Meals, take Rice, Phulka, Daal, Kadhi, Roti, Tomato/Vegetable soup. Take all

vegetables but no oil or Masalas in the preparation. For taste you can add garlic paste, or tomato gravy. Roasted Papad, After meals you can have Jelly, Custard or fruit salad in Skimmed milk.

You can have All fruits, Fruit juices, Glucose Biscuits, Plain Popcorns, Chirmure, Amongst dry fruits take Dates & manuka.

No eggs, meat and Non-veg preparations. No Oil, Ghee and Butter. No peanuts, Coconut, or any oil seeds.

Take Boiled water for all at home, And avoid Hotel/Mess foods".

To prepare skimmed milk for Jaundice patients: Boil milk, cool & keep in fridge for 3-4 hrs, then remove all the cream.

Again boil it, cool, keep in fridge, remove the cream. This is skimmed milk with negligible fat content.

IHD

Principle is to avoid fatty foods. If there is Hypertension, avoid salt.

Avoid - Unskimmed milk, butter, ghee, cheese.

Absolutely avoid saturated oils - like Dalda, Coconut oil, Vanaspati oil.

Say no to: Deep fried foods like Puries, Pakodas, Samosa, Potato French fries, Hamburger, Cakes.

Avoid coconut, oil seed nuts like groundnuts. Do not take Yellow of egg, Red meat, Beef, Duck, Goose.

You can take limited quantity of skimmed milk. Eat more of vegetables, salads, Sprouted pulses, fruits, Soups, Chat (Bhel).

For meals, take Roti, Phulka without oil or ghee, Vegetable preparations should in no oil or minimum oil - and when used the oil should be polyunsaturated oil or unsaturated oil used alternately or in mixture. Onion and Garlic are recommended.

Non-veg. you can take Fish, Limited quantities of White of egg, Lean meat where all visible fat is trimmed off.

If Hypertension, avoid Salt, Pickles, Papad, Fast foods, Tomato Sauce, Preserved/ tinned food, Salted Biscuits.

Tuberculosis

Principle is High protein diet.

Take Milk with protein powder added - 2 to 3 times a day.

Have more of Roti or parathas, Sprouted beans and pulses.

Non veg - have an extra egg, Meat.

Osteoporosis

Principle is a diet rich in Calcium and Vitamin D.

For Calcium- take plenty of milk and milk products - like curds, cheese.

Take plenty of green leafy vegetables. Amongst fruits - Guava, Sitaphal.

Seafood like fish is very rich in calcium.

For natural buildup of Calcium, it is important to have a daily walk of 15-20 minutes, and weight bearing exercises like low impact aerobic exercises, climbing stairs and running. Do not do muscle building exercises like weight lifting, Bullworker, or springs (not recommended in Osteoporosis).

For Vitamin D- take eggs, Liver. Spend 15 minutes in Sun 2-3 times a week to get natural Vitamin D.

Avoid totally: Organ meat (Liver, Kidney, Brain etc), Fish, Alcohol.

Eat in moderation: Purine rich vegetables like Cauliflower & Spinach, Mushroom, high fiber cereals with bran (eg. Brown bread), Legumes, Egg.

No restriction: Refined grains, White flour, White bread, Other vegetables, Soups, Coffee, Tea, Fruit juices, Sugar. Take plenty of water. Always stay well hydrated.

Chronic Renal Failure

Principle is to have more of Proteins and Calcium, And restrict intake of salt and Potassium.

You can have normal quantities of Carbohydrates and Fats. So take your rice, Roti, Chapati, Sugar, Jaggery, Potato, and Vegetables.

You can have oil, ghee, butter, milk products, meat.

Since there is proteinuria, take plenty of Daals, Sprouted Pulses, Beans, Soya bean, Milk and milk products, Meat.

Do not take salt in the plate as well as in cooking. Do not take salt rich foods like Pickles, Papad, Fast foods, Pizzas, Sauce, Salted Biscuits.

If Serum K^+ levels are high, You should also avoid Potassium containing foods like Chocolates, Milk, Potato, Tomato, Banana, Papaya, and leafy vegetables. [To remove K^+ from leafy vegetables – cut them into small pieces, and keep in water for 2 hrs. Then throw the water, and cook the vegetables]. Take Rice, Pasta in plenty.

For Calcium, take plenty of milk, Amongst fruits – Guava & Sitaphal, Fish.

If Serum creatinine is high, then protein intake has to be restricted.

If Phosphate levels are high, avoid chocolate, fudge, cake, nuts (like cashew, peanut), fish, meat. Eat less of dairy products, soya, yeast, eggs.

If there is weight loss & muscle wasting, Eat frequent small meals, Take Butter, Milk, Ghee for Calories (If No IHD). Take Protein supplements, Egg white, unless S. Creatinine is very high.

Renal Stones

The most important thing is to drink plenty of water. Drink 2-2.5 litres of water or fluids everyday. If you always maintain urine output of 250-300 ml every 3 hrs, then stone is unlikely to form.

You can have the fluid in the form of Plain water, Lemon water, Barley water, Coconut water, Orolyte (Electrolyte solution), Black tea, Soups etc.

Avoid excess of Milk and Milk products like Cheese, which are rich in Calcium.

In Oxalate Stones Oxalate intake must be reduced – so do not take Tomato, and other fruits with tiny seeds like strawberries, Brinjal, (You may have the part without seeds). Avoid Palak, Chocolates.

In Uric Acid and Cystine stones Avoid Red Meat, and Fish.

Diet in Pregnancy

Principle is to have a diet rich in Iron, Calcium, Minerals, and meet the increased requirement of Calories.

For Iron, Eat plenty of Green leafy vegetables, Meat.

For Minerals, eat fresh Fruits regularly, For Proteins, take more of Milk with protein powder, Cereals and Legumes, Daal rice, [Nonveg - Egg, Meat].

For Calcium, take plenty of milk and milk products – like curds, cheese. Take plenty of green leafy vegetables, Amongst fruits – Guava, Sitaphal.

Diet for Vomiting of Pregnancy

Principle is to have small quantities at a time, mainly dry foods.

Avoid all fried and oily foods. No spicy and sour foods.

Take small servings of fresh fruit juices, coconut water, cold milk, ice-cream often. Take small quantities of bland dry food every half to one hour. Take Glucose biscuits, Khakra, Bread sandwich, Toast-jam, Idli, Dry fruits. During meals take soft rice or Ganji, Salads, non-spicy vegetables. Roti, Chapati, Fruits, Tea, Coffee may be taken as tolerated. Do not eat heavy meal. Chew cardamom.

Diet for Growing Children

Principle is to have a well balanced diet with more proteins and more Calories and good exercise.

Children in their Growing age must try to increase the quantity of food by eating half or one roti extra than their usual quota. Exercise and if needed appetisers will increase the appetite.

For Proteins, take more of Milk with protein powder or Complan, more of Cereals and Legumes, Daal rice, Nonveg - Egg, Meat.

For Minerals, eat fresh Fruits regularly.

DIET PRESCRIPTION

To be printed in Local Language

Allowed = ✓ Not allowed = X	Allowed = ✓ Plenty = ++ Take Limited = L NO = X
Deep Fried food: Samosa ☐, Dosa ☐, Udid-Wada ☐, Pakodas ☐, Fried Papad ☐, Namkeens ☐, Potato chips ☐, French fries ☐, Puri ☐	✓
Sweets: Sugar, All sweets, Cakes ☐, Jam ☐, Honey ☐, Sweetened Biscuits ☐, Sweetened Drinks ☐, Fruit shakes ☐, Sweet fruits like (Mango, Grapes) ☐	X
Green vegetables: Cauliflower ☐, Cabbage ☐, Lady's finger ☐, Tomato ☐, Brinjal ☐, Radish ☐, Pumpkin ☐, Cucumber ☐	✓
Tubers: ☐- Potato, Sweet Potato	
Milk: ☐, Milk with Protein powder ☐, or Complan/Bournvita ☐	
Liquids- Water, Lime water, Coconut water, Electral water, Buttermilk	
Hot drinks- Tea, Coffee, Herbal tea, Warm milk, Soups	
Cold drinks (Aerated) ☐, Ice-cream ☐	
Soft food (Break fast): Idli ☐, Sheera ☐, Bread, Toast ☐, Khakra, Cornflakes ☐	
Soft food (Meal): Ganji (Rice/Sabu) ☐, Payasam ☐ Soft rice with milk/Ghee/Plain Daal ☐, Salads ☐, Boiled vegetables ☐	
Regular food (Breakfast): Upma, Puri-Bhaji	
Regular food (Meals): Chapati, Phulka, Roti ☐, Spicy vegetables ☐	
Fast Foods: Hamburger ☐, Pizza ☐	
Fruits: Banana ☐, Apple ☐, Pear ☐, Papaya ☐, Watermelon ☐, Mango ☐	
Sour fruits: Citrus fruits like Orange, Lemon, Mosambi ☐	
Dry fruits: Dates ☐, Manuka ☐, Pista ☐, Almond ☐	
Non-veg.: Egg- white ☐-Yellow ☐, Omlet ☐, Boiled Egg ☐	
Meat ☐, Lean meat ☐	
Sea food: Fish ☐	

Doctor's Signature

Chapter

21 EXERCISE PRESCRIPTIONS

EXERCISE PRESCRIPTIONS

In diseases like backache or cervical spondylitis, if you do not advise correct exercises, and stress the need, you are doing half a job. An NSAID tablet will give relief for 6 hrs only. For a long lasting relief, exercises to strengthen the right muscles are essential.

A proper advise and guidance about the exercises is as important as the medicines given. Study and understand the basic exercises given in this chapter. Explain them neatly to your patient. Bring out your hidden drawing skills and give a separate 'Exercise Prescription' with simple line diagrams, as given below.

Cervical Spondylitis

Neck Exercises –

A. Perform **6 movements** 2-5 times each
   - Flexion-Extension
   - Lateral Flexions: Right-Left,
   - Lateral Bending (Turning): Right-Left.

B. Now repeat these 6 movements with assistance from the hands pressing the head to bend further.

C. Next perform these 6 movements against resistance provided by the fists.

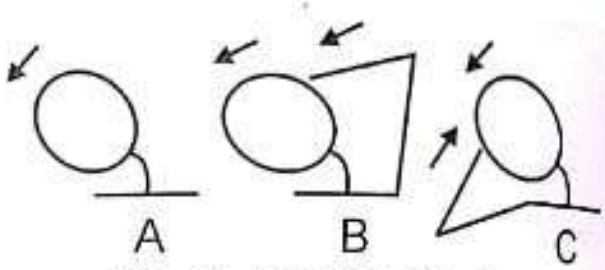


Fig. 21.1: Lateral flexion

Relaxation position – Sit cross-legged on floor in front of a chair with cushion or pillow on the seat. Bend forwards, to rest the head on the chair with arms folded in front - 5 minutes.



Fig. 21.2: Relaxation position

Low Backache

Back Exercises

1. Leg raising: Lie flat on the stomach with hands by the side. Lift one leg to 30°, hold for 5 seconds, keep it down. Repeat with other leg. Repeat



Fig. 21.3: Leg raising

with both legs together. Repeat 5 times. If painful, start by raising leg with knee flexed.

2. Leg straightening: Lie on the back with legs folded, feet on the floor. Straighten each leg (in air) in turn, hold for 30 seconds & keep down.

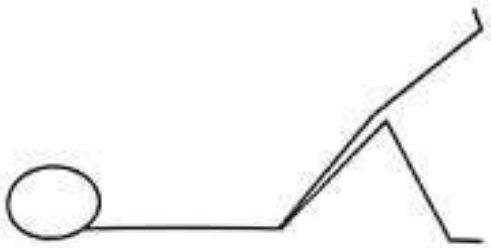


Fig. 21.4: Leg straightening

3. Leg swings for sciatic pain: Lie lateral on your good side, Keep lower (normal) hip slightly flexed. Lift & Move affected leg backwards and forwards gently.

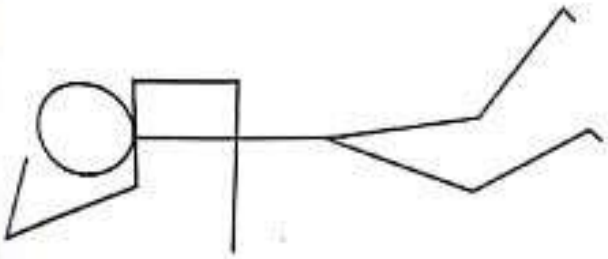


Fig. 21.5: Leg swings for sciatic pain

Relaxation positions –

- Sit in Padmasan or Vajrasan and bend forwards fully. Take a pillow under the chest, if needed.

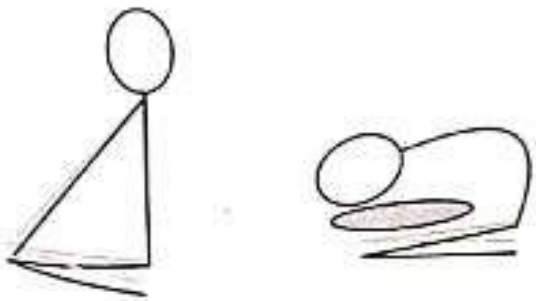


Fig. 21.6

- Knee squeezes: Lie on your back on a firm floor, and bring the knees to chest over the abdomen. Right leg, then left, then both together.

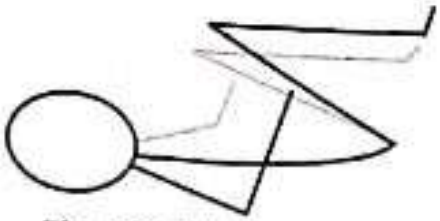


Fig. 21.7: Knee squeezes

- Lie on the floor next to a chair; Place the calves on chair; Relax for 5 minutes.

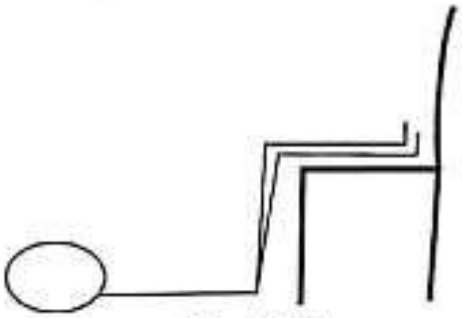


Fig. 21.8

Knee Exercises

Aim: To strengthen the quadriceps.

Sit on a tall chair or table with legs freely hanging. Extend the knees – flex again 10 times. Gradually, repeat this with small weight or pillow tied to the ankle.



Fig. 21.9

Cramps in Calf

Stand upright, Raise the body to stand on the toes, lower back to heels. Repeat 10-20 times.

Headache

1. Firm pressure with thumbs, with slight rotatory movements at the Supra-orbital ridge, at the root of the nose, at the Temporal point about 1" above and in front of the ears, and at the sub-occipital ridge on both sides.
2. Massage of the Head, Neck, Forehead and Temple.

Exercises to increase height

1. Pull ups – gradually increase to 10-20 per day.
2. Hang on a horizontal bar for 2-5 min
3. Posture: Practice erect sitting and standing posture.

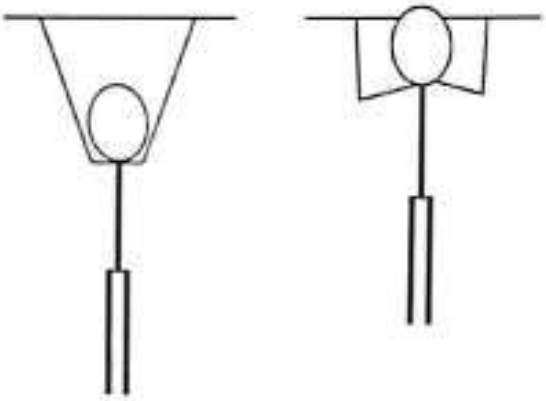


Fig. 21.10: Exercise to increase height

4. Leg ups. Stand 2' from a table whose height is at your hip level. Keep one leg on the table edge with knee straight and hip at 90°. Maintain for 2 minutes.

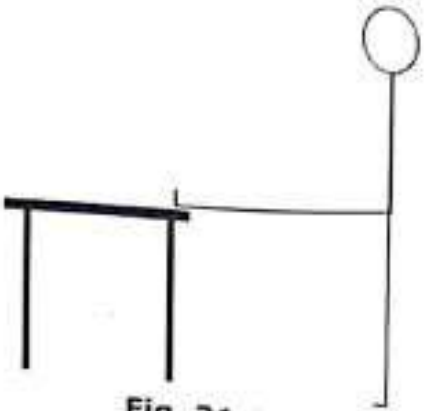


Fig. 21.11

Deep Breathing Exercises

Useful for patients of Asthma, COPD, Sinusitis and nasal obstructions.

1. Take deep breath through the nose, exhale slowly and fully through the mouth. Practice 5 times x 3 times a day.
2. Pranayam: Take deep breath slowly through one nostril, hold breath for 2 seconds, exhale slowly through other nostril. Repeat the other way. Repeat 10 times.

Note: If there is nasal obstruction (non-physical), practice the exercise 10 minutes after instilling Otrivin nasal drops.

Cardiac Patients – CCF

1. Exercise: In supine position, flex and extend all joints i.e. Hand, wrist, elbow, shoulder, foot, knee & hip, each joint 3 times, 3 times daily. Increase gradually.
2. Relaxation: Lie in cardiac relaxation position with 2 or 3 pillows under the head and back, to make a comfortable slant. Keep a small pillow under the knee. Relax and take slow relaxed breaths for 10 mins.

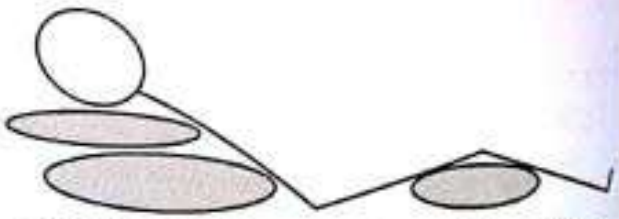


Fig. 21.12: Exercise for cardiac patient

For Leg edema

1. Foot Exercise: Dorsiflex and plantarflex the foot 15 times, every 2-3 hrs.



Fig. 21.13: Foot exercise

2. Keep the legs elevated on two pillows in lying down position. Take pillow under the head & chest if breathless.

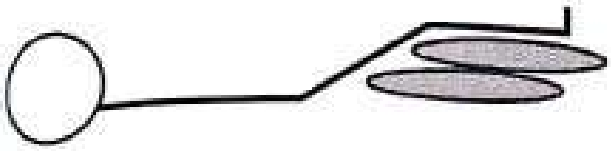


Fig. 21.14

3. While sitting on a chair, keep legs elevated on a small stool or pillows. Avoid hanging of the legs.

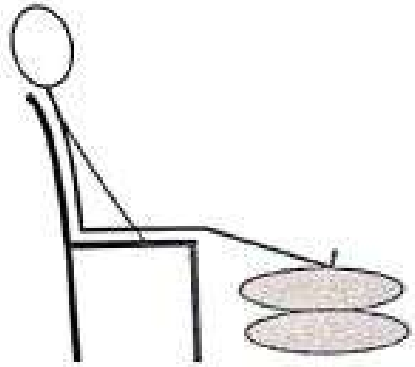


Fig. 21.15

Chronic Constipation, Gases

Aim - To increase the tone of abdominal wall muscles and stimulate peristalsis.

1. Straight Leg raising: Lie flat on the back with hands by the side. Lift one leg to 30-45°, hold it there for 3 seconds. Keep it down slowly. Repeat with other leg, then with both legs together. Repeat 5 times.

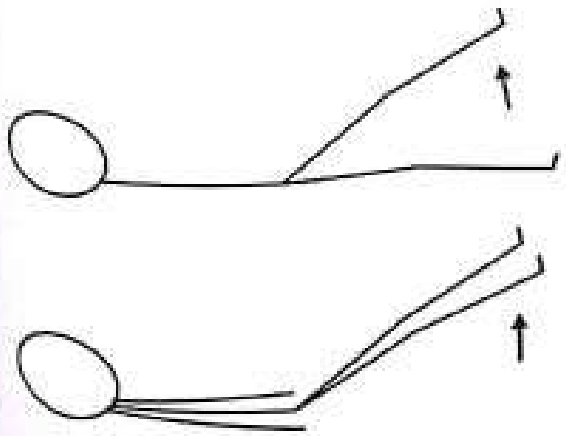


Fig. 21.16: Straight leg raising

2. Lie flat on the back. Lift your legs in air and do scissor kicks in the air – as if pedaling a bicycle.

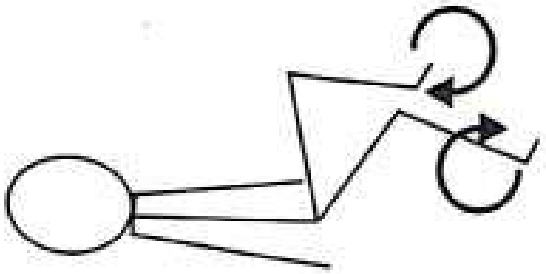


Fig. 21.17

3. Lie on your back, flex your legs over the abdomen and straighten them back – 10 times.

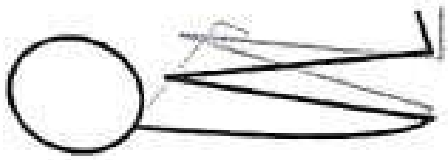


Fig. 21.18

4. Sit ups – lie flat on the back. Lift the head and chest to sit and then bend forwards. Lie back flat.

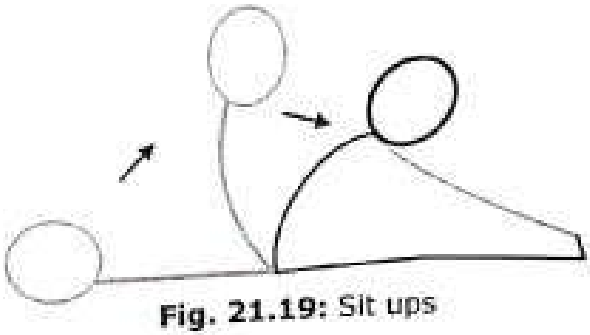


Fig. 21.19: Sit ups

5. Also suggested – Walking, Jogging.

Prenatal Exercises

Aim: To strengthen and tone inner and outer thigh muscles, Abdominal wall muscles and Pelvic muscles.

A. For Pelvic floor muscles

1. Pelvic floor Tensing: Tense and Relax your anal muscles (as if trying to hold stools back) and

vulval muscles (as if trying to stop urinating midflow) 30-50 times.

2. Pelvic lift: Lie supine, bend the knees drawing the feet to the buttocks. Lift the pelvis – constricting your anus, then lower the pelvis slowly and relax the anus.



Fig. 21.20: Pelvic lift

B. For thigh muscles

1. Leg rolls: Lie supine with legs straight. Roll the legs inwards, then outwards, 50-100 times.
2. Sit on a chair with knee one foot apart. Bring the knees together against resistance provided by hands or against a pillow between them.
3. Sideways Leg Raising: Lie on left side with left arm under the head. Lift the upper i.e. right leg up (Straight or bent), breath in, lower it but not to touch the lower leg, repeat 5 times, Then turn to right and repeat 5 times with left leg. Gradually increase.

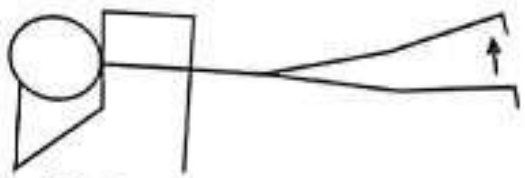


Fig. 21.21: Sideways leg raising

Standing position-

4. Knee lift: Stand with feet 10" apart, take support of chairback or wall. Lift Right knee to 90°, then lower 4-8 times, then lift left knee 4-8 times (Fig. 21.22).
5. Foot circling: Raise the foot off the ground, and turn it around in circle 4-8 times. Then repeat with the other foot (Fig. 21.23).

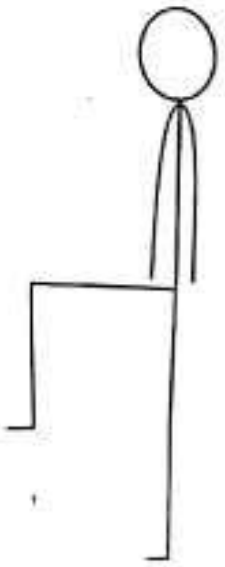


Fig. 21.22: Knee lift

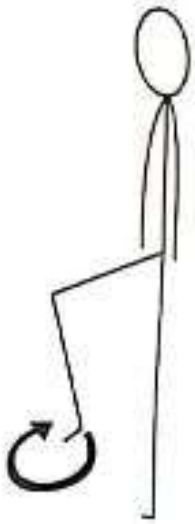


Fig. 21.23: Foot circling

Postnatal Exercises

1. Pelvic Floor exercises as above:
   Pelvic floor tensing
   Pelvic Lift.
2. Sideways Leg Raising: Lie on left side with left arm under the head. Lift the upper i.e. right leg up (Straight or bent), breath in, lower it but not to touch the lower leg, repeat 5 times, Then turn to right and repeat 5 times with left leg. Gradually increase.
3. Knee squeezes: Lie supine with legs flexed. Press the knees against each other as hard as possible, raising the pelvis slightly. Then relax the thighs and lower the pelvis.

For Abdomen:

4. Bent knee leg raising: Lie on the back. Raise one leg with knee bent, then lower it. Then the other leg. Repeat 10-20 times. After 1 month, raise the leg with straight knee.

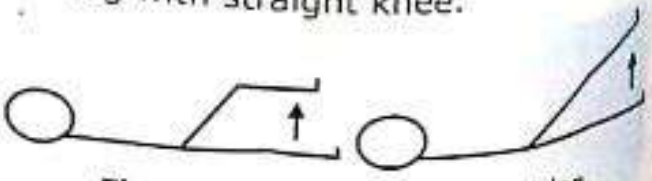


Fig. 21.24: Bent knee leg raising

5. Scissor kicks: Lie flat on the back. Lift your legs in air and do scissor kicks in the air – as if pedaling a bicycle.

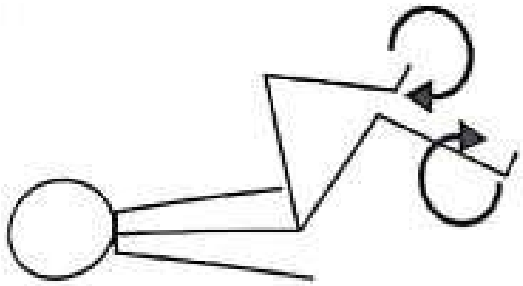


Fig. 21.25: Scissor kicks

6. Bent knee Sit ups: Lie supine with knees bent. Raise the head with hand under the occiput for support, then lower. After some practice, do situps with arms by the side.

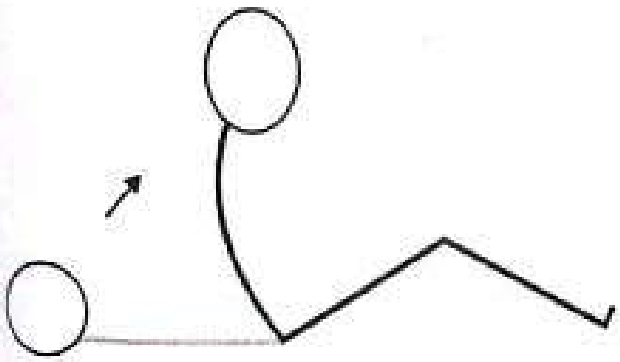


Fig. 21.26: Bent knee sit ups

Computer syndrome

For Eye strain

1. Blink often to moisten dry eyes.
2. Eye splashing every 2 hrs. – Close the eyes and splash them with cold water 20-25 times. If available, splash with hot and cold water alternately. If you are using glasses, wash them twice a day – as particles or stains on glasses increase eye strain.
3. Take frequent breaks from the computer. Rest and relax your eyes by palming: Sit on a chair with elbows resting on the table. Place the palms over your closed eyes with fingers crossing over the center of the forehead. The hollow of the palms prevents direct pressure on the eyes. Hold the hands firmly over the eyes making a firm contact with the skin around and blocking all the light.

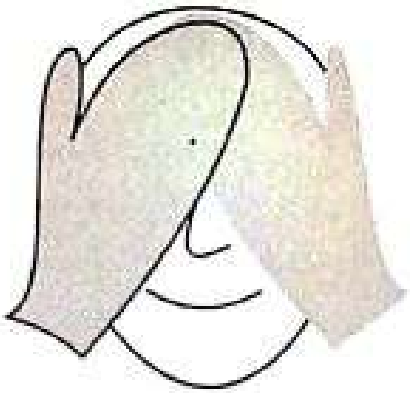


Fig. 21.27: For eye strain

4. Apply firm pressure with your thumbs over the supra-orbital notches – (indentation in the middle third of the upper edge of the eye sockets) – for 15-30 seconds. Then apply pressure in the midline where forehead meets the root of the nose.
5. Eye exercises
   a. Near-far focusing: Hold a pencil or finger vertically at a distance of 1'. Focus once on the finger, then at a far object alternately 10 times.
   b. Clock watching: Sit with your back straight. Without moving the neck, look up, to right, to down, to left and up (Clockwise) 3 times. Then in opposite direction (Anti-clockwise) 3 times.

For Back strain

Sitting near the edge of the chair, keep feet firmly flat on the floor.

- Straighten the arms upwards with fingers interlaced. Straighten the back for 10 sec, breath in & out deeply.



Fig. 21.28: For back strain

- Holding the back of the chair with right hand, turn to right for 10 seconds, then similarly turn to left.
- Bend fully forwards on your thighs, with hands on lumbar region, for 30 sec.
- Perform neck exercises against resistance.
- Lift your shoulders hold up for 10 seconds, bring them down for 10 seconds.

SECTION 4
PROCEDURES IN GENERAL PRACTICE

Chapter

22 PROCEDURES

CARDIO-PULMONARY RESUSCITATION

Basic steps of ABC

A=Airway. First ensure a patent airway
B=Breathing. Start artificial breathing.
C=Cardiac thump and massage.

1. First confirm that heart has stopped by auscultating the chest or palpating the pulse. But you have only 10 seconds to do that. Do not waste valuable time searching for pulse here and there. Respiratory effort or its absence is obvious to the eyes.
2. If heart has stopped before you reached the patient and probably some time has elapsed, look at the pupils. If they are dilated, inform the relatives before starting the resuscitation, that the person is probably already dead and that you are only attempting a resuscitation. But if pupils are small, spare no efforts. Quickly make the patient supine over a firm surface.
3. **Cardiac Thump:** Give one or two firm blows, at the junction of middle and lower thirds of the sternum which may revert a ventricular fibrillation or asystole. If the heart does not start beating, give external cardiac massage.
4. **External Cardiac Massage**
   - Place the palm of the left hand over midsternum and palm of the right hand over it. [The common mistake is to press over the left side of Chest. Remember that the heart must be squeezed between the sternum and the vertebral column].
   - The elbows should be straight & extended. Stand on a small stool if necessary, to achieve correct position.
   - Then depress the sternum, in a jerk, by about 5 cms.
   - In elderly patients, a few ribs may break to achieve this compression. Don't worry about the ribs. Use your body weight for compression.
   - Compress the heart 60-80 times per minute. [Practice the movements before a clock on a dummy pillow to learn the exact speed].
   - Simultaneously an assistant should start mouth to mouth respiration.
5. **Mouth to Mouth respiration**
   - Extend the head of the patient and with a gloved hand or handkerchief, clean the pharynx of any obstruction like Dentures, Vomitus, Secretions etc.
   - Pinch the nostril with left hand, and seal the patient's mouth with your lips, with the faces 90° to each other.

- Blow air with full force, and watch the chest expansion.
- Remove the mouth, let the chest collapse.
- Give a breath, every 5 seconds.
- If there is no assistant, give 4 cardiac compressions, followed by one respiration.

Note: Mouth to mouth respiration involves a small risk of transmission of AIDS and Hepatitis B. So Ambu Bag & Mask is a better alternative, and a must in every clinic.

6. **Bag & Mask Technique**
   - Hold the patient's neck extended, lifting the angle of the mandible forwards.
   - Hold the mask firmly against the mouth & nose to avoid air leakage between the mask & the skin. Both these actions are made by the left hand - with thumb & index finger pressing the mask, middle finger gripping the chin, and Ring & index finger lifting the mandible forwards.
   - Now the ambu bag is compressed 12-16 times per minute, observing the chest for effective expansion.
7. Once the cardiac massage and ventilation are regular, or when assistance is available, then stop intermittently to inject the drugs. The Drugs to be given are -
   i) Inj. Dopram 1-2 cc I.V., to be repeated after 5 minutes if respiration does not start.
   ii) Inj. Efcorlin 100 mg I.V. Stat (**Steroid** = 9A)
   or Inj. Decadron 2-4 cc IV
   or Inj. Betnesol 2-4 cc IV
   iii) Inj. Sodabicarb 20 to 40 cc IV, if respiration was arrested for more than few seconds.
   iv) Inj. Adrenalin 1 cc intracardiac, to be repeated after 2-5 minutes if heart does not respond.

Technique of intracardiac Injection

- Intracardiac injection requires a 3" long needle. (Lumbar puncture needles discarded by anesthetists are ideal).
- With a spirit swab, clean left parasternal area in 4th Intercostal space - just lateral to the sternal border.
- Stop artificial ventilation, let the lungs deflate.
- Palpate the intercostal space and pierce the needle vertically between the 4th & 5th ribs.
- Now direct it medially, towards the spine and advance it to full depth.
- Now maintaining suction with the syringe, withdraw the needle slowly, till blood gushes into the syringe.
- Hold the needle here, inject the drug rapidly and withdraw the needle swiftly.
- Start cardiac massage and ventilation again.
- If no blood is aspirated, advance the needle again, in a more medial and upward direction, and if necessary try in the next intercostal space.

NEONATAL RESUSCITATION

When a baby is delivered, it should give a loud & healthy cry within a few seconds. If it doesn't, then it will require immediate resuscitative and supportive measures.

Care of a Normal Baby

1. Hold the baby and baby tray in a head low position till pharyngeal suction is done.

2. Quickly dry the baby, and wrap in a dry warm cloth (In a hospital, place it under a radiant warmer.) Prevention of body heat loss is very important. If baby is covered with vernix, do not rub it off, as it protects body heat.
3. Using a large bore (12F) suction catheter connected to a suction machine or suction bulb, suck all the amniotic fluid & meconium from the pharynx and both nostrils.
4. If by this time, baby has not cried, stimulate it by following methods:
   i) Tap it over the back or over the soles.
   ii) Sprinkle handful of water over the chest and abdomen.
   iii) Compress the chest 2-3 times.
   iv) If it is breathing, but not crying - continue stimulations intermittently till the baby cries. Try holding it upside down for 2 minutes.

If the baby does not breath

1. Always suck the throat before giving artificial Breathing. Mouth to mouth breathing or bag & mask ventilation should be started within ½ to 1 minute, if spontaneous breathing is not seen.
2. Hold the head in a slightly extended position (Best achieved by placing a Towel under the shoulders).
3. Place the mask covering the baby's nose & mouth. Hold it tightly, with thumb & index finger pressing it against the face & other fingers lifting the mandible against the mask.
4. Press the bag 40 times per minute - watching carefully for adequate chest expansion.
5. Connect Oxygen to the inlet of the Ambu bag.
6. Observe for spontaneous respirations & Heart rate.
7. If bag & mask are not available, give mouth to mouth breathing.
8. If Stomach starts distending
   - Press a hand over the epigastrium to prevent air entering abdomen
   - Pass infant feeding tube and keep it open, to let out air - from the stomach.
9. Inject through umbilical cord veins -
   i) Inj. Sodabicarb 3-4 cc
   ii) Inj. Dopram ¼ cc
   iii) Inj. Decadron ¼-½ cc

If Heart rate is < 60/Minute or absent

Start chest compressions immediately

Encircle the chest with both palms, keeping both thumbs over the middle third of the sternum. Press the thumbs, to depress the sternum by ½ to ¾ inch at a rate 120/min.

Synchronise the chest compression with respiration by stopping momentarily after every 3 chest compressions, to inflate the chest by Ambu's bag once.

Stop periodically to check the femoral pulse. Continue chest compressions till Heart rate is > 80/minute and regular.

If heart does not respond and does not beat at all, inject ¼ cc adrenalin, intracardiac and continue chest compressions.

If respiratory depression is prolonged, then do not continue mask bag respirations for long. Intubate immediately.

Insert a laryngoscope with infant blade to visualise the larynx and insert a No. 3 (or 3.5) endotracheal tube. The tube is passed 1-2 cms. beyond the cords & then fixed in position.

Connect it to the Ambu Bag and start artificial respiration.

Confirm that the tube is in proper place.

i) Both sides of the chest should expand equally.

ii) Air entry should be equal on both sides.

If air entry is less on the left side, then withdraw the tube slightly, till it is equal & good.

If Liquor is Meconium stained

1. Suck the pharynx & nose, as soon as head is out before delivering the shoulders.
2. Hold the baby in head low position, Insert a laryngoscope, and suck the pharynx thoroughly.
3. Intubate the trachea, and suck the lower trachea & bronchii with a fine catheter.

   Or apply suction directly to the endotracheal tube, withdraw it - then introduce it again, connect suction & withdraw - till all meconium is sucked out.
4. Insert Infant feeding tube, into the stomach, aspirate all meconium and wash the stomach with a few ml. of half normal saline.

If mother had received Morphine/Pethidine and the baby has respiratory depression.

- Inject Naloxone 0.1 mg/kg IV i.e. ½ cc IV.

  Repeat after 3 minutes, if necessary.

NASOGASTRIC TUBE

A General Practitioner may be required to insert a nasogastric tube, (more commonly termed as a Ryle's tube).

i) To give stomach wash in a case of poisoning as immediate first aid Or

ii) For feeding unconscious or semiconscious patient at home.

Technique

1. Take a Ryle's Tube No. 16, lubricate its tip with liquid paraffin or xylocaine jelly. (Patient comfort can be increased by giving xylocaine liquid to swallow 5 minutes before the procedure).
2. Inspect the nostrils, and select the nostril which is more roomy.
3. Fix the head with left hand over the forehead, turn the tip of the nose slightly upwards, and very gently, introduce the tube - into the nostril, vertically i.e. along the floor of the nose (It should be pointing below the level of the ears).
4. You will first feel a small resistance of the tube touching the posterior pharyngeal wall and turning downwards. Introduce it for another 1", till the tip comes to lie at the upper end of oesophagus.
5. Now stop here for a moment, and let the patient relax. Ask him to breath through open mouth.
6. Then ask the patient to swallow saliva, and exactly when the larynx moves up, push the tube forwards into the oesophagus.

   i) If the patient coughs (usually violently), withdraw the tube immediately. It had entered the trachea. Let the bout of cough subside, then try again.

   ii) If the patient gags excessively, tell him to open the mouth and inspect the throat. If the tube has curled into the pharynx & mouth, withdraw it and try again.
7. Once the tube has entered the oesophagus, push it steadily ahead, (no need to ask the patient to make swallowing movements now), till the first Black mark on the tube is

crossed, and stomach contents start flowing out Generally the tube is advanced upto the second mark.

8. After confirming that the tip of the tube lies in the stomach, fix the tube with a ½ cm wide adhesive tape - starting on the nostril, going round the tube 2 times & ending on the other nostril or cheek.

Confirmation of tube position in stomach

It is very important to be 100% sure that the tube is in the stomach, particularly when you are going to feed the patient through it and more particularly, when the patient is not fully conscious - when the tube may enter the trachea, without eliciting cough reflex.

1. Aspirate the tube with a 20 cc syringe. Aspiration of stomach contents confirms position.
2. Auscultate over the left side of epigastrium. Now inject 10 cc air through the Ryle's tube with a syringe. Auscultation of a bubbling sound over the stomach is confirmatory.
3. If in doubt, dip the outer tip of Ryle's tube in a bowl of water. Airblast with each expiration suggests that the tube is in trachea.

Ryles Tube Feeding

Never feed a patient through the Ryle's tube, unless the position of its tip in stomach is confirmed.

- Attach a funnel or a 20/50 cc syringe barrel to the open end & pour the liquids to be given. Let the liquids run into the stomach by gravity. Thicker liquids may have to be pushed with the syringe.
- Feed 100 to 200 cc every 2 hrs.
- Aspirate before each feed, to confirm that previous feeds have moved into the intestines, and stomach is empty (very important in unconscious & bedridden patients who may vomit large quantities and aspirate).
- After every feed, flush the Ryle's tube with water to avoid clogging. Then occlude the tube.
- Feeds that may be given: Milk - plain or with Protein supplements, All soups, Electrolyte solutions, Readymade preparations like Recupex, fruit juices.

Stomach Wash

In poisoning, it is vitally important to wash out the poison, as fast as possible.

So introduce the largest available Ryle's tube - like No. 22 or 24. Push in clean water or dilute Potassium Permanganate solution - 200 to 300 ml at a time - very rapidly into the stomach, and let it flow out. Repeat this till returning fluid is absolutely clear.

Don't forget to collect the first sample in a bottle and send it with the patient to the hospital where you will refer him for further treatment.

CATHETERISATION

In General Practice, catheterisation is often required to relieve acute retention, usually in old patients with enlarged prostate, when routine measures like Hot water bag, privacy, sound of running water etc. do not help.

Preparation

- Collect in a sterile tray, sterile towel, swabs, simple rubber catheter, liquid paraffin or xylocaine jelly, a 10 cc syringe and a Kidney tray.
- If a self retaining catheter is required, take No. 16 Foley's catheter, 20 cc syringe filled with sterile water and a urine bag.

- Patient's perineum should be shaved. But in emergency, shaving is not mandatory.

Technique

1. Wash the hands and put on gloves.
2. Clean the penis with savlon and water. Retract the prepuce and clean the glans gently. Clean all smegma. Povidone Iodine (Betadine) may be used, but Never use Iodine or Spirit.
3. Spread a sterile towel to cover the surrounding area.
4. Take 5-6 ml of Lignocaine Jelly in the 10 cc syringe. Hold the tip of the syringe firmly against the urethral opening. Inject the jelly slowly into the urethra. After injecting, withdraw the syringe pinching the tip of the penis with left hand to prevent lignocaine flowing out. Wait for 3-5 minutes for lignocaine to act.
5. Lubricate the catheter tip with the same jelly or liquid Paraffin. Hold the catheter in the right hand and with left hand, hold the penis with prepuce retracted.
6. Ask the patient to breathe quietly through open mouth - to relax the pelvic muscles. Insert the tip of the catheter into the urethra and advance it very slowly.
7. If it gets obstructed at any point, do not use force. Withdraw it slightly, ask the patient to relax, and advance it again with a slight rotatory motion. Such gentle manipulations are usually successful. Use of force can make a false passage and bleeding. If a soft foley's catheter fails to go, try smaller rubber catheter (Which is stiffer and is passed more easily).
8. A loss of resistance is felt, when the catheter enters the bladder, and urine starts flowing out. Leave the outer end of the catheter into a kidney tray and empty the bladder by pressing on the suprapubic area.
9. After bladder is emptied, gently withdraw the catheter, dry the penis and pull the prepuce forwards.

Foley's catheter

- Take the Foley's catheter in sterile inner wrapping and expose the tip by tearing the plastic cover at the perforation.
- Lubricate the tip and insert it into the urethra. As the catheter is advanced, withdraw the plastic cover so that you do not touch the catheter at all.
- Once the catheter enters the bladder, and urine starts flowing out, advance it further 3"-4" into the bladder. Then inflate the balloon with 15-20 cc of water and gently pull on the catheter, till the balloon sits on the internal sphincter.
- Connect the catheter to a urine bag immediately. Remember to pull the prepuce forwards.

Technique of catheterisation in female patient

1. Give correct position. The legs are flexed and drawn apart to expose the vulva.
2. Wear gloves. With left hand, spread the lips of labia majora and minora, to expose the urethral opening.
3. With right hand, clean the area with savlon & water, and then catheterise.
4. Length of the female urethra is short. Only 3"-4" length of catheter is introduced till urine starts flowing out.

If Catheterisation fails!

Then refer the patient to a Surgeon or Urologist immediately.

If such referral is likely to take time in travel, then a temporary relief may be provided by suprapubic aspiration of the bladder.

Remember however that catheterisation is a must after suprapubic aspiration, otherwise when bladder distends again, urine will start leaking into the tissues from the puncture point.

Technique of suprapubic puncture

1. Clean the suprapubic area upto umbilicus with savlon and paint it with Povidone - Iodine.
2. Take 3-4 cc Lignocaine in syringe, and infiltrate a point in the midline, 5 cms above the pubic symphysis.
3. Take a 20 cc aspiration syringe, with a 3-way and a 20 No. disposable needle. Insert the needle directed vertically and towards the pelvis, till it enters the bladder.
4. Hold it in position, and aspirate out as much urine as possible.
5. When all urine is aspirated, withdraw the needle and apply a Tincture Benzoin seal to the skin.

INJECTIONS

Filling an injection

1. From a vial containing liquid drug eg. Bplex

- Take a suitable syringe and attach a wide bore needle (No. 20) to it.
- Withdraw air into the syringe, equal to the amount of drug required.
- Clean the rubber stopper of the vial with spirit and pierce it with the needle, holding the vial down. The needle should just enter the vial.
- Now inject the air from the syringe into the vial and invert the vial.
- The drug will start flowing into the syringe due to the positive pressure in the vial.
- Take the exact amount of drug required, into the syringe and withdraw the needle with syringe out of the vial.
- Now change the needle & attach the thin (No. 23 or 24) needle, to be used for injection.
- Drive out the air, if any, in the syringe and it is ready for injection.

2. From a vial with drug in powder form eg. Streptomycin

- Take the vial, check drug name and date of expiry, & open the aluminium cap and clean the rubber top with spirit.
- Take a distilled water ampule, clean its neck with spirit, scratch it with a file and break it open using a gauze or cloth to protect your hands.
- Take a syringe, attach a large bore (No. 20 or 18) needle and withdraw the required amount of distilled water in it.
- Now insert the needle into the rubber top of the vial & inject the water into the vial.
- Shake the vial. If drug dissolves quickly, just invert the vial & withdraw the drug into the syringe.
- If drug is not easily soluble, take out the needle & roll the vial between the palms till the powder is dissolved. Avoid vigorous shaking, which will produce bubbles & froth. After the drug is dissolved completely, insert the needle again & withdraw the drug into the syringe.
- Change the needle, attach No. 23 or 24 needle, drive out the air from the syringe and it is ready for injection.

3. From an ampule containing liquid drug

- Take the ampule, check drug name & date of expiry, clean the neck of the ampule with a spirit swab.
- Scratch the neck deeply with a file. Support both upper & lower parts of the ampule while using a file.
- Now break it open, holding a gauze in right hand to protect from injury by glass piece.
- If a small piece of glass breaks out & falls in the ampule - the ampule must be discarded & a new one opened.
- Now take the syringe - attach the needle for injection directly i.e. No. 23 or 24, and slowly withdraw the drug into the syringe, without touching the needle to the neck.
- Drive out the air from the syringe & it is ready for use.

INTRAMUSCULAR INJECTION

Sites

1. **Gluteal Site** is ideal due to large muscle mass, & less pain. except in Infants below 2 yrs, when gluteus is not well developed. The site is marked by following two methods-
   a) Gluteal area is bounded by iliac crest above, gluteal fold below, midline medially & Anterior superior iliac spine anteriorly. Divide this into 4 quadrants. superior & lateral quadrant is marked for giving injections. This avoids & protects the sciatic nerve.
   b) Make a 'V' between index and middle fingers. Keep one finger on anterior superior iliac spine and the other on iliac crest as wide as possible. Injection may be given anywhere in this triangle, but more near the apex.
2. **Deltoid area:** Very commonly used in General practice but avoid it for painful injections.
   - The shirt must be removed. Select a site 2-3 fingerbreadths below the acromion process (to avoid circumflex nerve), and above the groove marking lower border of the Deltoid muscle (to avoid radial nerve).
   - Injections in Triceps, in middle third of the arm, on posterior aspect - are commonly given in General practice (especially in females wearing blouses). But this is not a recommended site, for fear of damage to radial nerve.
3. **Vastus lateralis:** Most used for infants below 2 yrs age and pediatric patients.
   - On lateral aspect of middle third of the thigh, a hand-breadth above the knee & a handbreadth below the greater trochanter.

Technique

1. Clean the chosen site with a spirit swab, rubbing firmly to numb skin sensations.
2. With thumb & index finger of the left hand, stretch the skin firmly, to provide counterforce to the needle, to avoid patient movement and to reduce thickness of subcutaneous fat.
3. Pierce the needle vertically, with a uniform, firm thrust, till it reaches deep into the muscle mass. Do not go down to the bone.
4. Aspirate to confirm that the tip is not lying in a blood vessel.
5. Inject the drug slowly. A fast injection is painful.
6. Withdraw the needle, and gently massage the site of injection with spirit swab, for 30 seconds.

7. Confirm that there is no capillary bleeding from the puncture point before leaving the patient.

Z-Technique for Imferon

- Imferon is always given in gluteal region, deep into the muscle mass. Superficial injection will be painful and will stain the skin black.
- With the thumb of the left hand, stretch the skin firmly to one side, pierce the needle vertically, deep into the muscle mass, aspirate to confirm that the tip is not in a blood vessel, Inject the drug, withdraw the needle in a quick motion, then release the left hand. This technique separates the needle track in subcutaneous plane, from muscle plane, so that drug cannot leak into the subcutaneous tissues.

SUBCUTANEOUS INJECTIONS

Sites

Upper arm, Thighs - mainly anterior & lateral aspects, Anterior abdominal wall.

Common Drugs

Insulins, Anti-Rabies Vaccine, Measles vaccine.

Technique

1. Clean the chosen site with a spirit swab. Attach a short ½" needle No. 23 or No. 24 to the syringe.
2. Pinch the skin to raise a fold, between thumb and index finger of the left hand.
3. Pierce the needle at an angle of 45° to the skin & advance it under the raised fold of subcutaneous fat. The bevel of the needle should face outwards.
4. Aspirate to confirm that the needle tip is not inadvertently lying in a blood vessel.
5. Inject the drug slowly, after releasing the left hand.
6. Withdraw the needle and gently massage the site of injection with spirit swab. Ask the patient to hold the swab in position for half a minute.
7. Confirm that there is no capillary bleeding from the puncture point before leaving the patient.

Rotation of Site

When subcutaneous injections like Insulin are to be given repeatedly over long periods, the site of injection should be rotated in a definite order, so that each site is about 2" away from the previous site.

INTRADERMAL INJECTION

Site

Ventral aspect of forearm - for testing sensitivity, Over left deltoid - for BCG.

Technique

1. Take 0.1 ml of the drug in a tuberculin syringe with 26 No. needle attached. Drive out all air by holding the syringe vertical, till the drug is seen at the tip of the needle.
2. Clean the selected site with spirit swab.
3. It is very important that the patient should hold the hand steady. In children, ask an assistant to hold it firmly. A slight movement may move the needle into a wrong plane.
4. Stretch the skin between thumb and index finger of the left hand. Pierce the needle at an angle of 15°, almost parallel to the skin, bevel up and advance it very slowly till the bevel just vanishes into the dermis.
5. Holding the needle & syringe firmly in position with left hand, inject the

drug. A dermal wheal will be raised when the injection is in correct plane. Intradermal injection requires some force while injecting, and old leaking syringe should never be used for this injection.

6. After raising the wheel, withdraw the needle, and keep the spirit swab over the puncture site for few seconds. Do not massage the site of injection.
7. Draw a circle of 1" diameter around the injection site with a ballpen - to identify the site for sensitivity reactions.

INTRAVENOUS INJECTION

Sites

Prominent subcutaneous veins on dorsum of palm & wrist, Radial aspect of wrist, antecubital fossa & ventral aspect of forearm, Anterior to medial malleolus on leg.

Technique

1. Prepare & fill the drug in the syringe and attach a No. 22 Scalp vein needle to it. (Ordinary needle may also be used if single drug is to be injected). Drive out all the air from the scalp vein needle.
2. Ask an assistant to hold the arm tightly - so as to occlude the veins, just above the proposed site of injection. A rubber tourniquet or a BP cuff raised to diastolic pressure may be used for distending the veins, but in practice, holding the arm by hand is most convenient.
3. Spend a few seconds to make the vein turgid. Even if it is visible, make it more prominent and turgid.
   i) Rub the site, side to side, with spirit swab.
   ii) Ask the patient to clench the fist, repeatedly
   iii) Lightly tap the vein over the site of puncture.
   iv) Compress the distal limb with your hand in a pumping motion to press the blood into the vein.
4. Palpate the vein & clean the site of injection with a spirit swab. (Do not move the swab backwards as that will empty the vein. Move it side to side).
5. With left thumb, pull the skin slightly to provide countertraction.
6. Holding the scalp vein in right hand, pierce the skin just to the right of the vein, at an angle of 30°, with bevel facing up.
7. As soon as skin is punctured, make the needle horizontal, parallel to the vein - then direct it towards the vein, and advance it into the vein. Immediately on entering the vein the needle should again be made parallel to the vein & advanced slightly along the lumen of the vein for ½ to 1 cm.

   These changes in the direction of the needle become natural & automatic with experience - and the success of venepuncture lies in this step.
8. Entry into the vein is recognised by:
   i) Immediate free flow of blood into the scalp vein (or syringe).
   ii) The characteristic feel of puncturing the vein wall which becomes more easily appreciated as experience grows.
   iii) If veins are collapsed, or if needle is very small eg No. 24 (in infants) - blood may not flow back by itself. So you must aspirate with a syringe to confirm.
9. Release the proximal pressure or tourniquet. Confirm once again the backflow of blood on aspirating with the syringe, and then start injecting the drug very slowly.
10. During injection:

i) All intravenous drugs must be injected very slowly. Never give any drug fast IV.

ii) Constantly watch over the tip of the needle for swelling. Sometimes, the bevel of the needle may be partially out - so blood can be seen on aspiration, but swelling appears during injection.

iii) If a swelling appears, stop the injection, remove the needle & puncture another vein.

iv) Intravenous injection is painless. (except for some irritant drugs.) If patient complains of pain at the site of injection, while you are pushing the drug, then certainly, it is leaking out of the vein.

11. After completing the injection, Hold a big cotton swab over the puncture site & withdraw the needle keep the swab pressed over the vein (Ask the patient or assistant to hold it.) firmly for at least 2 minutes. The whole segment of the vein must be pressed and not just the puncture point. Do not massage the area.

INTRAVENOUS FLUIDS ADMINISTRATION

Preparation

1. Collect all equipment - IV Stand, IV fluid bottle, IV set, scalp vein needle, spirit swab and adhesive paster strips.
2. Open the IV set, close its regulating clamp. Clean the inlet of the IV. bottle or bag with spirit swab, and insert the spiked proximal end of the infusion set fully into the inlet.
3. Now hang the I.V. bottle upside down to the IV stand, compress & release the drip chamber so that it fills halfway. Now, open the regulating clamp & let the fluid run to fill the entire tube. Close the regulating clamp again.
4. Now puncture the vein with the scalp vein needle as described in previous chapter, and when the needle has entered the vein:
   - Release the tourniquet (or compressing hand).
   - Connect the IV set to the Scalp vein needle.
   - Open the regulating clamp & adjust the flow to 20 drops/ minute
   - Fix the scalp vein needle securely with 3 to 4 adhesive strips.
5. When IV fluids are administered, avoid puncturing a vein over a joint, and if joint is unavoidable, instruct the patient not to move the joint or splint the joint with a wooden splint.

Rapid administration of I.V. Fluids

When a patient is in state of shock due to dehydration, hemorrhage, anaphylaxis etc., IV. fluids should be administered very fast. The techniques for pushing I.V. fluids are described here.

- The most important point is to insert the largest possible needle. No. 18 is ideal, but if veins are collapsed, at least No. 20 needle should be used.

Method - 1

Use a plastic I.V. bottle without a needle for letting in air.

Compress the plastic bottle with both hands to push the fluid very rapidly. When you release the compression intermittently, release the pressure slowly to avoid filling of the chamber.

Method - 2

Attach a 3-way between the scalp vein needle and I.V. set; take a 20cc syringe and push the fluids; fill the syringe from the bottle, turn the knob of the 3 way thr'

180° and push the fluid into the scalp vein with full force.

ENEMAS

This procedure is required very often in general practice to relieve constipation, particularly in the elderly. The General practitioner may train his assistant to give enema, but in close family patients he has to give it himself, often at the patient's home.

1. Simple Soap water enema

i) Collect Enema catheter, vaseline, gauze pieces, Enema can with 500 ml Soap solution, kidney tray. Soap solution should be lukewarm (41°C).

ii) Place a Mcintosh on the cot, and make the patient lie in left lateral position, with lower leg straight and upper leg folded over the abdomen. Patient should be close to the edge of the bed.

iii) Cover the legs, keeping only anus exposed.

iv) Wear Gloves. Lubricate the catheter tip with vaseline over a gauze piece, connect the catheter to the enema can & run some water into the kidneytray - to drive air out of the catheter.

v) Gently insert the catheter 3" into the anal opening. Asking patient to breathe deeply through open mouth will help to relax the anus.

vi) Hold or hang the enema can, at a height of 1½' i.e. 18" above the level of anus. If there is discomfort, lower it slightly & let the solution flow slowly. Let 500 ml of soap water solution flow into the rectum. Hold the buttocks together to avoid leakage.

vii) Now pinch the catheter & pull it out, and send the patient to the latrine. If patient is bedridden, bedpan must be provided immediately.

Remember: **Do not give simple enema if patient has abdominal distension or significant tenderness over the abdomen.**

2. Glycerine syringe

Glycerine lubricates the feces and gently stimulates defecation. It avoids the strong contractions & cramps associated with soapwater enema.

Procedure

After inserting the enema catheter, it is connected to a funnel, and 30 ml of glycerine is poured through it.

3. Readymade enemas like Neotonic Enema

Very simple to administer. You can teach the patient to use it himself.

Procedure

Open the lid. Lubricate the tip with Vaseline. Introduce the tip gently into the anus -in left lateral position, press the contents into the anus. When the plastic bulb is empty, remove the nozzle and dispose it off.

FOMENTATIONS

Fomentations are given to inflamed parts, around inflamed wounds - to increase the local blood supply and promote healing. Very often fomentation work wonders in resolving cellulitis & preventing abscess formations.

Dry Fomentations

Dry fomentations are given with a hot water bag, and are ideal for sprains, backache, abdominal pain and contusions.

- Fill the hot water bag with hot water (heated almost to boiling point = 90°-95°C) taking care to protect your hands while pouring

- Press out all the air and close the mouth of the bag tightly. Dry the bag from outside.
- Invert the bag and confirm that there is no leakage.
- Wrap it in a towel & then hold against the painful, sprained or inflamed part. If it is too hot, wrap it in one more towel.
- Do not keep it in continuous touch for long period, especially when it is very hot. Take particular care in drowsy, semiconscious or unconscious patients where a prolonged contact with too hot a bag can cause burns.

Wet Fomentations

Wet fomentations are ideal for raw wounds, incised abscesses.

- Hold a Gamjee pad or a sponge, between two spongeholding forceps.
- Dip it in hot water, wrung it to take out excess water, and apply the hot sponge to the inflamed area - only momentarily and repeatedly
- When it becomes cold, dip it again in hot water, and repeat.

COLD COMPRESSES

Cold compresses are used for reducing body temperature in febrile patients, especially in children.

- Take 5-6 small towels or handkerchiefs. Soak them in cold water. Do not use ice cold water which patient cannot tolerate. Tap water or slightly cold water is ideal.
- Place folded soaked towels over forehead, neck, both axillae, both groins. Change them, as & when they become warm.
- With one towel wipe the limbs and torso wet. Evaporation of this thin layer of water, cools the body temperature rapidly. To help faster evaporation, small amount of eau d'colone may be added to the water.
- Cold compresses should not be given for more than 20 minutes. Then, they may be repeated after 2 hours.

ICE BAG

Ice bag or application of ice is ideal for immediate treatment of Blunt injuries, contusions like Black eye. It minimises pain and immediate swelling.

- Fill the ice bag with small ice cubes or crushed ice till it is half full.
- Add a pinchful of salt, so that the ice will not melt quickly.
- Remove the excess air in the bag, close the lid tightly, dry the bag from outside, wrap it in a towel and apply it to the injured part.

Ice Disc

Homemade icebag - Keep a steel wati, filled ½" with water, in the freezer compartment. After ice is formed, take out the disc of ice, place it in a very thin plastic carry bag, and tie a knot to prevent water leakage. Preserve this in the freezer, use it whenever required and keep it back immediately before it melts. Ideal for Black eye, contusions & pain after tooth extraction. The disc provides maximum area of skin contact.

DRESSING

Dressing of Abrasions

1. Clean gently with Savlon & water.
2. Apply Mercurochrome or Wokadine solution and leave it open. If the abrasion is deep, apply Soframycin ointment × 3 times/day (**Anti-biotic oint** = 11B)

3. If the abrasion is brushing against clothes, cover it with vaseline gauze, pad and bandage.

Dressing of ulcers & wounds

1. Clean gently with Savlon, H_2O_2 and water. Clean the surrounding area also.
2. i) Remove loose slough with forceps & scissors.
   ii) If deep cavity, pack it with soframycin ointment and vaseline gauze piece.
   iii) If there are hypertrophic granulations, apply silver nitrate crystals.
   iv) If ulcer edge is undermined, refer to surgeon for excision of ulcer edge.
3. Apply Soframycin Ointment, Gauze piece and dressing. Use a Cotton pad/Gamjee pad if there is copious discharge.
4. Fix the dressing with sticking plaster strips, or a bandage.

If a wound does not heal after regular dressings

1. First rule out Diabetes. Ask for Blood sugar - Fasting and post-prandial.
2. If Anemic, treat with Iron & folic acid. Cap Autrin 1 OD × 60 (2I)
3. Look for other diseases like C.C.F., C.R.F. etc.
4. If ulcer is on leg - Palpate for the peripheral pulsations, and look for varicose veins in standing position.
5. Look for everted edge of malignancy or undermined edge of Tuberculous ulcer.
6. Refer to a surgeon for advise.

CLW SUTURING

CLW = Contused Lacerated Wound

Do not suture a CLW:

1. If underlying tendon is cut.
2. If underlying bone is fractured.
3. If CLW is caused by Dog bite.

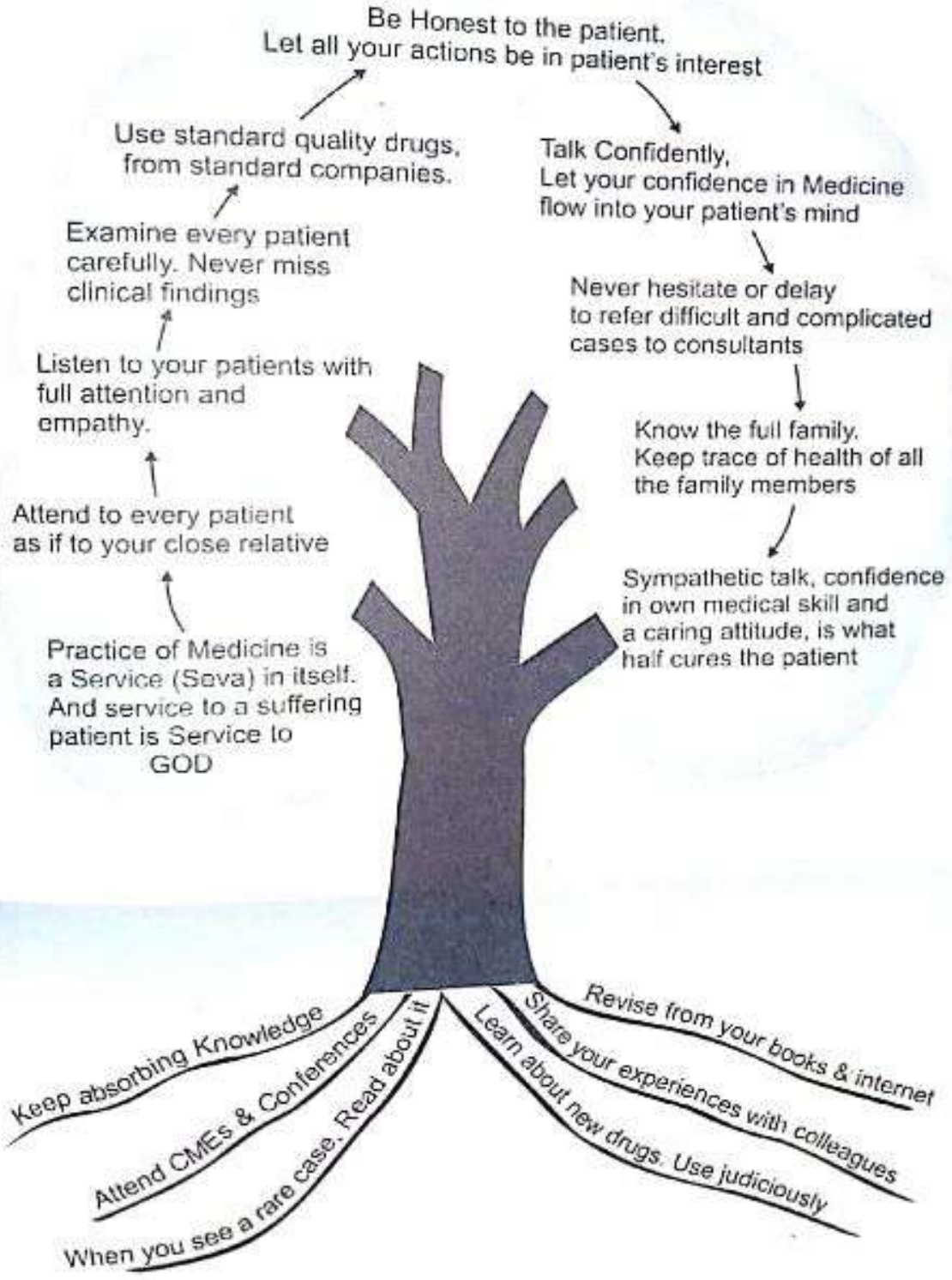
Procedure

1. Prepare all instruments for suturing in a tray.
2. Clean the wound & the surrounding area thoroughly with savlon, H_2O_2 and water followed by painting with Betadine. (**Povidone Iodine** = 11 B-1)
3. Surrounding skin if hairy, should be shaved. Clean the surrounding skin with Betadine or Iodine with spirit.
4. Inject Xylocaine 2%, using a 23 No. Needle, around the CLW and under its base.
5. If the skin edges are crushed and irregular, trim the edges to remove the crushed tissue which will otherwise necrose.
6. Suture the CLW with simple or vertical mattress sutures, at ½ to 1 cm intervals.
7. Do not tie the threads too tight, just bring the skin edges close together.
8. Clean & dry the sutured wound, paint it with Betadine or sprinkle Betadine powder and apply dry dressing.
9. Change the dressing once, after 3 days to inspect the wound, Then remove sutures after 5-7 days.
10. Prescribe:
    i) Inj. T.T. ½ cc IM × stat and after 6 wks.
    ii) Cap Baciclox 500 mg tds × 5 days (**Any antibiotic** = 7A-6a)
    or Tab Ciplin DS 1 bd × 5 days (7A-1b)
    iii) Tab Oxalgin DP 1 tds × 2 days, then if pain (**Analgesic - anti inflammatory** = 3C-3)

SECTION 5

HINTS TO START NEW PRACTICE

GENERAL PRACTITIONER'S
TREE OF KNOWLEDGE



Chapter

23 HINTS

REQUIREMENTS FOR SETTING UP A GENERAL PRACTICE

1. Instruments

For Examination

Stethoscope
Fetoscope or Fetal Doppler
Otoscope
Thermometer
Weighing Machine
Torch
Tongue depressor- large & small
Hammer, Pin & file
Mercury B.P. apparatus.

For Injections

Electric Steriliser
Syringe tray
Disposable Syr.: 20 cc × 2
10 cc × 2
5 cc × 20
2 cc × 20
Insulin syringe X 1
Disposable Needles: 21 No. × 12
23 No. × 12
24 No. × 12
26 No. × 2
20 No. × 6

Kidney tray - 1 large & small
I.V. stand or hook
I.V. Bottles: Glucosesaline × 2
5% dextrose
Isolyte P × 1
Ringer's lactate × 1
I.V. sets
Scalp vein set No. 21, 22, 20, 24
Sticking plaster strips

Nursing instruments

Hot Water Bag
Ice bag
Bed pan
Urine pot
Enema set
Rubber catheters or disposable plastic catheters No. 3, 6, 8 & 10
Ryle's tube No. 16 & 18 + No. 22
Urostrips
Dressing Tray
Cotton Gauze pieces
Savlon, Dettol
Mercurochrome
Neosporin Powder
Soframycin Ointment
Bandages
Sticking plaster
Belladona plaster

Surgical

Plain & Toothed forceps
Suture cutting scissors
Ordinary Scissors
Needle holder
Curved cutting needles - small & medium
Straight needles
10 No. & 40 No. Thread.
2 small artery forceps.
Knife and blade.
Local xylocaine.

Additional options

Infrared light
Fetal Doppler
Cervical traction set
Emergency set with Ambu bag & mask
Home delivery set
ENT examination set.
Glucometer to test blood sugar.
Nebuliser
Asthalin inhaler with spacer

2. Furniture

Table with one compartment with lock
Paper weight, table calendar,
& all stationery.
Doctor's chair.
1 or 2 Chairs for patient & relative.
Examination table - 7' × 2', covered with McIntosh, Cupboard, small stool for climbing. Curtains or partition around the examination table.
Cupboard for medicines.
Stool for compounder

Waiting room

Benches for waiting patients
Daily paper & magazine
Drinking water
Receptionist's table & chair

Second Room

2 cots with mattress, MacIntosh and bedsheets.
I.V. stands

Wall decoration

Degree & Registration certificates.
Calendar
Clock
Photograph of Deity.
Posters - usually of children.
Patient education posters
Interesting articles on medical topics from magazines or newspapers
Your photographs receiving some awards or participating in service camps.
A Scale for measuring height.

Stationery

Rubber stamp, bearing name, degree, registration number and address.
Prescription pad: Small (8 × 10 cms) & Large (12 × 15 cms)
Letter head
Envelopes
Referral letters (may be printed)
Requisition forms from laboratories and radiologists in the area

3. Drugs

The General practice in cities demands very few drugs to be stored and dispensed. Most of the medicines are prescribed. Except the emergency injections, all drugs can be purchased by the patient from the neighbouring pharmacy. But in rural areas, dispensing is still practiced, as there is no Drug Store nearby. So the drugs to be kept by the doctor will be decided by the doctor himself.

Emergency injections

Decadron, Efcorlin, Dopram, Adrenalin, Aminophyllin, 25% glucose, Sodabicarb,

Antibiotics injections

Terramycin, Penicillin, Pencom, Streptomycin, Gentamycin, Ampicillin, Chloromycetin, Cefantral

Antispasmodics injections

Anaspas, Anafortan, Cyclopam, Perinorm, Siquil, Rantac

Analgesic, Anti-inflammatory injections

Voveran, Neomol (Paracetamol), Largactil, Phenergan, Calmpose

(Anxol), Gardenal, Paraldehyde, Fortwin, Norphin, Pethidine.

Other injections

Bcomplex, Neurobion, Polybion,
Macalvit, Calcium sandoz,
Imferon/Jectofer
Botropase, Dicynene
Methergin, Pitocin.
I.V. Fluids: DNS and RL 4 bottles each
Water for injection.
Inj T.T.
Inj. Xylocaine

Tablets

Aspirin, APC, Paracetamol, Brufen,
Anafortan, Voveran
Ultracet
Stemetil, Siquil, Perinorm,
Antacid, Rantac, Omez
Decadron, Wysolone
Fersolate, Bcomplex, Calcium lactate
Avil, Cetzin
Calmpose
Adelphane. E, Nifedipine
Nivaquin.
Ampicillin, Septran.

Drops

Soframycin eye drops, Chloro ear drops

For Babies

Syr. Largactil/Phenergan.

Liquids

Cough Syrup
Kaolin mixture
Anti-emetic mixture
Antacid
Helmacid (Pip citrate)
Mist. Carminative
Liq. Paraffin.

4. Home visit Bag

Injections

Inj. Atropine 2 amps
Inj. Spasmindon × 3 amps (or 10 ml vial)
Inj. Anafortan 2 cc × 3 amps
Inj. Avil 2 cc × 2 amps (or 10 ml vial)
Inj. Phenergan 2 cc × 2 amps
Inj. Largactil 2 cc × 2 amps
Inj. Calmpose 2 cc × 2 amps
(Anxol 10 cc vial)
Inj. Fortwin 2 cc × 2 amps (or Norphin)
Inj. Gardenal 1 cc × 3 amps
Inj. Paraldehyde 5 cc × 3 amps
Inj. Voveran 3 cc × 5 amps
Inj. Paracetamol 30 ml vial

Inj. Vitcofol 10 cc vial.
Inj. Neurobion 3 cc × 2 amps
Inj. Polybion 2 cc × 2 amps
Inj. Lasix 2 cc × 2 amps
Inj. Aminophyllin 10 cc × 1 amps

Inj. 25% Glucose × 2 amps
Inj. Calcium Sandoz 10 cc × 3 amps.

Inj. Reglan 2 cc × 2 amps (10 cc vial)
Inj. Stemetil 1 cc × 2 amps (10 cc vial)
Inj. Rantac 2 cc × 2 amps

Inj. Decadron 2 cc × 3 vials
Inj. Efcorlin 2 cc × 3 vials
Inj. Gentamycin 2 cc × 3 vials.
Inj. Penidura LA 12 × 2 vials.
Inj. Terramycin 30 cc × vial
Inj. Chloromycetin 20 cc vial
Inj. Dilantin 1 amp
Inj. Gardenal 1 amp

Inj. Gesicaine 30 cc 1 vial.
Inj. Siquil 10 cc vial
Inj. Sylate 5 cc amp.
Inj. Bplex 10 ml vial.
Inj. Mephentin 10 ml vial.

Inj. T.T. 5 cc vial
Water for injection 5 cc 3 amps.
Sodabicarb 10 ml 2 amps.

Tablets

Disprin, Isordil (Sublingual), Crocin, Brufen or Voveran, Calmpose or Restyl, Antacid, Depin (Sublingual), Lanoxin, Orolyte sachet. Nitroglycerine patch.

Suppositories

Diazepam Rectal suppository (for febrile convulsion in children).
Voveran Rectal suppository

Instruments (in home visit bag)

Stethoscope
Torch
Tongue depressor
Spirit bottle & cotton swabs.
Dial type BP apparatus
Artery forceps × 2
Syringes - 10 ml × 2
5 ml × 2
2 ml × 3
Needles - No. 20 × 5 (for withdrawal)
No. 22 × 10
No. 24 × 10
No. 26 × 2
Empty box to put used needles
Ampule cutting files × 4
Prescription pad & pen.
Blood sugar strips (2)

GENERAL HINTS

Entry

The Clinic should be easy to identify from the main street. Put clear sign boards, so that the patient can locate your clinic without asking anyone. If the clinic is not on the main road, or is inside a large building complex, put up boards with arrows.

The boards should be freshly painted every year and should be cleaned every week by the servants. The state of the board indicates the degree of alertness of the doctor.

The main board must bear the name of your clinic, your name and degree, your speciality if any, and the clinic timings. It should not be too large.

The Waiting Room

Your patient spends 5 minutes with you, and probably fifty minutes in the waiting room. So, you must see to the comfort in the waiting room. Sit in the waiting room and have a feel of the room.

A warm welcome creates the first good impression about your service. So the receptionist or the compounder must be taught to welcome the patient with a smile and affection, and give them proper attention.

Be strict about cleanliness. The floor and furniture in the waiting room must be spotlessly clean and neatly arranged.

Fan or Air conditioner, Air-fresheners, Drinking water, and if you keep the patients for applying IV fluids, then a clean toilet. Use the toilet yourself, so that everyone keeps it clean.

Entertainment in the waiting room

Put patient education posters on the wall.

Put articles on Medical topics from magazines and newspapers that would be of interest to your patients.

If you have participated in any service camps, blood donation camps or social work, put up your photographs and Newspaper cuttings about such events.

If you have written any health related articles in magazines, put them up on the wall.

You can prepare your own patient education pamplets and distribute them

or just make them available for reading in the waiting room.

Keep local newspaper, some entertainment magazines and News magazines, but let the issues be recent – not torn and out of date as in a hair-cutting saloon.

If you have more of a pediatric practice, keep some children's books and non-noisy toys.

Your Assistants

Spend time to teach your compounder/ secretaries/ nurses – on how to talk and behave with the patients, how to answer telephone calls, how to explain prescriptions etc.

These assistants in a G.P.'s clinic are often less educated, so training them is extremely important, if you want your patients to be well treated by them. And the best way to teach is to demonstrate to them, and then make them talk to the patients in your presence.

Never think they will learn by themselves, or by looking at your previous/older assistant.

In the Examination Room

Welcome the patient with a smile and empathy.

Greet the patient with his or her name.

You should always be well dressed and well groomed, be it any time of the day.

Have a LARGE mirror hung over your washbasin, so that you are constantly aware about your look.

Patients feel half better just by seeing the doctor. If your wearing a proper dress and smile helps your patients to get better sooner, then you must take time and trouble over the way you look. No shabby, tired looks please. And you must look as neat and fresh to the last patient of the evening, as you looked to the first patient in the morning.

The most important thing the patient looks for in you, is how much you care for him. It must be seen in your eyes, your smile and your body language.

When the patient is narrating his problems, look into his eyes. Do not avoid eye contact. Never do anything else simultaneously – not even writing notes. Patients want you to give your full, undivided attention.

Examination room should be isolated by proper partitions. What the patients talk, should not be overheard by other waiting patients.

After the patient's complaints are dealt with, do make a conversation about the health of other family members – especially children and old persons. The Doctor who remembers the names of all family members and all their health problems, graduates from an ordinary General Practitioner to the beloved Family Doctor, and that should be the ultimate aim of every General Practitioner.

WRITING CERTIFICATES

1. Certificate is a document of legal value. Write it carefully.
2. Never give a false certificate, however much a patient may request you. It can bring you into trouble.
3. Always keep a carbon copy of the certificate issued by you for future reference.
4. The dates on the certificate should match the dates on the patient's case paper.

CERTIFICATE FOR INDOOR PATIENTS

Date:.....

LETTER HEAD

This is to certify that Mr./Mrs.....
.....age ..... yrs., is/was
.....
suffering from .....
He/she was examined in O.P.D. on.....
He/She was admitted on ..... and is/was
discharged on .....
He/She has undergone..... (Operation if any)
He/She is/was advised rest for .....days.
He/She is fit to resume his/her duties from
..... /and is advised Light duty for
.....days.

Signature

Dr. .....
(Rubber Stamp)

CERTIFICATE OF ADMISSION & DISCHARGE

LETTER HEAD

Date:.....

This is to certify that Mr./Mrs.....
..... Was admitted to this Hospital
on ..... for .....
He/She was operated on ..... for .....
He/She was discharged on.....

Signature

Dr. .....
(Rubber Stamp)

CERTIFICATE OF REST

LETTER HEAD

Date:.....

This is to certify that Mr./Mrs/Smt/Ku .....
.....age .....yrs.,
was suffering from.....
He/she was advised rest from ..... to .....
He/She is fit to resume his/her duties/school from .....
.....

Signature

Dr. .....
(Rubber Stamp)

CERTIFICATE OF FITNESS FOR DUTY

Date:.....

LETTER HEAD

This is to certify that Mr./Mrs/Smt/Ku .....
.....age .....yrs.,
.....
was suffering from.....
He/she was advised rest from ..... to .....
He/She is fit to resume his/her duties from .....
.....

Signature

Dr. .....
(Rubber Stamp)

Signature of Patient

5. The diagnosis should be clear cut, and the amount of rest advised should match the diagnosis.

The Common diagnoses met with in General Practice: Viral fever, Typhoid, Malaria, Influenza, Pharyngitis, Bronchitis, Dyspepsia, Amoebic Dysentery, Gastro-enteritis, Abdominal colic, Renal Colic, Gastritis, Headache, Arthritis, Leg cramps, Spondylitis, Anemia, Urinary infection, etc.

WRITING REFERRAL LETTERS

1. Always write the Date, and in emergency cases, the time, to document when you have referred.
2. You may not write detailed examination findings but your clinical impression and the reason for which you are referring should be clear from your letter.

SAMPLE REFERRAL LETTER

LETTER HEAD

Date:.....
Time: .....

Dear Dr. ..... ,

Referring Mr./Smt. ....., age .....yrs.,
With complaints of.....
.....
On examination, he/she has .....
The investigations done show.....
.....
My Clinical impression is.....
I have given the following treatment:-
1. .....
2.....
3.....
.....

He/She is referred to you for your expert opinion and advise. Kindly examine the patient and advise/do the needful. Please inform me about the progress of the patient.
Thanking you,

Yours sincerely,
Signature

Dr. .....

P.S.:
* He/She is allergic to .....
* He/She is suffering from Diabetes/H.T./IHD/Asthma/..... for which he/she is taking.....

3. If any investigations, X-ray scans, etc. have been done, instruct the patient to carry the reports with them.
4. Always inform what treatment you have given, as emergency treatment or in the past, eg. After an injury, is Inj. T.T. given? In fever, what antibiotic you have tried & found ineffective; in Gastroenteritis, how much I.V. fluids have been given etc.
5. If patient is allergic to any drug, the information must be conveyed to avoid unwanted reactions. Allergy known about one drug will make the doctor alert while giving other drugs also.
6. Many times a patient may be suffering from chronic diseases like Diabetes, Asthma, Hypertension etc. The treatment being taken for such conditions should be mentioned.

HOW TO WRITE A PRESCRIPTION

Write every prescription with utmost care and responsibility

1. Prescription is the document, which a patient carries with him wherever he goes. And it speaks of the doctor who has written it. A good prescription means that he has visited a good Doctor. Conversely, a mistake in writing can be harmful to the patient and to your reputation. So you must write every prescription with utmost care and responsibility.
2. Prescription should contain the patient's name & age, and date. [Ideally, it should also contain weight, & important signs like B.P. if hypertensive, urine sugar if diabetic, Temp. if febrile].
   - Start with the sign 'Rx'
   - Write Injections first, Then tablets & syrups, (antibiotic first), Then Instructions.
   - Write legibly.
   - For each drug, write clear instructions - dose, how many times, for how many days.
   - No short forms should be written on prescriptions. It is for the patient, who does not understand the meaning of BD, TDS, PC, etc.
   - At the end, write when to report back.
3. Generally, a prescription should be limited to 3 or 4 drugs. When it comes to the fifth drug, think whether all 5 drugs are really needed! Yes, some patients may need more but can any of the drugs be avoided this time? In particular, patients already taking regular drugs for H.T., diabetes etc., they would not like to take too many drugs.
4. Prescribe minimum drugs to children. In most children, it is a very difficult task to feed them medicines.
5. If the patient is a well controlled Diabetic or Hypertensive, do not change his drugs, without a specific indication for change. Let him continue what he is taking, even though your favourite drug is some other!
6. Write drugs which are available next door. If specific drugs are not available in town or available at specific place, tell the patient from where to by. Otherwise, patients roam several shops & towns and come back, saying 'it's not available, that's not good.

7. Patient should buy the drugs, come back, show the drugs and get explained how to take them. especially if he is illiterate. A well educated patient may be explained with the prescription.
8. Think whether the patient can afford the drugs prescribed. In poor patients, prescribe the least expensive drug. If the patient cannot afford, omit costly tonics and use your judgement to give most essential drugs only. Otherwise a patient of typhoid may end up buying useless tonics and leaving Ciplox halfway.

Prescribing to Poor Patients

1. Prescribe the least expensive drug, though it may not be the most effective. It's no use prescribing the Best drug, when you know that he will never buy it!
2. Give some medicines from your sample collection. That is the best way to utilise sample medicines and create goodwill.
3. Don't ask for costly investigations, unless unavoidable. Don't ask for investigations that will not affect the treatment. e.g.
   i) In Hypertension, treat Hypertension. No need to do Lipid profile, echocardiography etc.
   ii) In angina, if the patient cannot afford - bypass surgery, there is no point in doing stress test & angiography.

Here are a few examples

Disease/Symptom	Prescribe	May not afford
1. Hypertension	Adelphane -E, Aten, Depin	Minipress-XL
2. Minor infections	Septran Terramycin	Baciclox, Cephalosporins
3. Pain	Brufen, Disprin	Tramadol
4. After stroke/IHD	Aspirin	Ticlopidine/ Clopidogrel/ Ecosprin
5. Anemia	Fersolate	Liquid Iron Prep.s
6. Amoebiasis	Metronidazole	Secnidazole/Tinidazole
7. Epilepsy	Dilantin	Tegretol
8. Angina	Sorbitrate	Monotrate/Diltiazem
9. Diabetes	Bovine Insulin	Human/porcine insulins
10. Infective hepatitis	Liv52	Phospholipids

iii) In jaundice, if clinically icterus is reducing, there is no need to do S. Bilirubin repeatedly. Let the patient spend the same money on drugs, which will help him more.

SAMPLE PRESCRIPTION PADS

1.

"I prescribe, He cures"

Dr. G. M. Vaidya
M.B.B.S.
Reg. No. (Medical Council)

Address:

Phone No.

Clinic Timings

Name (of patient):

Rx Date:

Next appointment on .....

Please do not substitute.

Please bring this paper on every visit.

Neither dispense more than prescribed, nor repeat the prescription.

2.

'May God Bless You With Good Health'

Address Clinic:

Dr. G. M. Vaidya
M.B.B.S.

Clinic Timings

Reg. No.:

Date:

Ref. No.:
Name:

Rx

Drug	Before or After food	Morning	Noon	Night	No. of days/ Tabs

Next visit on .....

Signature

Please bring this paper on every visit.

PRINTED INSTRUCTIONS ON PRESCRIPTION

Here are some of the important instructions, which may be printed on the prescription, Some are for the benefit of the patient, some are medico-legally important, while top-lines are statements of your Clinic. Choose only those few sentences that appeal to you most and have them printed on your prescription pad.

Bottom Lines

- Bring this prescription at your next visit.
- Please adhere to Clinic timings, except in Emergency.

Top Lines

- || SHRI || or any auspicious sign
- I Prescribe, He Cures
- May God Bless You With Good Health
- Born to Serve

Back of Prescription Pad

- This medicine has been prescribed for your current ailments only.
- Do not take it more often or for a longer period than advised.
- If you notice any untoward reaction like skin rash, itching, epigastric burning, or breathlessness, - stop taking the medicines and consult your Doctor immediately.
- Do not share Medicines with others without consultation.
- Avoid self medication.
- If any medicine has caused allergy or acidity in past, inform the doctor about it.

For the Pharmacist

- Please do not substitute brands. Or
- No Substitute Please
- Do not dispense again, unless re-prescribed.

Storage

- Keep all medicines out of reach of children.
- Keep the Medicines in the original strip or container until used. Store in a cool, dark place – away from direct sunlight, heat & moisture.

MAINTAINING RECORDS IN GENERAL PRACTICE

Difficulties faced by a G.P.

1. G.P. has to work single handed. He does not have a well educated clerk to assist, where as maintaining and finding back records is a clerical and time consuming work.
2. Many of the patients are occasional visitors or wanderers. They never come back within a reasonable period of time. So time spent to write such casepapers appears as a waste of Doctor's valuable time.
3. Most patients in General Practice have minor complaints, like influenza, pharyngitis, minor pains etc., where maintenance of records is of no value in future treatment.
4. But legally, every G.P. is expected to keep a proper record of every patient that he sees!.

Some specific patients require maintenance of proper medical records.

1. Patients with Chronic illnesses like Diabetes, Hypertension require a proper record of treatment taken and investigation reports or B.P. - over several years.
2. Patients who are allergic to certain drugs must have a proper record, otherwise the same drug to which allergy is known, may be repeated after a few months or years.
3. The families who always come to you - their records must be properly maintained, especially the children. eg. Parents of a 5 yr. old child might want to know whether M.M.R. vaccine was given by you in the first year. Without records, you may have no answer!

SYSTEM - 1: CASE-PAPER SYSTEM

The most common practice amongst General practitioners is of not keeping any records!!

Ignoring that, the most common and useful method of keeping records in General Practice is maintaining case-papers, which are arranged surname-wise.

Dr. G. M. Vaidya M.B.B.S.

Name / Address / Age:	Space for 1) Diagnosis, 2) Major illness like Diabetes, H.T., asthma TB etc. 3) Allergy to

Date	Symptoms, signs + investigation reports	Treatment	Bill Cash	Bill Due

They are kept according to surnames from A to Z, and within each group, papers of each family are bunched together - pinned or Clipped. So, if you take out paper of say Mr. Eknath Patil, Then all papers of his family will also be received together. If any member of his family comes to you, you have to take out his file. This will help you to keep full & perfect records of the 40-50 or more families which are under your regular care.

Another advantage of this system is in preparing bills. As all bills of that family will be paid by the same person, it is easier to add up all dues, Plus, the bills submitted, dues & paid, will also remain written on the main paper for future reference.

A Sample format of a case paper is given Above

On the case paper, summary of signs, symptoms or diagnosis are written in very few words, and in treatment column, only names of drugs will be mentioned. Detailed prescription is written separately to be given to the patient.

In this system, every year end, papers should be scanned, papers of patients who will not come again are discarded and only regular patient's papers carried forward to next year.

SYSTEM 2: REGISTER SYSTEM

This system is more useful for floating patients. In a regular long book, make columns as shown on Left side —>

When a patient comes again, ask him when he had last visited you. Approximate Date or Date on previous prescription allows you to quickly find his Last one visit's record. But multiple visits are difficult to trace.

If the patient does not remember the date, then it becomes difficult to find the record, as it is impossible to find it from the name.

The second problem is that you cannot write in a register in front of the patient. It does not create a good impression. So you have to write on the prescription and

Date	Name	Age	Place	S/S & Diagnosis

On right side →

Treatment (given in Clinic + Advised)	Bill	
	Cash	Due

then as the patient goes out, enter in the Register.

Oh no! I have no time for paperwork

Keeping records means lot of paperwork. No Doctor likes it. No Doctor has time to spend on it. So Most Doctors do not keep any records.

But not keeping any records at all is also not correct. If any Medicolegal problem or compensation claim arises, you could be in trouble if you have no records. The best alternative is to keep record of at least the few important cases and all potentially Medicolegal cases like CLWs, injuries, burns etc.

Since both systems of keeping records are not perfect, a combination would be more appropriate. Case-papers for regular family patients & chronic illnesses. Plus register for occasional patients.

SYSTEM 3: CASEPAPER WITH PATIENT

Another method followed by some practitioners is to give the casepaper to the patient. A sample of such casepaper is shown here. → (next page)

Write the complaints and diagnosis on Left side, and on the right side, write full detailed prescription & instructions. Instruct the patient to preserve the paper carefully & bring it everytime.

Note

1. Good quality paper must be used, as patient will handle it often.
2. Instruct regular & chronic patients to buy a file & keep your casepaper, investigation reports everything together.
3. You have to write with care, as it will be read by the patient & other doctors wherever he goes. So you cannot afford to write carelessly or make mistakes.

Address of clinic

Name
qualifications

Timings:

Date	Symptoms, signs, investigations.	Prescrition

For the patient, this is a better system, as all records are available to him, and if he goes to another town or another doctor, his previous treatment are with him. But if patient is uneducated, he may not preserve the papers and everything may be lost!.

From doctor's point of view, the system keeps no records with him. The documents which are legally his, remain in patients hands. And of course, he becomes open to criticism, if he has missed any finding! Yet, some good practitioners do follow this system.

Another very nice practice, often followed in Government dispensaries, is to ask patients of chronic illnesses to buy a small pocket Note Book (Patients of Tuberculosis, Diabetes, Hypertension) so that regular records of weight, BP, Urine sugar etc. and the treatment, will be maintained. Even if some other doctor continues to see the patient in future, he will have the records and may as well continue to write in the same book.

SYSTEM 4: COMPUTERS

Though today, computer is not within the purview of common General Practitioners, some Practitioners have started using it, and very soon, it will be a part of General Practice, especially amongst the new generation, who will be conversant with computers from their school days. Let me now discuss how computer will help a General Practitioner.

The computer programs will be of two major parts:

I) Records Oriented
II) Symptom Oriented.

Record Oriented Program

It will have advantages of both - case paper system and Register system.

Once the patient's name, age, weight & address is fed in by the Doctor or his assistant, the Doctor will type only the complaint, Names of drugs advised and bill.

A. prescription:

1. The prescription will be typed out in full details with all instructions that the doctor may otherwise not write.
2. The doses of drugs will be age and weight related, or as desired by the doctor.
3. There will be a choice of local language in which the instructions are printed.
4. If drugs do not match, it will be indicated. eg. Tetracyclin and Antacid,
5. If drugs do not match the diagnosis, computer will show a warning. eg. if steroid is prescribed to a patient of Hypertension or Diabetes.
6. Allergies, once fed in the computer, will always be reminded everytime in future.

B. Bills & Dues:

Compilation of Bills & Dues, which takes up a significant time of the G.P.s at monthends will be a minute's job. A list of all the dues may just be printed out and handed to the compounder for collection every month.

C. Tracing out old records, of all the visits of the patient, will be very easy from the patient's name/ number.

D. Writing of certificates will be very systematic and quick. Only the Diagnosis, and Dates of illness & fitness will have to be typed.

E. Academic minded G.P.s will have statistics at their fingertips. Today many General Practitioners are writing papers on those aspects of diseases which are missed/never seen by researchers in Hospitals.

At the year end, all records may be copied to a floppy for storage. Then all unwanted records deleted from the main computer hard disc and only important ones carried forwards to next year.

Symptom - Oriented Program

This program will be a systematic compilation of Medical knowledge. It will help the General Practitioner in tackling difficult cases, not responding to routine treatment.

When data on such cases is fed to the computer it will suggest all the various possibilities, suggest investigations and differential diagnosis.

Also, it will help the Doctor to revise his knowledge from time to time and freshen his thinking process.

Let it be clear that the computer does not think for the Doctor! It just helps the Doctor in his thinking process. So if you can take the right advantage of it, in selected cases it will be a great help. Because, it will combine references of many books for you.

Internet: Internet is a worldwide network of computers, which gives you access to any information anywhere in the world. If you just give a topic, say malaria, you will get an access to practically all latest research papers, currently accepted lines of treatment, all drugs and anything that you may ask for! That's something that even a good college library may not offer!! And what a radical change it is, from the past situation, where the General Practitioner had no access to any books other than the few undergraduate books that decorate his showcases!

Health Record Card

I have given below, a sample 'Health Record Card', which should be carried by

HEALTH RECORD CARD

Year of Birth: 1972

Name:
Sex: F

Immunisations received
Childhood record not available
TT- 1992, 1996 (Pregnancy), 2004, 2006
Hepatitis B- 1999, booster-2004, 2009

Known Diseases
Childhood asthma till age of 10
Hypertension: since 2007
Diabetes type2- since 2009

Known Allergies
Sulpha- (FDR),
Voveron – (severe gastritis)

Voluntary Blood Donation record
Blood Group: A positive
1990, 2006 March,

Chronological record of Illness and major investigations
(Enter in short, in one line)
1976- Chickenpox
1994- Typhoid fever
2004- Vehicular accident, # Tibia-fibula, Plating done.
2005- CT scan brain for headache- normal
2007- Hypertension detected, Lipids, ECG normal
2009- Diabetes Type2 detected. PP=245 mg%,
2009 June: Echo- normal

Obstetric record in Females
1992- FTND Female, H/O PIH
1996- LSCS for Fetal distress- cord around neck, Male child, Healthy.
2001- Laparoscopic Tubectomy

Preserve in a file alongwith: 1. Consent for Eye Donation after death 2. Consent for Organ Donation in event of Brain death 3. Consent for Donation of Body after death (if desired by the patient)

a patient in his/her file.

The main medical events in the patient's life should be mentioned here, in one line each. Simple ailments like viral fever, colds, occasional joint pains etc, which have no future significance, should not be written.

BOOKS RECOMMENDED FOR GENERAL PRACTITIONERS

Prescribers

1. Clinical Prescriber by Dr. Milind S Shejwal

publisher: Bhalani Publishing House, Mumbai.

Comments: A very handy prescriber covering all common symptoms and diseases.

2. The Practical Prescriber by Dr. A. F. Golwalla & Dr. S. A. Golwalla.

   Publisher: Dr. A. F. Golwalla.

   Comments: A complete prescriber covering every medical disorder, in pocket book form.

3. Indian Medical Prescriber 2005 by Dr. D. D. Arora.

   Publisher: Dr. D. D. Arora, D-122, East of Kailash, New Delhi-110 065.

   Comments: Discussions & treatment of common Medical disorders, with stress on Primary healthcare & Health programmes. Lots of Statistics & references. Drug index arranged alphabetically.

Index Books of Available Drugs

Detailing all drugs with dose, indications, precautions, sideeffects & Trade Names.

1. **Drug Today:** (Bimonthly.)

   Publisher: Lorina Publications (INDIA) INC P.B. No. 9131, New Delhi - 110 091.

2. **IDR:** Indian Drug Review (Bimonthly)

   Publisher: K-24A, Kalkaji, New Delhi - 110 019.

3. **Drug Index**

   Publisher: Passi Publication

4. **CIMS:** Current Index of Medical Specialities (Quarterly), Best.

   Publisher: Bio-gard Pvt. Ltd., 640, 10-A Cross, West of Chord Road (2nd Stage), Bangalore - 560086.

5. **Drug update** (Quarterly)
   Publisher: Anchara Building, Sangasetu Road, Sanganer, Jaipur - 303902 Rajasthan.
   E-mail: drugupdate@rediffmail.com

6. **refRx:** Quarterly: UBS Publishers Pvt. Ltd., 5 Ansari Road, New Delhi-110002. Excellent Drug index Book. Recommended. Available on amazon.

Books on General Practice

1. Kapoor's Guide for General Practitioners (Parts I to VI). Now available as Textbook of Medicine in 2 volumes.

   Publisher: S. S. Publishers, 16, Rajat, Mount Pleasant Road,

   Mumbai 400006.

   Comments: Part I & II are invaluable for G.P.s Dr. Kapoor has covered the essence of General Practice in these 2 sections.

   Part III is an excellent Photographic Atlas.

   Part IV details all old & recent investigations.

   Part V is a compilation of Dr. Kapoor's Published articles

   Part VI is again a valuable book - in Flowchart form, the approach of History taking.

2. General Practice as speciality: by Dr. Prakash Mahajan.

   Publisher: Paras Medical Publisher, Hyderabad.

   Comments: An excellent book for G.P.s, who want to develop their skills further in a speciality like asthma, diabetes, minor surgery etc. Ideal for the prattitioner who wants to do something 'more'.

3. Clinical Pediatrics for General Practitioners: by Dr. Milind S. Shejwal.

   Publisher: Bhalani Publishing House, Mumbai.

   Comments: Excellent Book for G.P.s

written in a very simplified and easy to follow style. A must for G.P.s. interested in Paediatrics.

4. Family Medicine: The New Frontiers. by Dr. V.G. Sidenur.

   Publisher: Surabhi Publications Ltd., 11, 2nd Main, Vyalikaval, Bangalore - 560 003.

   Comments: Covers History of Family Medicine, General aspect of Family medicines with particularly good section on psychiatry and relationship problems (Not available).

5. Successful Private Practice- Winning strategies for doctors: by Dr. Aniruddha Malpani, Anjali Malpani.

   Comments: Excellent discussion and hints on management of a clinic, patient relationship, clinic manners and increasing your efficiency.

6. Practical Standard Prescriber: by L. C. Gupta

   Publisher: Jaypee Brothers.

   Comments: A Pocketbook, Covers common medical disorders 1) essential of diagnosis 2) Treatment of each disease.

7. Pediatric Prescriber: by A Santhosh Kumar

   Publisher: Paras Medical Publisher, Hyderbad.

   Comments: Highly recommended. Excellent coverage of treatment and posology.

8. Practical General Practice: by Alex Khot, Andrew Polmear

   Publisher: Elsevier, USA.

   Comments: Costly, but very good book. However, it relates to General Practice in UK.

9. The Clinical Manual: by Dr. Bradley

   Publisher: Oxford.

10. Oxford Handbook of Clinical Specialities: by Dr. Collier

    Publisher: Oxford.

11. A Handbook of Emergencies: by Dr. Golwalla

    Publisher: Golwalla.

12. Current Medical Diagnosis & Treatment: by Dr. McPhee

    Publisher: McGraw-Hill, USA.

13. Clinical Manual of Medical Procedures: by Dr. Parulekar

    Publisher: Bhalani Publishing House, Mumbai.

14. Handbook of Current Diagnosis & Treatment: by Dr. Pounder

    Publisher: Churchill Livingston, UK.

15. Handbook of Poisoning: by Dr. Avinash Shanker

    Publisher: Bhalani Publishing House, Mumbai.

16. Medical Secrets: by Dr. Zollo

    Publisher: Jaypee Brothers.

17. Treatment of Tuberculosis: by Dr. Sunil Shah

    Publisher: Bhalani Publishing House, Mumbai.

18. Murtagh's General Practice

    Publisher: McGraw-Hill, USA.

19. Practical Guidelines on Fluid Therapy: by Dr. Sanjay Pandya

    Publisher: Dr. Sanjay Pandya, Rajkot.

20. A Synopsis of Treatment: by Dr. Avinash Shankar

    Publisher: Bhalani Publishing House, Mumbai.

21. Handbook of Oral Anti-Diabetic Drugs: by Dr. V.S. Ajgaonkar

    Publisher: Bhalani Publishing House, Mumbai.

22. Amazing Diet Facts & Calorie Book: by Meghna Parekh Sheth

    Publisher: Bhalani Publishing

House, Mumbai.

23. General Practice: by Kirti C. Patel
Publisher: CBS Publishers, New Delhi
Comments: Exhaustive lists of causes of each symptom & manifestation, for differential diagnosis. Drug information is handy.

24. Management of Symptoms in General Practice: by Prakash Mahajan.
Publisher: Paras Medical Publisher
Comments: Detailed discussion on the causes of various symptoms and clinical approach, like a Medicine textbook with practical view. Excellent book to have in your collection.

Journals

1. **The Antiseptic:** Professional Publications (P) Ltd., P.B. No.2, Madurai 625003, Tamil Nadu.
2. **JIMA:** Journal of Indian Medical Association: 53, Creek Row, Calcutta - 700 014 (W.B). (discontinued)
3. **The Indian Practitioner:** 101, Lawrence Apts-II, Vidyanagari Marg, Kalina, Santacruz (E), Mumbai - 400 098. (Maharashtra)
4. **Medical Pulse:** K-25A, Kalkaji, New Delhi - 110 019.
5. **Physician's Digest:** M/s. Integral Media, 205-A, Vinay Bhavya Complex, C.S.T. Road, Kalina, Santacruz (E), Mumbai - 400 098.
6. **GP Clinics:** ClinicIndia Press Pvt. Ltd.
   B-204, Windswept, 9th Road, Extension, Juhu, Mumbai - 400049.
   Ph.: 2623 5062,
   clinicsindia@vsnl.net
7. **CME Digest:** Asian Society of Continuing Medical Education, 4th Floor, Elphinestone House, 17 Murzban Road, Mumbai - 400001.

Chapter

24 INSTANT RELIEF

INSTANT RELIEF

**"Give me Instant Relief,
If not, guide me to one who will"**

This in one sentence, sums up what the patient expects from a New General Practitioner. This is the basic foundation of General Practice.

How high one rises from this foundation – depends on the desire, capacity and experience of the Practitioner. You can rise to the level of a Consultant in one or more fields, or practice comfortably at the basic level, in any case the basic expectation remains unchanged.

The patients come to the General Practitioner with the sole purpose of getting relief from their symptom (Fever, Cough, Headache or whatever), and that too as early as possible, so that they can get back to work next morning. Only if the symptom persists or recurs will they be bothered about the Diagnosis and Investigations.

A quick relief is invariably, (though not always) associated with an injection by the G.P. Though I myself like to avoid injections as far as possible, injection has its own advantages -

- It assures administration of a correct dose and its absorption
- Relief is quicker, more guaranteed & more effective than oral dose
- There is no nausea, vomiting & GI side effects, so there is a better feeling of well being
- And there is a definite positive psychological effect on the patient.

So in this section, I have suggested what injections a G.P. can give in a given situation. The choice should be made according to the patient's needs.

Secondly, if either the practitioner or the patient thinks that the disease needs consultation of a specialist, then it is the practitioner's duty to refer him to the right consultant, get him investigated and treated and then again follow up.

Now, I will deal with treatment of some of the common symptoms, aiming at quick symptomatic relief. **This will only be a superficial introduction, and the details are available in the section - "SYMPTOMWISE APPROACH".**

INSTANT RELIEF IN ADULTS

Fever

Most fevers in General Practice are viral, self limiting and of short duration. So initially, control of fever is all that is needed. Only if duration of fever is over 3 days, or there are associated warning

symptoms, then immediate investigations are needed.

If there is any epidemic in your area, like Typhoid, Infective hepatitis, Chikungunya etc. think of that cause first.

Treatment

1. Tab Dolo/Crocin 650 mg stat, may repeat after 1 hr. (**Paracetamol** = 3A-3)

   OR Tab Nise 100 mg stat (**Nimesulide** = 3C-11)
2. Cold sponging.
3. Bed Rest till fever subsides.
4. If there is associated cough or fever is high/prolonged, give antibiotic

   Tab Odoxil 500 mg bd × 5 days (7C = **Antibiotic**) Or Ciprofloxacin, Ofloxacin, Gentamycin,

Choice of Injection (S.O.S.)

1. To bring down the fever,

   Inj. Neomol 2 cc IM stat (**Paracetamol** = 3A-3)

   OR Inj. Voveron 3 cc IM stat (**Diclofenac** = 3c-51)
2. Antibiotic if bacterial infection is suspected,

   Inj. Cephantral 1 gm IM (Antibiotic if indicated)

Flu/Common Cold

This is usually a viral infection that needs only symptomatic treatment. But watch for spread to LRT with Laryngitis and Bronchitis, which needs more aggressive treatment.

Antibiotic is indicated only if thick nasal discharge/high fever/sinus tenderness/ LRTI.

Treatment

1. Tab. Rinostat OR Tab. Wikoryl OR Tab. Sinarest 1 BD/TDS (**Anti-cold** = 5A)
2. If fever,

   Tab Calpol/Crocin 650 mg stat and SOS (**Paracetamol** = 3A-3)
3. If sneezing & itching of throat,

   Tab Cetzin 10 mg 1 OD (**Anti histaminic** = 5B-II) choice = avil,
4. If blocking of nostrils is troublesome,

   Otrivin nasal drops BD [2 drops, preferably in only one nostril, alternating the side every time] (13C-1)
5. If cough,

   Phensedyl 1 tsp TDS (**Cough suppressant** = 5C-1) OR Benz pearls,
6. Antibiotic if indicated.

Choice of Injection (S.O.S.)

1. Antipyretic if fever or bodyache,

   Inj. Neomol 2 cc IM stat. (**Paracetamol** = 3A-3).
2. Inj. Avil/CPM 2 cc IM (5B-I)
3. Inj. Calmpose 2 cc IM (**Anxiolytic** = 4D-2)
4. Antibiotic if severe infection,
   Inj. Gentamycin 80 mg IM (7C) or Baciclox, Cefantral, Ciprofloxacin, Zanocin

Nausea & Vomiting

Generally a manifestation of Indigestion and Gastritis, relieved by Antacids and Antiemetics.

Initial antiemetic dose should be injected, as oral drug may be vomited or not absorbed.

If vomiting is severe enough to cause dehydration, give IV fluids.

If vomit is green coloured, with abdominal distension or colicky abdominal pains, refer to a surgeon.

Treatment

1. Tab Emeset 4 mg OR Tab Perinorm OR Tab Siquil 1 stat and SOS. (**Anti emetics** = 1K)

2. Digene 2 tsp 2-4 hrly (**Antacid** = 1A-1)
3. Cap Omez-D 1 OD/BD (**Acid inhibitor with Domperidone** = 1B) or Rantac-D, Rab-D

Choice of Injection

1. Inj. Emeset 2 cc IM/IV stat (**Ondansetron** = 1K-8)
   OR Inj. Perinorm 2 cc IM/IV (**Metoclopramide** = 1K-5)
   OR Inj. Siquil 2 cc IM/IV (**Trifluopromazine** = 1K-1)
2. If acidity symptoms,
   Inj. Aciloc OR Omez OR Pantop 1 amp IV (**Acid inhibitor** = 1B)
3. If dehydration,
   IV Fluids: RL or DNS

Diarrhoea

In watery Diarrhoeas, Always check the BP and Degree of dehydration. If BP has fallen, it is an emergency (Discussed in chapter on Diarrhoea).

Treatment

1. Tab Lomotil 2 tds till diarrhoea is controlled (2J-12)
2. If colicky pains,
   Tab Spasmindon 1 TDS (**Anti-spasmodic** = 1L) or Anafortan, Cyclopam, Spasmoproxyvon
3. If watery stools,
   Tab Ciprolet-A 1 BD × 5 days (**Ciprofloxacin + Tinidazole** =1F-B2) or Norflox-TZ or Oflox-Oz
   OR Tab Gramoneg 1 TDS (**Inte-stinal Antibiotic** = 7A)
4. Cap Redotil 100 mg TDS (**Race-cadotril** = 1J-9)
5. ORS solution and plenty of fluids orally.
6. If mucus diarrhoea,
   Tab Fasigyn DS 1 BD × 3 (**Tinidazole** = 1F) or Ornidazole, or Flagyl.

Choice of Injection (in severe cases)

1. Inj. Anafortan 2 ml IM (**Anti-spasmodic** = 1L-1) or Cyclopam/ Buscopan for Colics
   In severe cases,
2. Inj. Gentamycin 80 mg IM/IV 8 hrly (**Antibiotic** = 7A)
3. Fast IV Drip: RL and DNS (2-10 bottles, till dehydration is corrected)
4. Inj. Flagyl 100 ml IV TDS, if amoebic infection.

Constipation

Palpate the abdomen. If there is abdominal distension or tenderness, never give enema or strong purgative like castor oil. Neotonic enema is safe.

Treatment

If there is no acute discomfort,

1. Cremaffin 3 tsp HS (**Laxative** = 1G-4)
2. Tab Dulcolax 2 HS/suppository
   OR Tab Cremalax 1 HS (**Stimulant** = 1G-5)
3. Kayam churn 2 tsp at bedtime. Or Isabghul
4. More fiber in diet
   Regular walk & exercise

If there is acute discomfort, or if laxative has not acted,

1. Neotonic enema OR Soap water enema
2. Castor oil 15-30 ml early morning (**Purgative** = 1G-1)

Choice of Injection (S.O.S.)

Inj. Beplex forte/Polybion 2 CC IM (**B-complex** = 2H-5) if weakness

Jaundice

Fat free diet and Bed Rest till S. Bilirubin and Liver enzymes are near normal. Give IV Dextrose, if nausea prevents proper intake.

Treatment

1. Tab Essentiale-L 2 TDS (**Phospholipids** = 1D-3)
2. Tab Silybon 70 mg 1 BD (**Silymarin** = 1D-4)
3. Tab Liv52 × 2 TDS (**Ayurvedic Liver support** = 1D-1)
4. If itching,
   Tab CZ3 1 OD (**Cetrizine** = 5B-II) or Atarax, Avil.
   Calamine lotion to skin.

Choice of Injection (S.O.S.)

1. Inj. Beplex forte 2 CC IM (**B-complex** = 2H-5)
2. Inj. 25% Glucose 3 amp
3. IV 10% Dextrose 1-2 bottles

Epigastric pain

Do not give Inj. Voveran or any NSAID for pain in Epigastrium or RHC. For severe pain use Inj. Tramadol or Fortwin, provided that there is no tenderness.

Treatment

1. Digene 2 tsp 4 hrly, till symptoms reduce (**Antacid** = 1A) Mucaine Gel, if burning pain.
2. Cap Omez 20 mg, 1 OD (**Acid inhibitors** = 1B) or Rantac, Pantop, Rab
   OR Tab Rantac 300 mg, OR Cap Pantop 40 mg
3. Tab Restyl 0.25 mg stat & HS (**Tranquiliser** = 4D-8)
4. ENO salt 1 tsp in a glass of water
   OR Omez insta 5.9 gm sachet in water (Omeprazole + Sod bicarbonate)

Choice of Injection

1. Inj. Rantac 1 amp IV/IM
   OR Inj. Omez, OR Inj. Pantop
2. If pain,
   Inj. Anafortan 2 ml IM (**Anti-spasmodic** = 1L-7)
   Gastroscopy, if no relief.

Renal colic

Comment: Colicky pain from loin to groin.

Treatment

1. Tab Anafortan 1 TDS (**Anti-spasmodic** = 1L-7&8)
   OR Tab Spasmindon
2. Tab Cystone 2 TDS (Ayurvedic drug for stone)
3. Cital 1 tsp in glass of water TDS (**Alkaliniser** = 7B-6)
4. If mild colic, think of Amoebic colitis.
   Tab Fasigyn 500 mg BD × 5 days or Ornidazole or Flagyl
5. If central abdominal colic, give anthelminthic also.
   Tab Zentel 400 mg stat

Choice of Injection

1. Inj. Anafortan 2 cc IM stat. (**Antispasmodic** = 1L-7)
   OR Inj. Spasmindon
2. If pain is severe,
   Inj. Voveran 3 cc IM (**Analgesic** = 3B, 3C)
   OR Inj. Fortwin 30 mg IM OR Inj. Tramadol 2 cc
   Inj. Calmpose 2 cc IM (**Tran-quilliser** = 4D-2)
3. If Vomiting,
   Inj. Emeset 2 ml IM (**Anti-emetic** = 1K)
   OR Inj. Perinorm 2ml IM

Left Chest pain or Retrosternal

First think of cardiac pain, if patient is above 40 yrs. Avoid exertion till diagnosis is made and cardiac pain is ruled out.

Treatment

1. Inj. Voveron 3 cc IM (**Analgesic, NSAID** = 3C,B)
   OR Inj. Tramadol 2 cc IM

2. Tab Ultracet 1 BD (**Tramadol** = 3B) or Nise
3. If pain is exertional/Retrosternal/ radiating to left arm,
   i) Tab Isordil 10 mg Sublingual stat (**Coronary vasodilator** = 6A-2) or GTN sublingual spray and ask the patient to lie down/sit quietly
   ii) If not relieved within 5 min, repeat the dose. If still persistent, refer to cardiologist immediately. In the meanwhile give-
   iii) Tab Disprin 300 mg 1 stat (**Anti-thrombotic** = 6F-1) or Clopitab 75 mg 2 stat
4. If pain is burning type, retrosternal,
   i) Mucaine Gel 2 tsp 4 hrly
   ii) Cap Pantop 40 mg BD
   iii) Cap Becosules 1 BD
   iv) Bland diet
   v) Keep in mind cardiac pain, if no relief with antacids.

Syncopal attack

Make the patient horizontal. Stimulate by sprinkling water. Check Pulse & BP.

Treatment

1. Tab Neurobion 1 BD ($B_1B_6B_{12}$ = 2H-5)
2. If Gliddiness persists,
   Tab Stugeron 1 stat & TDS (**Cinnarizine** = 4H-2) or Stugil

Choice of Injection

1. Inj. Decadron 2 cc IM/IV (**Steroid** = 9A-2) or Efcorlin, Betnesol
2. IV 25% Glucose 2 amps
3. IV Drip - DNS

Giddiness

Treatment

1. Tab Stugeron 1 stat & TDS (**Cinnarizine** = 4H-2) OR Tab Stugil OR Tab Vertin OR Tab Stemetil
2. Cap Becosules 1 BD (**Bcomplex** = 2H-6)

Choice of Injection

1. Inj. Neurobion Forte 2 cc IM ($B_1B_6B_{12}$ = 2H-5)
2. For severe giddiness,
   Inj. Stemetil 2 cc IM (**Prochlorperazine** = 4H-1)
   (If extrapyramidal symptoms, Tab Pacitane 2 & Inj. Phenergan/ Calmpose).

Cough

Three major factors in deciding the treatment of cough are its duration, presence of expectoration, and wheezing.

For Dry cough: Cough syrup, antibiotic & Antihistaminic.

For Cough with expectoration: Expectorant syrup, & Stronger antibiotic.

Treatment

1. Tab Lcin 500 mg OD x 5 days (**Respiratory antibiotic** = 7C)
   OR Erythromycin OR Amoxycillin OR Cephalosporin
2. Phensedyl syrup 1 tsp TDS till cough is controlled (**Codeine** = 5C-1)
3. If with colds & fever:
   Tab Sinarest 1 TDS (**Anti-cold drugs** = 5A)
   Tab Crocin 650 mg 1 tab if fever (**Paracetamol** = 3A-3)
4. If with wheezing
   Tab Deriphyllin-R 150 mg BD (**Bronchodilators** = 5D)
   OR Tab Asthalin OR Tab Theoasthalin OR Tab Vent
5. Steam inhalations
   Stop smoking

Choice of Injection (S.O.S.)

1. Inj. Cephantral 1 gm IM for 2-3 days followed by oral, Tab Odoxil 500 mg BD (**Higher Antibiotic** = 7C) OR Inj. Gentamycin, OR Inj. Cetil.
2. Inj. Avil 2 cc IM stat (**Anti-histaminic** = 5B-1) if dry allergic cough
3. Inj. Decadron 2 cc IM stat (**Steroid** = 9A) if severe dry allergic cough

Dyspnoea with wheeze (Asthma)

Treatment

1. Tab Deriphyllin-R 150 mg BD (**Bronchodilator** = 5D-7)
   OR Tab Asthalin OR Tab Theoasthalin OR Tab Vent
2. Syr Benylin-E 1 tsp TDS (**Cough syr with bronchodilator** = 5D)
3. Asthalin Inhaler/Rotacaps (**Inhaled Bronchodilator** = 5E)
   OR Esiflo OR Serobid OR Aerocort
4. Tab Restyl 0.25 mg (**Tranquiliser** = 4D-8)
5. If Acute exacerbation/Fever/ Expectoration,
   Tab Erythrocin 500 mg TDS (**Antibiotic** = 7C) OR L-Cin OR Cefi
6. Nebulisation with Asthalin or Duolin solution

Choice of Injection (S.O.S.)

1. Inj. Deriphyllin 2 cc IM stat & SOS (5D-7)
2. If attack is severe,
   Inj. Aminophyllin 10 cc slow IV (5D-2)
   Inj. Efcorlin 100 mg OR Inj. Decadron 2 cc IV (**Steroid** = 9A)
3. Inj. Adrenalin 0.5 cc SC, if patient is young, & no cardiac pathology

Dyspnoea without wheeze

If pulse is feeble, BP is low, Then rule out Myocardial infarction.

Treatment

1. Oxygen
2. Tab Deriphyllin-R 150 mg BD (**Bronchodilator** = 5D-7)
3. If leg edema or crepts,
   Tab Lasix 40 mg stat and TDS (**Diuretic** = 6B)
   OR Tab Amifru OR Tab Lasilactone OR Biduret
4. Tab Calmpose 5 mg 1 stat (**Mild Tranquiliser** = 4D)
5. If there are signs of CCF i.e. Edema with dilated neck veins, tender hepatomegaly & Murmur: then do not give IV fluids.

Choice of Injection (S.O.S.)

1. Inj. Deriphyllin 2 cc IM/IV stat,
2. Inj. Aminophyllin 10 cc slow IV, diluted with 25% glucose
3. Inj. Decadron 2-4 amps IV (**High dose steroid** = 9A)

Bodyache

Treatment

1. Tab Dolo 650 mg 1 stat (**Analgesic drug** = 3A, 3B, 3C)
   OR Cap Proxyvon, OR Tab Ultracet, OR Tab Combiflam
2. Tab Macalvit 500 mg OD

Choice of Injection (S.O.S.)

1. Inj. Voveran 3 cc IM (provided there is no acidity)
   OR Inj. Novalgin 2 cc IM.
2. Inj. Calcium Sandoz 10 cc slow IV (**Calcium** = 2C-1)

Headache

A very common complaint, that usually needs a simple pain killer, Rubefacient ointment and gentle massage or pressure.

But always check BP, Sinus tenderness & Neck stiffness.

Treatment

1. Tab Disprin 1 stat (**Analgesic** = 3B) Best drug if patient does not have acidity.
   OR tab Dolo 650 mg, OR Tab Ultracet, OR Tab Combiflam
2. Tab Restyl 0.25 mg 1 stat
3. Rest in a quiet dark room.
4. If BP is high, bring it down quickly:
   Cap Depin 5 mg sublingual, repeat SOS.
5. If hemicrania, or known case of migraine
   Tab Vasograin 1 Tab stat, 1 Tab after ½ hour (**Ergotamine** = 4B-1)
6. If sinus tenderness, cold & fever:
   - Cap Baciclox 500 mg TDS (**Antibiotic** = 7A-6)
   - Tab Combiflam 1 TDS (**Anti-inflammatory** = 3C)
   - Steam inhalations
7. If severe headache/fever/drowsiness/ Neurological symptoms:
   Check for Neck stiffness, & Refer to Physician.

Choice of Injection (S.O.S.)

1. Inj. Voveran 3 cc IM
   OR Inj. Tramdol 2 cc IM
   OR Inj. Neomol 2 cc IM
2. If severe, Inj. Fortwin 1 cc IM. If headache is severe enough to warrant Fortwin, it needs to be investigated, CT scan & refer to physician.

Joint pains (Knee)

If there is gross swelling of the joint or effusion, take opinion of Orthopaedic surgeon.

Treatment

1. Tab Voveran 50 mg tds (**NSAID** = 3C-9)
   OR Tab Brufen OR Tab Piroxicam OR Tab Nimesulide
2. Tab Ultracet 1 bd (**Analgesic** = 3B)
   OR Tab Crocin 650 mg OR Tab Tramadol 50 mg
3. Tab Aciloc 150 mg bd (To prevent **Gastritis** = 1B)

Supportive Treatment

1. SWD – (Diathermy) OR Infrared lamp.
2. Support with Elastocrepe bandage or Knee cap
3. Volini Gel Locally (**Rubefacient** = 3B)
   OR Methyl Salicylate OR Nise Gel OR Voveran emugel
4. Knee Exercises for quadriceps strengthening
5. Reduce weight, if Obese

Choice of Injection (S.O.S.)

1. Inj. Voveran 3 cc IM (**NSAID Injections** = 3C-51).
   OR Inj. Dolonex 2 cc OR Inj. Vorth 40 mg

Backache

Treatment

1. Tab Voveran 50 mg TDS (**NSAID** = 3C-9)
   OR Tab Vorth or Tab Brufen OR Tab Piroxicam OR Tab Nimesulide
2. Tab Ultracet 1 BD (**Analgesic** = 1B)
   OR Tab Crocin 650 mg OR Tab Tramadol 50 mg
   OR Butaproxyvon/Vorth-A (Combinations)
3. Tab Rablet 1 OD, esp if H/O epigastric burning (**Antacids** = 1A, 1B)
4. Tab Calcimax forte 1 OD (**Calcium** = 2C-2)
5. If there is back muscle spasm or sprain,

Tab Sirdalud 1 TDS (**Muscle relaxants** = 3F)

OR Tab Diclonac-MR OR Ibuflammar MX.

Choice of Injection (S.O.S.)

1. Inj. Voveran 3 cc IM (**NSAID** Injections = 3C-51)

   OR Inj. Dolonex 2 cc OR Inj. Vorth 40 mg
2. If pain is severe,

   Inj. Tramdol 2 cc IM OR Inj. Fortwin 30 mg IM

   Refer to orthopedic surgeon.
3. If backache is severe, radiating to leg, not responding quickly or has weakness in the leg, then refer to orthopaedic surgeon immediately.

Ankle sprain

If local pain and swelling is very severe, ask for X-ray to rule out fracture.

Treatment

1. Tab Voveron 50 mg TDS (**NSAID** = 3C-9)

   OR Tab Brufen OR Tab Piroxicam OR Tab Nimesulide OR Tab Vorth
2. Tab Bidanzen forte 1 TDS (**Enzymes** = 3E)
3. Cap Tramadol 1 BD (**Analgesic** = 1B) OR Tab Ultracet OR Tab Butaproxyvon

Supportive Treatment

1. Foment in Hot water tub, twice daily
2. Then apply Nise Gel locally gently (**Rubefacient** = 3B)
3. Apply 4" Elastocrepe bandage to support ankle.
4. Elevate the leg on pillow and take rest.

Choice of Injection (S.O.S.)

1. Inj. Voveran 3cc IM (**NSAID Injections** = 3C-51) with Inj. Decadron 2 cc IM
2. Inj. Decadron 2 cc IM, if severe swelling.

Fatigue, Weakness

If longstanding, check Blood sugar, Hb, HIV, X-ray chest (for TB & Cardiomegaly), Thyroid hormones.

Treatment

1. Cap Becadexamine 1BD (**Multi-vitamin** = 2H-9)
2. Syr Dexorange 2 tsp BD (**Tonic** = 2M-2)

   OR Nutrifil OR Bayers tonic OR Santevini
3. B-Protein 2 tsp in a glass of milk BD (**Protein** = 2A)

   OR Threptin Biscuits OR Protinules OR GRD
4. In elderly patients,
   Cap Ginsec 1 BD (**Ginseng** = 2N)

Choice of Injection

1. Inj. Neurobion 2 cc IM OD × 5 (**Bcomplex** = 2H-5)
2. Inj. Deca-durabolin 25/50 mg IM (**Anabolic steroids** = 2B)
3. Inj. Calcium Sandoz 10 cc slow IV (**Calcium** = 2C)
4. IV Fluids: 2 × 500 ml DNS

Palpitations

Look for pallor, Goitre, Murmur. Feel pulse for tachycardia & arrhythmia.

Treatment

1. Tab Inderal 10/40 mg (**Propranolol** = 6AB-1)
2. Tab Restyl 0.25 mg (**Tranquilizer** = 4D-8)
3. Syr Dexorange 2 tsp BD (**Tonic** = 2M-2)
4. Avoid Tea, Coffee, smoking.

5. If Pale,
   Cap Autrin 1 OD (**Iron** = 2I)

Choice of Injection (S.O.S.)

- Inj. Calmpose 2 cc IM (4D-3)

Insomnia

Supportive Treatment

1. Walking or exercise in the evening
2. Early dinner and a glass of milk in the evening.

Treatment

- Tab Restyl 0.25 mg (**Tranquilizer** = 4D-8)
  OR Tab Calmpose 5 mg OR Tab Ativan 2 mg
  OR Nitravet 5 mg

Choice of Injection (S.O.S.)

- Do not give injection for insomnia. It will be addicting.

Cramps in legs

Treatment

1. Tab Calcimax Forte 1 OD (**Calcium** = 2C-2)
2. Tab Neurobion 1BD (**Bcomplex** = 2H-5)
   OR Tab Eldervit OR Cap Becosules
3. Tab Evion 400 mg BD (**Vit E** = 2F)
4. Tab Calmpose 5 mg stat

Choice of Injection (S.O.S.)

1. Inj. Calcium Sandoz 10 cc slow IV
   OR Inj. Macalvit 2 cc IM OD × 3
2. Inj. Calmpose 2 cc IM if severe cramps (**Diazepam** = 4D-3)

Toothache

Treatment

1. Tab Combiflam 1 TDS (**NSAID** = 3C)
   OR Cap Butaproxyvon OR Tab Nimegesic-P
2. Tab Bidanzen forte 1 TDS (**Enzymes** = 3E)
   OR Tab Primidase 10 TDS
3. Clove to bite & chew OR apply Clove oil
4. If Root abscess with swelling/Fever, Tab Odoxil 500 BD (**Antibiotic** = 7C)

Choice of Injection (S.O.S.)

1. Inj. Voveran 3 cc IM (**NSAID Injections** = 3C-51)
2. If pain is very severe,
   Inj. Tramadol 2 cc IM (Stronger analgesic)
3. If root abscess,
   Inj. Cephantral 1 gm IM/IV (**Higher antibiotic** = 7C)

Edema legs

If the edematous area & calf is not tender, it is simple edema.

Treatment

1. Tab Lasix 40 mg stat & OD/BD (**Diuretic** = 6B)
   OR Tab Amifru OR Biduret OR Lasilactone
2. Salt free diet till edema subsides, & Elevate legs at night
3. If patient is pale,
   Cap Autrin 1 OD (**Hematinic** = 2I)
4. If CCF, Treatment of CCF.

Choice of Injection (S.O.S.)

- Inj. Lasix 2 cc IM provided BP is above 100 mm.

Urticaria, Itching

It is a manifestation of allergy commonly to food or drug.

But the cause of allergy may never be known.

Treatment

1. Tab Cetzine 10 mg 1 OD (**Cetirizine** = 5B-II)
   OR Tab Avil/Atarax 25 mg 1 BD/TDS (**Pheniramine** = 5B-I)
2. Tab Wysolone 5 mg BD × 2 (**Prednisolone** = 9A-1)

Choice of Injection (S.O.S.)

1. Inj. Avil 2 cc IM [IV if edema of lips & face] (5B-1)
2. If urticaria is severe,
   Inj. Decadron 2 cc IM/IV stat (**Dexamethasone** = 9A-2)

Burning Micturition

Usually due to UTI. But very severe dysuria may suggest a Urethral or Bladder stone. In elderly males, Prostatic enlargement may be the cause.

Treatment

1. Tab Norflox 400 mg BD × 5 (**Urinary antibiotic** = 7B-5)
2. Cital 1 tsp in a glass of water × TDS (**Alkaliniser** = 7B-6)
3. Plenty of water, Fluids, Kissan Barley water.
4. Tab Flavoxate 1 TDS (**Urinary analgesic** = 7B-7)
   OR Tab Pyridium TDS

Choice of Injection (S.O.S.)

1. If pain is severe and persistent,
   Inj. Voveran 3 cc IM stat. (**Diclofenac** = 3C-51)
2. If severe infection and cloudy urine:
   Inj. Genta 80 mg IM/IV TDS (**Urinary antibiotic** = 7C)

Hoarseness of Voice

Supportive Treatment

1. Voice Rest
2. Steam inhalations
3. Wokadine Gargles

Treatment

1. Tab Odoxil 500 mg BD (**Antibiotic** = 7C)
2. Tab Brufen 400 mg TDS (**NSAID** = 3C)
   OR Tab Diclonac 50 mg TDS
3. Tab Wysolone 5 mg TDS × 3 (**Steroid** = 9A)
4. Cap Omez 20 mg OD (**With NSAID + Steroid**)
   - If no relief after 5 days, refer to ENT Surgeon.
   - If age > 50 yrs, Ca larynx must be ruled out.

Choice of Injection (S.O.S.)

1. If infection is severe,
   Inj. Cefantral 1 gm IM BD or Penicillin
2. Inj. Voveran 3 cc or Analgin 2 cc for pain & inflammation
3. Inj. Avil 2 cc IM stat (**Anti-histaminic** = 5B-1)

INSTANT RELIEF IN CHILDREN 4-6 YRS OLD

Injections should be avoided in children, except where most essential, or life saving.

Fever

1. Syr Crocin 2 tsp OR Syr Nise 2 tsp
2. If high or repeated fever, add antibiotic, Syr Wymox 2 tsp tds
3. Cold sponging & Bedrest

Choice of Injection (S.O.S.)

1. Inj. Neomol 1 cc IM
   OR Neomol 80 mg Suppository

Common cold (Flu)

Treatment

1. Syr Wikoryl/Pedia 3 x 2 tsp tds
2. If infective, add antibiotic,
   Tab Wymoxkid or Syr Wymox
3. Syr Cetzin 1 tsp if allergic.
4. If nasal block is troublesome,
   Otrivin nasal Pediatric drops.

Choice of Injection (S.O.S.)

- Inj. Neomol 1 cc IM, if fever

Vomiting

1. Syr Perinorm tsp tds
   OR Syr Emeset 1 tsp OR Syr Domstal
2. Digene 2 tsp stat & SOS

Choice of Injection (S.O.S.)

1. Inj. Perinorm 1 cc IM
2. If there is dehydration,
   IV Isolyte-P

Diarrhoea

Treatment

1. Syr Gramoneg tsp tds
2. Syr Dysfur tsp tds
3. If mucus dysentery,
   Syr Flagyl tsp tds

Choice of Injection (S.O.S.)

1. If colicky pain,
   Inj. Anafortan 1 cc IM
2. If infective, severe, with fever, give injectible antibiotic,
   Inj. Genta 40 mg IM BD

Pain in abdomen

1. Syr Spasmindon 1 tsp tds
2. Syr Zentel 10 ml stat
3. Foment over abdomen
4. Liquid/soft diet

Choice of Injection (S.O.S.)

- If colicky pain,
  Inj. Anafortan 1 cc IM

Cough

1. Syr Tixylix tsp tds
2. If cough is significant,
   Syr Odoxil 1 tsp tds
3. If cold, running nose:
   Syr Wikoryl 2 tsp tds
4. Avoid cold drinks and oily foods

Choice of Injection (S.O.S.)

- If cough is severe, start injectible antibiotic
  Inj. Cefantral 125 mg IM

Dyspnoea + wheezing (Asthma)

1. Syr Asthalin 1 tsp tds
   OR Syr Deriphyllin 1 tsp tds
2. If cough, expectoration/fever, antibiotic
   Syr Odoxil 1 tsp tds
3. Asthalin inhaler with spacehaler
4. If dyspnoea is very severe,
   Asthalin Nebuliser.

Injections for severe attacks

1. Inj. Deriphyllin 1 cc IM
2. If no response,
   Inj. Adrenalin 0.2 cc Subcut/IM

Headache

1. Syr Combiflam tsp tds
   OR Tab Disprin ½ tab.
2. Check eyes for refractive error.

Convulsion

1. Syr Dilantin 1 tsp stat, tds
2. Tab Gardenal 30 mg ½ bd
3. Consult pediatrician, EEG, CT scan.

Choice of Injection (in active convulsion)

1. Inj. Calmpose 1.5 cc IV
2. OR Inj. Paraldehyde 4-5 ml IM (1 ml per year of age till 10)

Backache, Joint pains

1. Syr Combiflam tsp tds
   OR Tab Ibuclin junior tds
2. Syr Ostocalcium tsp bd

Choice of Injection (S.O.S.)

- If pain is severe,
  Inj. Voveran 1.5 cc IM

Urticaria

1. Syr Cetzin 1 tsp stat, OD
2. If severe,
   Syr Avil tsp tds

Choice of Injection (S.O.S.)

- Inj. Avil 1 cc IM, if severe.

Cellulitis, Boils

1. Syr. Gramocef 1 tsp BD (Antibiotic)
2. Syr. Combiflam tsp tds (Anti-inflammatory)

Choice of Injection (S.O.S.)

- If Cellulitis is marked,
  Inj. Gramocef 250 mg IM

Weakness, Not gaining weight

1. Syr Fesocare 1 tsp OD (Iron)
2. Syr Practin 1 tsp BD before meals (Appetiser)
3. Syr Ostocalcium 1 tsp BD (Calcium)
4. B-Protein Powder 2 tsp in glass of milk BD (Protein)

Choice of Injection (S.O.S.)

- Inj. Vitcofol 1.5 cc IM SOS

Toothache

1. Syr Combiflam tsp tds (Anti-inflammatory)
2. Antibiotic, if swelling/fever:
   Syr Gramocef 1 tsp BD
3. Instruct about Dental hygiene
4. Refer to Dentist

Choice of Injection (S.O.S.)

- If pain is severe,
  Inj. Voveran 1.5 cc IM

INSTANT RELIEF IN INFANTS UPTO 1 YR OLD

1 ml = 10 drops
Give exact quantity using a 2 cc syringe without needle.

Fever

1. Syr crocin 1-2 ml tds
2. If fever is persistent, antibiotic:
   Syr amoxy 2 ml TDS
3. Tepid sponging

Cold

1. Syr Wikoryl 10 drops tds
2. If fever,
   Syr Crocin
3. Tepid sponging

Cough

1. Syr Pulmocef 1-2 ml tds
2. Syr Soventol 10 drops tds
3. If Dyspnoeic, Give higher antibiotic, and refer to Pediatrician.
   Inj. Cefixime 125 mg IM

Vomiting

- Syr. Reglan 1 ml 10 drops tds

Continuous crying

Feed if hungry. Examine ears, abdomen & limbs. Look for neck stiffness.

1. Syr Spasmindon 10 drops stat, tds
2. Syr Carmicide/Gripe water 10 drops stat, tds
3. If baby has not passed stools, Soap stick.

Loose motions

1. Syr Gramoneg 10 drops tds
2. Orolyte feeds 50 ml for each watery stools
3. If crying: Syr Spasmindon 5 drops
4. If vomiting: Syr Ondem 5-10 drops

Boils, Cellulitis

1. Syr Gramocef 10 drops tds
2. Syr Combiflalm 10 drops bd, tds
3. Foment
4. If cellulitis is severe, spreading Inj. Gramocef 125 mg IM
5. Early Incision & drainage

Not gaining weight, Anemia

1. Syr Lysiron 10 drops OD
2. Syr Vimagna 10 drops BD



SECTION 6

LAW IN RELATION TO GENERAL PRACTICE

Chapter

25 LAW

GENERAL PRACTICE AND LAW

(This discussion is mainly limited to general practice. Law in relation to specialists or consultants is not discussed. But problems of small nursing homes are discussed as many GPs have their own indoor patients.)

For ages, medical profession has been considered by the society as a very noble profession & Doctors have been respected as Gods. Because Doctors are directly involved with life, one's most precious possession that cannot be valued in terms of money.

But in recent times with rapidly advancing medical technology, changing norms of society, and changing attitudes of Doctors themselves, the society has started looking at Doctors as mere professionals performing their duties, for which they are paid, and if expected results are not seen, it looks with suspicion whether the doctor was incompetent or negligent.

The point that has come into limelight is that the doctor is under obligation to treat the patient with due care and skill.

Before we proceed to study, what the law expects from the Doctor, let us first see the doctor's situations and difficulties.

Doctor's Situation

1. Doctor is under considerable mental stress. He has to face difficult & emergency cases, 24 hours a day. If he has a very serious patient under his care, the tension may distract his mind while examining other patients, which he cannot refuse to treat.
2. Most of the patients come to the doctor, because they want treatment from that particular doctor only. As a result the doctor cannot refuse to examine them, even if he is tired or has any personal problem.
3. General practitioner has to work with limited equipments, limited and often untrained staff and limited investigation facilities as against large Hospitals. But results expected by the patient are nothing less than 100%.
4. Medicine is not like mathematics where two plus two is always four.

   Firstly, inspite of all knowledge and application of mind, there may be an error of judgement which may differ from doctor to doctor. Secondly, the results of treatment are quite unpredictable. One patient may respond dramatically to one drug while another patient may not. A perfect drug for one patient may cause most unwanted side effects in another. Then there are patient factors like psycho-logical factors which greatly affect the disease picture as

well as treatment results and lastly, one cannot forget that no system of medicine is absolutely perfect.

5. The G.P. often deals with life and an error of judgement may result in loss of life or loss of some function, both of which may be irreversible.
6. The G.P. cannot read and remember all research and new advances that keep coming up every day. Today's standard drug becomes outdated in a few years. Several new modalities of investigations and treatment are invented which old generation practitioners may find difficult to implement in day-to-day practice.

WHAT DOES THE LAW EXPECT

One must say that the law will always be considerate to understand these problems faced by the doctor and will not expect the doctor to be super-human. But the law expects that the doctor has a reasonable skill & competence, that he discharges his duties with due care & skill and that he is not grossly negligent.

1. RELEVANT HISTORY MUST BE ASKED

The Practitioner should ask the patient History in details and note down important points on patient's casepaper. Relevant Past history & Family History must be asked. Eg. If you are going to administer an injection like Bcomplex or Penicillin, you must ask for History of allergic reactions in the past. If the practitioner fails to obtain such vital information, he may be considered negligent.

The practitioner must ask details of previous treatment, past operations, past investigations especially if relevant to present complaints.

Some times the patient knowingly or unknowingly hides vital information in which case the doctor may not be held responsible.

2. EXAMINE THE PATIENT FROM HEAD TO TOE

The practitioner should examine the patient thoroughly. If inspite of thorough examination, a doctor makes an error in judgement of diagnosis, he may not be held liable. But if patient can establish that a wrong diagnosis was made because of careless examination, the doctor is held responsible.

e.g. In a patient with severe headache with fever, failure to look for neck stiffness and suspect meningitis is negligence.

The best way to avoid such situations is to note down important findings in examination on case paper eg. Tenderness in Right iliac fossa, or no tenderness, No active bleeding from wound etc.

3. INVESTIGATIONS WHERE INDICATED MUST BE DONE

Some times physical examination does not lead to a definite diagnosis, in which case the practitioner is expected to ask for relevant investigations.

Failure to ask for investigations.

1. When there are definite signs and symptoms suggesting serious illness or
2. When patient is not responding to routine treatment may be considered as negligence.

   e.g. If a patient has cough for more than 1 mth, failure to ask for X-ray of chest would amount to negligence.

   If a patient gives H/O hematemesis, failure to ask for gastroscopy and relevant investigations would be gross negligence, especially if patient goes

home with your prescription, has second bout of hematemesis and dies.

If a patient's fever has not responded for > 1 wk, & still you don't ask for Widal test and other investigation you may be held liable.

4. PROVISIONAL DIAGNOSIS CAN BE WRONG

Most of the times, pending reports of investigations, you have to make a provisional diagnosis & start treating the patient. After investigations, the diagnosis and hence the treatment may change.

Such Provisional Diagnosis and treatment is not considered as error of judgement or mismanagement.

But the best way to avoid such impressions in the minds of the patients is to explain to them in simple language, that definitive treatment will be decided on investigations.

Sometimes, a definite diagnosis may not be made, eg. in Fevers (P.U.O.) even after investigations. The treatment is then empirical. But such situation must be explained to the patient and an expert or senior's opinion sought.

5. WRITE & EXPLAIN YOUR PRESCRIPTION CORRECTLY

1. Prescription must be in readable handwriting. If a wrong drug is supplied by the Pharmacy (Medicine store) due to illegible handwriting or wrong shortforms - both the practitioner and the Pharmacist will be held liable.
2. The doctor is expected to prescribe specific, standard and well established drugs. If a drug which is no more used for the disease in current medical practice is prescribed, & proves harmful, the doctor may be held liable.
3. The doctor should give specific instructions to the patient, on the mode of administration of the drugs. If a patient drinks a lotion prescribed for local application, the doctor may be held liable if he has not explained the prescription to the patient. But, if he can establish that he had explained it to the patient, and instructions were written in prescription, yet patient was careless, then he is not negligent.
4. The medicines should be prescribed in the correct dose taking into consideration patients age, weight & other factors. A wrong and harmful dose may be considered as negligence.
5. If the drugs are likely to cause some sideeffects, the patient must be informed and cautioned accordingly.

   e.g. While prescribing Anti-histaminics, patient must be cautioned not to drive vehicles, as it may cause drowsiness. While prescribing anti-inflammatory NSAIDs/steroid, patient must be cautioned to stop the drugs immediately, if it causes epigastric burning pain.
6. If the doctor dispenses medicines from his clinic, good quality medicines should be dispensed. Dispensing poor quality medicines or medicines whose expiry date is over will amount to negligence.
7. Before injection of a drug, which is known to cause allergic reaction, a test dose must be given. If inspite of giving a test dose before, anaphylaxis occurs, then it is not negligence. But failure to give a test dose, is gross negligence. So also, if anaphylaxis occurs, you must be equipped with emergency drugs & resuscitation equipment - even in a small clinic.

If proper measures injections, oxygen, resuscitation are not taken after a reaction occurs, it will amount to negligence.

6. EXPLAIN EVERYTHING TO THE PATIENT

Before starting the treatment, GP should explain to the patient his opinion about his illness, the treatment he will be giving and results expected.

- The seriousness of the disease (serious or minor illness) must be informed.
- If a disease has 2 different choices of Rx eg. medical or surgical treatment for ulcer, or operative treatment and lithotripsy for kidney stones then availability of both should be informed and guidance given to make a choice.

Some diseases have two well accepted lines of treatment. The doctor has the right to choose any one of them. One doctor may treat the disease in one way and second doctor may treat it in another way. It does not mean that either of them is negligent. Provided that the line of treatment chosen is standard.

7. MAINTAIN GOOD RECORDS

It is compulsory to maintain full records in Nursing Homes. In General Practice, the records will be limited to very relevant symptoms and finding only.

A family doctor should keep a file of records of all members of the family together, where every illness of all members and treatment given is recorded.

This will also highlight presence of allergies, familial disorders etc. in the family. If a patient is referred to a consultant, all such details & relevant past illness must be mentioned.

8. KNOW YOUR LIMITS & REFER THE PATIENT IN TIME

A practitioner has to work with limited staff & limited equipments at hand. Also, he has to treat all cases from pediatrics to Geriatrics & from all branches of medicine. He has a basic knowledge of all branches but he cannot be expected to be an expert in all branches.

These limits must be realised by the practitioner and if a case is beyond the limits of his knowledge and expertise, or beyond the limits of available equipments & staff, he should not handle such a case but refer it to a proper consultant or big Hospital, after giving only the essential primary & emergency treatment.

If the patient is under your care and in course of time, his condition deteriorates due to natural disease process, for which later you refer the patient, this delay will not amount to negligence; but if the patient can establish, that you were aware from the beginning - that the patient needs to be referred, still you delayed to refer, then it will be held as negligence.

e.g. If a patient admitted for loose motions, next day complains of pain in R.I.F. so you refer to a surgeon. It's correct. But if patient comes with pain and tenderness in RIF and you keep on treating till patient's condition becomes bad & then refer to a surgeon, it will be negligence.

In emergency situations, the limitations of G.P. will be considered sympathetically by the law.

Usually, emergency cases are first brought to General Practitioners. Emergency resuscitation in a small clinic cannot be as vigorous & skilled as in an intensive care ward. There are limitations of instruments, facilities,

expert paramedical help & personelle. If within these limits, doctor has made an effort to give primary treatment, it is not negligence.

In emergency, standards of routine care may not be observed. eg. if patient is bleeding profusely, you might use bandage or instrument that was unsterile, to stop bleeding. This is not negligent act.

9. LEVEL OF KNOWLEDGE

- Law expects a General Practitioner to be a General Practitioner. Skills of a physician (MD) will not be expected from him.
- There are no compulsory refresher courses in India for GPs, but they must be aware of established & discarded methods of Treatment. Ignorance is not an excuse. A busy GP. cannot be expected to have read every latest development & research and established new procedures (CT scan, MRI scan, echocardiography etc.)
- Law does not expect very high standard of care. But average standard of care is definitely expected.

10. VISITS

- Visit is not compulsory for a doctor.
- With due consideration of social circumstances & dangers faced at night the doctor may refuse to call at odd hours.
- General practitioner is however usually called by his regular patients, who are under his treatment. In such a situation, it is wrong to refuse visit to a seriously ill patient. But if the patient is not seriously ill,
  1. Doctor may not call immediately, but at his convenience or
  2. Doctor may ask the patient to be brought to his clinic.

11. DO NOT REFUSE A PATIENT AFTER ACCEPTING

If a General practitioner refuses to attend to a patient totally, for any valid reasons and asks him to show to any other doctor, he is not negligent. The doctor has the right to accept or choose his patient.

But in emergencies when a patient is critical, it will be wrong on the part of the doctor to refuse to see the patient at all. It is his moral duty to examine and give emergency care, till he is shifted to a Hospital or otherwise. Treating a patient in emergency does not imply that the doctor has accepted the patient. It may be purely on ethical grounds and the patient is then referred to a Hospital.

However, once you have accepted a patient particularly home visit refusing to see him again will be considered as negligence.

Even if you have refused because of non payment of fees that excuse will not be considered by law, if you were called because of worsening of the patient's condition.

The doctor may refuse to accept a patient

1. Who does not agree with the method of treatment.
2. Who in the past has given him a bad experience & come for a fresh treatment.
3. Who does not agree to pay the fees.

12. DOCTOR HAS RIGHT TO COLLECT HIS FEES

The practitioner has right to decide his own fee and collect it from the patient. Even if it is excessive, the patient has to pay it, when he has agreed to take treatment from him, even if the patient has taken the treatment under compelling circumstances. Patient may complain

that fees are excessive in advance, then this complaint will not be held. But if they are considerably & irrationally higher than the fees of other doctors, then the patient may be asked to pay a reasonable fee to the doctor.

In a situation, where patient refuses to pay fees, the doctor is always at the wrong end. Because, the only way to recover fees from such a patient is by filing civil suit, which is time consuming, expensive and not good for the reputation of a General practitioner or nursing home.

If you do not discharge and hold a patient because he has not paid fees or keep his valuable belongings in your possession till he pays his fees. In the eyes of law, you are committing a crime.

The best way to avoid this problem is to explain the approximate bill to the patient and take part of it as advance before admitting.

13. CERTIFICATE

The General practitioner has to give various certificates eg. Fitness certificate, Rest Certificate, Death Certificate, etc. The doctor must only issue correct certificates as it is a legal document.

1. A false certificate can put you in great trouble. The diagnosis and other matters in the certificate should match with the medical records kept by the doctor. You cannot defend saying that certificate was issued on request by the patient.
2. Doctor must always keep a carbon copy of the issued certificate with himself.
3. Death certificate should not be issued if the person was not under your care before death, because then cause of death is not known. If there is doubt of foul play, poisoning or death under suspicious circumstances, you should never issue a death certificate. It can put you in trouble, if subsequently some disputes of property arise or some distant relative complains that death was under suspicious circumstances. Such cases should be referred to Government medical officers for further investigations.

14. DOCTOR CAN DELEGATE DUTIES TO QUALIFIED ASSISTANTS

A doctor cannot do everything for the patient. He may appoint qualified staff to do part of the duties. eg. A qualified Nurse to give injections and IV fluids or a junior doctor to carry out his orders and care for the patient.

If a qualified staff does a negligent act, then the staff will be held liable, provided that the doctor had given correct orders but the staff made a mistake.

However most small nursing homes and general practitioners have unqualified staff, where this does not apply and the doctor will be held liable for negligent acts of such unqualified staff.

15. NOTHING SHOULD BE DONE WITHOUT PATIENT'S CONSENT

No operation or procedures can be done without patient's written consent.

Before giving consent, all risks involved in the procedure should be disclosed to the patient. If a complication occurs, the possibility of which you had not explained to the patient, the patient may claim that if he knew such possibility, then he would not have consented. Of course, a remote unforeseeable hazard or mishap cannot be told in advance.

If the doctor feels in his honest opinion that certain information about the procedure

may be physically or psychologically harmful to the patient, The doctor has the right to withhold such information. At the same time, merely explaining to the patient does not suffice. The consent has to be written and signed by the patient, otherwise it may not be considered by law. Once patient has signed it, it becomes a documentary evidence which is the best defence of the doctor. Even when a written consent is not taken, the doctor may prove that patient has consented after proper understanding.

e.g. Implied consent - consent may be implied from the patient's conducts, words or circumstances.

1. Exposing the buttocks for injection is like a consent given for injection.
2. When child is brought to the practitioner by parents, the parents' consent is obvious.
3. If a patient was given an appointment for a surgery and patient had kept the appointment, his consent for the operation is implied.
4. In general practice, when a patient comes to the doctor his consent to his examination and ordinary treatment, to the type of treatment (i.e. Allopathic or Homeopathic or Ayurvedic) is implied.

   But this consent does not cover procedures and operations. But implied consent has to be proved by the doctor. It is best that a written consent be taken.

What should be the format of the consent?

There is no fixed legal format for a consent form.

1. The consent should be in simple and non-technical language that can be understood by the patient.
2. It should preferably be in regional language, if the patient cannot understand English.
3. The signature should be taken in front of a witness, if the patient is illiterate and gives a thumb impression.
4. Informed consent - This is the type of consent that is being taken in western countries and now in our country also. All relevant information of treatment and risks are printed. They are explained to the patient, and then his signature is taken.
5. The consent must be obtained only from adults having reasonable understanding. In case of child below 18 yrs, in mentally retarded patients, the consent must be obtained from the parents or legal guardians.

   If patient is unconscious or unable to sign, his relatives should give the consent, the relation between the patient and the relative giving the consent should be clearly stated in the consent form.
6. **Lastly the doctor must remember that consent does not include negligent acts.**

Sometimes doctor may proceed without consent

1. In emergency situations or in course of an operation, if a unexpected situation, not diagnosed pre-operatively is detected, the doctor may go beyond the consent. But here, the doctor should prove the nature of unforeseeable circumstances.
2. If an unconscious patient is brought to the doctor whose relatives are not present, whatever treatment the doctor feels essential to give to save his life, may be given without consent.
3. A person on Hunger strike, may refuse treatment, but his consent is not required when his life is endangered.

   Similarly, a patient attempting suicide may refuse treatment, but he must be treated without his consent.

4. A psychiatric patient, harmful or troublesome to the society may be treated without his consent.
5. If a person has an infectious disease with fear of spread, he may be treated in the interest of public health - without his consent.
6. Autopsy in medico legal cases does not require consent of relatives.

16. WHAT IS NEGLIGENCE?

Negligence is decided on the basis of 3 points.

1. Had the doctor accepted the patient?

If the doctor has not accepted the patient (but asked to show to another doctor/hospital), then the doctor cannot be held liable. Giving emergency treatment on ethical grounds to save a patient's life does not mean that doctor has accepted the patient. So a doctor need not hesitate to treat a patient in emergency. But after giving immediate resuscitation, if you do not refer the patient to a hospital/consultant but continue to treat him under your care then you have accepted the patient & are liable.

2. Was proper medical care given to the patient?

We have already discussed these points in details in the preceding sections. The important point is whether the doctor has given proper medical care using the best of his knowledge, skill & experience.

Negligence may be described as commission of an act which other average reasonable doctor would not do or omission of an act which an average doctor would have done.

e.g. If a pediatrician fails to vaccinate a child & later the child suffers from that disease, it is negligence. Similarly a General Practitioner failing to give Inj. TT after an injury would be considered negligent, if the patient later develops tetanus.

3. Has the patient received an injury, & is it caused directly by doctor's negligence?

Both the points are of importance.

1. If the doctor has not taken proper care, but patient has no injury, then negligence cannot be established.
2. If there is injury, but doctor has taken proper care & precautions, then also there is no negligence.

So to establish a case of negligence, a direct relation between careless treatment and the injury must be proved, & the burden of proof lies with the complainant i.e. the patient. He also has to establish that there was a genuine mistake, & neither an error of judgement nor misfortune.

17. MISHAPS

Sometimes, even with best care and precautions accidents do occur. e.g. While giving injection to a child, the child jumps and needle breaks in the tissues. This is not negligence but mishap. But if you do not immediately inform the parents and do not refer him to a surgeon to remove the broken needle, that will be negligence.

Many such mishaps may occur - IV goes out into subcutaneous tissues in fat patients, IV bottle may fall to ground and break, an injection spills and so on. These incidents are accidents and are beyond the control of the doctor.

The important thing is that you should be frank with the patients and relatives and explain the mishap. If you try to hide a mishap it will always be interpreted by the patient as a mistake that you are trying to hide.

18. WHAT WILL YOU DO, IF YOU RECEIVE A LEGAL NOTICE OR SUMMONS REGARDING NEGLIGENCE?

1. Do not be desperate or panicky.
2. Do not answer any notice without consulting a lawyer. Because your answer to the notice forms the basis of the case. It will be very difficult to justify your case, if you make wrong presentation without considering legal implications.
3. If you are insured, first inform your insurance company in writing, with a xerox copy of the legal notice.
4. Collect all medical records and other documents of the case and keep them safe in your custody.
5. Do not make any alterations on the case papers. That will be used as evidence against you.
6. Discuss the case only with your lawyer. Discussions with a third party may boomerang as witness against you.
7. Ignorance of law is not an excuse, so you must have primary knowledge of the laws related to medical profession.

19. ALL DOCTORS SHOULD BE UNDER INSURANCE

Most of the cases against doctors are against specialists, about whom expectations of the patient are higher and who carry out more complicated procedures.

Family doctors are often treated & respected as family members or friends, and only basic primary care is expected of them. Even then, the changing trends suggest that all doctors should have an insurance cover to ensure financial relief and mental peace.

The insurance policy terms should be carefully studied. Here only a few important points are mentioned.

1. The company will not take liability if the policy period has elapsed. So you must pay the premiums in time.
2. If you are consulting in more than one clinic - All such clinics & nursing homes should be informed to the company. If a mishap occurs in a clinic, about which mention is not made in the policy, the company will not take liability.
3. So, if you shift your clinic or nursing home to a new place, intimate the insurance company immediately.
4. If you handle a case, of different speciality than your own, the company will not accept the liability eg. if a General practitioner treats Colles, fracture, which gets complicated, company will not take liability.
5. Names of Qualified employees, like nurses must be mentioned in the form - If such names are not mentioned, or if employee is unqualified, the company is not liable for their negligence.
6. If your nursing home is used by other doctors eg. surgeons, physicians, it should be informed to company. Otherwise their negligence will not be covered by the policy.
7. Any act in violation of the law like M.T.P. Act, or Bombay Nursing Home act will not be covered by the company.
8. If a negligent act is committed by the doctor under influence of alcohol or narcotics, such a claim will not be covered by the company.
9. Total liability of the company shall not exceed the indemnity amount of the policy.

10. Out of court settlements of the case should not be done without written consent from the insurance company. Otherwise, the company is not liable to pay such claims.

TAXES APPLICABLE TO GENERAL PRACTITIONER

Income Tax return

It is our basic duty as citizen of India, to declare our income and file the proper income tax returns, (even if tax to be paid is nil).

It is very important to file income tax return before the last date of return filing. Last date for an individual having only salary income is 30th June and the last date for individual having Private practice is 31st August.

Advance Tax

Out of the total tax liability every individual assessee is expected to pay an advance tax instalment equal to **30% of the total tax due by 15th Sept., 60% by 15th Dec. and 100% by 15th March** of the financial year. However, for the salaried employees the employers are under obligation to deduct tax on monthly basis and deposit it with the government on behalf of the employee.

If you do not pay advance tax on the due dates, you will have to pay an interest of **1 per cent per month** on the deficit amount till the date you file your return.

No advance tax is payable if the total **tax liability** after reducing the tax deducted at source is less than Rs. 10,000/-.

PAN Card

As soon as you start your practice and start earning, get your PAN card. You can apply through your CA or apply online yourself. PAN card number is essential for all major financial transactions, and for filing income tax return.

Professional Tax

The Professional tax is compulsory. - slabs, dates and rules vary from state to state.

Generally not applicable to senior doctors above 65 yrs age.

In case of salaried doctors, it is payable by the employee and is deducted from the salary.

You have to register by filling the prescribed form in Professional Tax commissioner's office. The assessing authority will issue a certificate of enrolment and will mention the Tax payable and dates of payment.

State Medical Council Registration and its renewal

Immediately after graduation, every doctor should immediately register with the State Medical Council and get the registration number. The certificate should be prominently displayed in the consulting room along with the Graduation certificate and the Registration number should be printed on the Prescriptions and Letterheads also.

In recent years, State Medical Councils are asking Doctors to renew their Registration and pay some fees every 5 yrs.

It is also mandatory to attend C.M.E. Programmes regularly and collect 6 credit

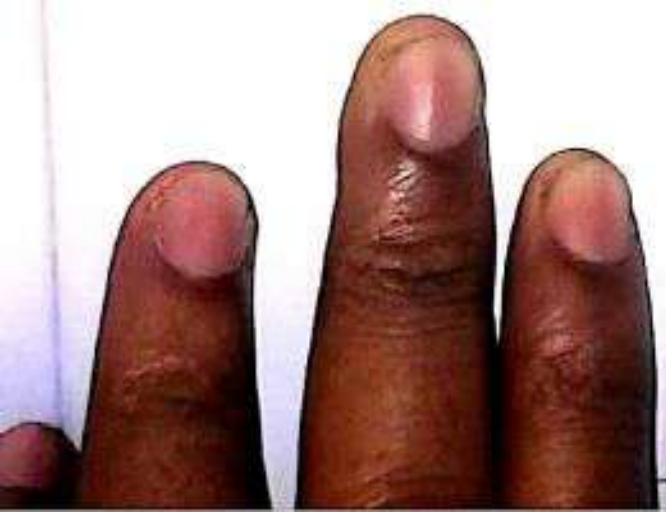
hours every year i.e. 30 credit hours in 5 years, for renewal of registration.

Registration with the Municipal Authority

If you are practicing within a Municipality area, you may have to register your clinic and pay the necessary fees to the Municipal Authority.

Nursing Homes

If you are running a nursing home, a number of taxes will be applicable, which is not in the purview of this book.



Chapter

26 TRADE NAMES

1. DRUGS FOR G. I. SYSTEM

1 A: Antacids

1. **Plain Antacids**: Various combinations of Dried Aluminum Hydroxy Gel, Magnesium Trisilicate, Magnesium Hydroxide, Simethicone etc. in Tablet and Liquid form.

   T.N. : **Digene, Gelusil MPS, PH4, Alludrox, Almacarb, Actriol, Almagel, Polycrol forte, Reflux, Silox Forte, Solacid, Embesil, Logacid, Zymets**

   Dose : 1-2 tablets or tsp. 3 or more times/day

   Note : Antacids interfere with Tetracyclin absorption. Antacids with Aluminium salts may cause constipation. Antacids with M.P.S. help relieve flatulence.

2. **Antacids with Anesthetic**: Oxethazine 10-20 mg per dose

   T.N. : **Mucain Gel, Pepticaine, Tricaine MPS, Ultracaine, Solacid-O**

   Note : Due to local anesthetic effect of oxethazine, these are particularly useful for heartburn, oesophagitis, Gastritis, Hiatus Hernia.

3. **Antacids with Alginic acid:** 200-400 mg per dose

   T.N. : **Acigon, Riflux, Visco**

   Note : Alginic acid forms a foam layer over the stomach contents and prevents acid reflux into oesophagus. Use in reflux oesophagitis, sour eructations.

4. **Antacids with Anti-spasmodics**

   T.N. : **Lodocid, Neutrodonna**

5. **Antacids with Dimethicone**

   T.N. : **Maylox**

6. **Magaldrate + Simethicone**

   T.N. : **Alcaine MPS, Nilcid-MPS, PH4, Rolac Plus, Ulgel**

1 B: Acid Inhibiting Drugs

B-1: H2 Receptor Antagonists

1. **Cimetidine:** Tab 200 mg, 400 mg

   Dose : 200 mg tds + 2 HS, or 400 mg bd.

   T.N. : **Cimetidine, Cimetiget, Cimetin, Tagamed**
   Not in use

2. **Ranitidine:** Tab 150 mg, 300 mg Inj. 50 ml/2 ml

   Dose : 150 mg bd × 6-8 wks. Maintainance = 150 mg HS

   T.N. : **Aciloc, Avene, Histac, R-loc, Ranitin, Rantac, Ultae, Zinetac**
   with Domperidone: **Ranicom-D, Neutral**
   with Dicyclomin + Simethicon: **Ulcispas, Renol**

3. **Famotidine:** Tab 20 mg, 40 mg Inj. 20 mg/ml

   Dose : 20 mg bd × 6-8 wks or 40 mg HS
   IV: 20 mg 12 hrly

   T.N. : **Acredin, Famocid, Famonite, Famotin, Pepgard, Topcid**

4. **Roxatidine:** Tab 75 mg, 150 mg

   Dose : 75 mg bd or 150 mg HS

   T.N. : **Rotane, Zorpex-SR**

B-2: Proton Pump Inhibitors

1. **Omiprazole:** 10, 20 & 40 mg Cap, 40 mg vial IV Inj.

   Dose : 20 mg OD for 4 wks, before meals (8 wks for Gastric ulcer), 40 mg OD for acute exacerbation.

   T.N. : **Ocid, Omez, Omezol, Omicap, Lomac, Omalcer, Protocid**

Inj **Omez** with Sod Bicarbonate
Omez insta 8.9 gm Sachet with Domperidone (10 mg/30SR)
Domstal-D, Okacid-D, Omez-D, Omez-D SR

Note: Produces total achlorhydria. Ulcer healing is faster than with Ranitidine. Eradicates H. Pylori

2. **Lansoprazol**: 15 & 30 mg Cap, 30 mg Infusion
Dose: 1 cap daily, IV 30 mg OD
T.N: **Lanzap, Lansol-30, Levante, Lanspep, Lan-30**
With Domperidone: **Lansoz - D, Lans DX**

3. **Pantoprazol**: 40 mg Tab, 40 mg in 10 ml IV
Dose: 1 tab daily for 2-4 wks
T.N: **Pantocid, Pantodac, Lupipan, Zerenta**
Inj: **Acifran, Pan, Normacid**
With Domperidone: **Pan-D, Pantop-D, Pantosec-D, Pansa - D**
Note: Contraindicated if hepatic or renal impairment

4. **Rabeprazole**: 10 & 20 mg Tabs
Dose: 20 mg per day for 4-6 wks
T.N: **Rab, Rabicip, Rablet, Rekool, Rapeed, Razo, Velox**
Inj: **Rablet, Razo**
With Domperidone: **Helirab-D, Pepcheck, Rablet-D**
With Ibuprofen 150 mg: **Rablet-IT, Velox-IT, Itoplus**

5. **Esomeprazole**: 20 & 40 mg Tabs, Inj 20 mg vial
Dose: 20-40 mg per day for 4-8 wks
T.N: **Esomac, Fatab, Nexpro, Reciper, Somprax**
With Domperidone: **Reciper-D**

6. **S-Pantoprazole**: 20 mg Cap/Tab
T.N: **Pangluris, Nexpan**

7. **Dex Rabeprazole**: 10 mg Tab
T.N: **Dexpure, Dexrasol**

B-3: Other anti-ulcer drugs

1. **Oxyphenonium Bromide**: Tabs 5 mg, 10 mg
Dose: 1-2 tabs 4 times/day
T.N: **Antrenyl, Antrecyl Duplex**
Alupramate
Note: Can increase prostatic obstruction, glaucoma. Avoid in old age. Causes dryness of mouth. Useful when pain is colicky

2. **Propenthelin Bromide**: Cap 15 mg
Dose: 1 tds + 2 wks
T.N: **Sere-banthine, Probanthine**
Note: Also useful in irritable bowel syndrome

3. **Sucralfate**: Tab 1 gm, Syr 1 gm/10 ml
Dose: 1 gm 4 times/day, before meals, x 4 wks
T.N: **Ulcekon, Ulcerfate, Muregas, Carafet, Sucrase**
Note: Binds to the ulcer site and prevents contact with acid. Do not give antacids within half hour of Sucralfate

4. **Colloidal Bismuth Subcitrate**: Tab 120 mg
Dose: 1 bd (30 min before meals)
T.N: **Pylocid**
Note: Eradicates H. Pylori infection

5. **Tri. Potassium Dicitrato Bismuthate**: Tab 120 mg
Dose: 2 bd for 4 to 8 wks
T.N: **Trymo, Denol**
Note: Eradicates H. Pylori infection

6. **Metoclopramide 5 mg + Dimethicone 120 mg**: Tabs, Gel
Dose: 1-2 tabs, half hour before meals and S.O.S
T.N: **Maxeron-MPS, Nausifar-MPS, REG-MPS**

7. **For Patients with emotional Factor**
T.N: **Stelabid, Gastrabid**

B-4: H. Pylori Combipacks

1. **Omeprazole 20 mg + Amoxycillin 750 mg + Tinidazole 500 mg**
Dose: 1 kit daily (b.d.) x 7 days
T.N: **Helibact, Helikit, HPkit, Ulcikit**
Note: 1. For eradication of H. Pylori after gastroscopic confirmation
2. For investigation and when biopsy where test not available
3. Follow with Omeprazole for 1 mth

2. **Lansoprazole 30 mg + Clarithromycin 250 mg + Tinidazole 500 mg**
Dose: 1 kit daily (b.d.) x 7 days
T.N: **Pylokit, OTC-HP**
Note: Costly, but more effective

3. **Lansoprazole 30 mg + Amoxycillin 750 mg + Tinidazole 500 mg**
T.N: **Pylomox, Lansikit**

4. **Pantoprazole 40 mg + Amoxycillin 750 mg + Tinidazole 500 mg**

β-5: Prokinetic Drugs

For GERD and Diabetic Gastropathy to increase motility of stomach.

1. **Cisapride:** (Banned) 10 mg Tab, 10 mg/5 ml suspension
   - Dose : 10 mg 3-4 times/day for 4-8 wks
   - T.N. : **Cisapid, Syspride, Unipride, Motilax, Prepulsid**
     With Simethicone: **Alipride MPS, Cisapid MPS**

2. **Mosapride:** 2.5 & 5 mg Tabs
   - Dose : 5 mg tds
   - T.N. : **Kinetix, MIC, Mosafe, Mosapid, Mosid-O, Mozax, Normagut**

3. **Itopride:** 50 mg Tab, 150 mg SR
   - Dose : 50 mg tds
   - T.N. : **Ganaton, Itopride, Itator, Itza, Retride**
   - SR Tab: **Ganatone-OD, Itza-OD, Itoprid-SR**
     with Rabeprazole: Itoprab, Itza-RB
   - Note : Drug of choice for Hiatus Hernia & Regurgitation symptoms.

4. **Cinitapride:** 1 mg Tab
   - Dose : 1 mg tds, before meals
   - T.N. : **Cintapro, Citapro, Kinpride**
   - Note : Causes sedation

5. **Levosulpride:** 25, 75 & 100 mg Tabs, 25 mg inj.
   - Dose : 25 mg tds, before meals
   - T.N. : **Levogut, Livogold, Neopride**
   - Note : Also used for IBS. Has anti-psychotic properties.

1 C: Digestive Enzymes

1. **Containing Fungal Diastase, Papaine,** Plus other additives like charcoal Dimethicone, cinnamon oil etc.
   - Dose : 1 to 2 Tablets 2 times/day after food (or 5-10 ml Syrup)
   - T.N. : **Bestozyme** [Cap & Syrup], **Digeplex** [liquid & Drops] **Dizytone** [Liquid], **Endos** [Caps], **Genozyme** [Liquid], **Lupizyme** [Liquid], **Molzyme Tabs, Normozyme** [Caps & Liquid] **Unienzyme** [Tabs], **Vitazyme** [Liquid & drops]
   - Note : For digestive disturbances & enzyme deficiencies. They also have anti-flatulent action.

2. **Pancreatic Enzymes:** containing pancreatin 100 to 150 mg
   - T.N. : **Alvizyme, Festal dragees, Pan-ceoflat Tabs, Dispeptal dragees, Panzynorm, Panzynorm N. Tabs, Farizyme Forte Pankreon**
   - Note : Used in digestive disturbances in Pancreatic diseases like Chronic pancreatitis, Post-pancreatectomy etc. Give 2 to 4 tabs with each meal.

1 D: Hepato-Biliary Drugs

1. **Ayurvedic Preparations:** Tab & Liquid form
   - Dose : 1-2 tabs or 10 to 15 ml 3 times/day
   - T.N. : **Liv-52, Stimuliv, Livomyn, Tefroli, Ictrus**
   - Comments: Use in Viral Hepatitis, chronic Hepatitis, cirrhosis and all liver disorders.

2. **Tricholin & Sorbitol:**
   - Dose : 10 ml diluted in water, before lunch & dinner
   - T.N. : **Sorbiline, Mecolin, Delphicol, Trichodol**
   - Note : Use in post hepatitis convalescence, alcoholic Liver-fatty infiltration or cirrhosis.

3. **Phospholipids:** 175 mg Caps
   - Dose : 2 to 3 capsules 3 times/day
   - T.N. : **Essentiale, Phospholipase**
   - Note : Phospholipids help regeneration of liver cells in Hepatitis, cirrhosis etc.

4. **Silymarin:** 70 mg & 140 mg Tabs, 35 mg/5 ml Suspension
   - Dose : 1 tab 3-4 times/day
   - T.N. : **Silybon, Sivylar**
   - Note : For regeneration of Liver cells

5. **L-Ornithine-L-Asparate:** 150 mg Tabs, 250 mg/5 ml Syrup. 5 gm in 10 ml Infusion
   - Dose : 1-2 tabs tds for 15 days, then 1 tds
   - T.N. : **Hepa-merz, Lornit, Analiv, Livogard**
   - Note : 1. In prehepatic coma, give Infusion.
     2. For alcoholic liver damage, cirrhosis.

6. **Ursodeoxycholic acid:** 150 & 300 mg Tab, 450 mg Cap
   - Dose : 150 mg bd to 300 mg bd
   - T.N. : **Udiliv, Ursocol, UDCA**
   - Note : To dissolve Gall stones, For cholestasis in jaundice.

7. **Chenodeoxycholic acid:** 250 mg cap
   Dose : 250 mg bd x 3 – 6 mths
   T.N. : **Ursofalk GR**
   Note : To dissolve Gall stones

8. **Metadoxine:** 500 mg Tab, 300 mg Vial
   Dose : 500 mg bd
   T.N. : **Metadoxyl**
   Note : Alcoholic hepatitis, Fatty Liver. Protects Liver cells in acute alcohol intoxication.

1 E: Anthelminthics

I. Broad spectrum anthelminthics

1. **Mebendazole:** 100 mg Tabs, 100 mg/5 ml Syr
   Dose : 100 mg bd x 3 days
   T.N. : **Expel, Mebex, Mendazole, Idebend, Pantelmin, Wormin, Zumin**

2. **Albendazole:** 400 mg Tab, 200 mg/5 ml Syrup
   Dose : 400 mg single dose. Below 2 yrs 200 mg single dose
   T.N. : **ABZ, Albezole, Bendex, Aliminth, Zentel, Nubend**
   Note : Kills roundworms, Hookworms, threadworms, whipworms, For Tapeworms (H. Nana) give 400 mg bd for 3 days. For Hydatid cysts - give 400 mg bd for 28 days.

3. **Pyrantel Palmoate:** 250 mg Tab, 50 mg/ml Syrup
   Dose : 2 or 4 tabs single dose (11 mg/kg body wt.)
   T.N. : **Nemocid, Pyrmoate, Numantel, Omnitel**
   Note : Kills Roundworms, Hookworms, Threadworms & Strongyloides.

4. **Levamisol:** 50 & 150 mg Tabs, 50 mg/5 ml Syrup
   Dose : 150 mg single dose, For children 50 mg single dose (3 mg/kg)
   T.N. : **Dewormis (150, 50 & syr.), Vermisol, Vizole**
   Note : Kills Roundworms & Hookworms.

5. **Mebendazole 200 mg + Levamisole 50 mg**
   Dose : 2 tabs single dose
   T.N. : **STA-500, Hicure**

6. **Tetramisole:** 150 & 50 mg Tabs
   Dose : 150 mg single Dose
   T.N. : **Decaris, Jectomisol- P, Ascaris-P**

7. **Thiabendazole:**
   Dose : 25 mg/kg for 3 days
   T.N. : **Mentezol**

II. Specific Anthelminthics

1. **Niclosamide:** 500 mg Tab
   Dose : 2 tabs chewed with water, early morning. Then 2 tabs after 1 hr. followed by castor oil. In children below 6 yrs, Half dose.
   T.N. : **Niclosan**
   Note : Kills all species of Tape worms, H. Nana & D. Latum For H. Nana, add 1 gm. daily x 6 days.

2. **Piperazine citrate:** 500 mg Tabs, 500 mg/5 ml syrup
   Dose : 3 gm at bedtime on 3 consecutive days (75 mg/kg/day x 3)
   T.N. : **Antepar Helmacid with senna (4 gm), Antepar with Laxative, Piperazine Tabs**
   Note : Expels Roundworms. For Threadworms - 3 gm HS for 7 days.

3. **Bephenium:** 5 gm Sachet
   Dose : 5 g single dose. In children 2.5 gm
   T.N. : **Alcopar, Hoopar**
   Note : Kills Hookworms, Also round worms, & Whipworms. It may cause Vomiting.

4. **Diethyl Carbamazine Citrate:** 50 mg, 100 mg tab, 50 mg/5 ml syrup
   Dose : 100 mg tds 21 days (6 mg/kg/day)
   T.N. : **Banocide, Carbamyl, Hetrazan**
   Note : For filaria & Tropical Eosinophilia

5. **Praziquantel:** 50 mg, Tab
   Dose : 100 mg/kg single dose
   H. Nana = 15 mg/kg stat
   Neurocysticercosis = 50 mg/kg/day x 15 days
   T.N. : **Cysticide**

6. **Invermectin:** 3, 6 & 12 mg Tab
   Dose : 6 mg OD (200 mcg/kg)
   T.N. : **Ascapil, Ascapil-A (with Albendazole)**
   Note : For Scabies, pediculosis & mixed worm infestations.

1 F-A: Anti-Amoebic Drugs

1. **Metronidazole:** 200 & 400 mg Tabs, 200 mg/5 ml suspension, 500 mg in 100 ml Infusion.
   Dose : 400 mg x 3 times/day x 7 days
   T.N. : **Aristogyl, Metrogyl, Flagyl**

3. **Gum Karaya**
   Dose : 1-2 tsp, morning & evening
   T.N. : **Kanormal, Evacuol (with senna)**
   Note : Gum karaya contains sugar, note in diabetics.

4. **Liquid Paraffin:** 30 ml at Bed time
   With Phenolphthalein: **Agarol, Cremaffin Pink** (7.5-15 ml HS)
   With Milk of magnesia: **Cremaffin** (7-5 to 15 ml HS)
   Note : Milk of magnesia should be avoided in renal failure.

5. **Bisacodyl:** 5 mg & 10 mg Tabs, Rectal suppositories
   Dose : 10 mg at night, with Plenty of water
   T.N. : **Dulcolax, Julax, Bidlax-5, Stolax**

6. **Dioctyl sod. sulfosuccinate:** 100 mg Tab or Capsule
   Dose : 1 Tabs 2-3 times/day
   T.N. : **Lexicon, Cellubril**
   Note : Useful to avoid straining - as in early pregnancy, postmyocardial infarct, Hernia etc.

7. **Senna: With dioctyl sod. Sulfosuccinate**
   Dose : 2 to 4 tabs at bedtime
   T.N. : **Laxatin, Prusennid_IN, Senade, Sofsena**

8. **Enema Kits: Neotonic Enema**

9. **Lactulose:** 10 gm/15 ml Liquid
   Dose : 15 ml. BD, In Liver failure, upto 90-150 ml per day
   T.N. : **Duphalac, Livoluk, Lacsan, Lactulin**

10. **Sodium Picosulfate:** 10 mg Tab
    Dose : 1 tab at bed time
    T.N. : **Cremalax, Colvac-10, Picofast**
    Note : Acts selectively on colon, so no cramps.

11. **Docusates:** 240 mg Tab, 0-25% Solution enema
    T.N. : **Laxicon, Cellubril**
    Dose : 240 mg OD, 120 mg as enema

1 H: Drugs for Piles

1. **Ointments:** Containing a steroid - hydrocortisone or fluocortolone, a local anesthetic - like cinchocaine, Anti haemorrhagic clernizole, sodium heparinate etc.
   T.N. : **Proctosedyl, Proctosedyl-N, Shield, Ultraproct, Proctocool, Anovate, Medithain, Faktu**

2. **Containing Diosmin:** 150 & 300 mg
   Dose : 600 mg 2 Times/day
   T.N. : **Daflon, Venusmin**

3. **Miscellaneous Tablets:**
   T.N. : **Pilex, Proctocaps**

4. **Local Anesthetic Ointments for Fissure**
   Dose : 2-3 times/day and before & after passing motions
   T.N. : **Lignocaine, Nupercainal**

1 J: Anti Diarrhoeals

Drugs that reduce motility: **Loperamide, Diphenoxylate, Codeine**

Drugs with local anti bacterial actin: **Furazolidone, Neomycin, Nalidixic acid, Streptomycin, Colistin**

Drugs with anti-amoebic action: **Quinidochlor, Di-iodo hydroxyquinolin, Chloroquine, Metronidazole, Tinidazole. (See 1-F)**

Drugs for ulcerative colitis: **Sulfasalazine, Mesalazine, 5-amino salicylic acid. (See 1-N)**

1. **Loperamide**: 2 mg Tabs
   Dose : 2 Tabs stat, Then 1 tab after each stools
   T.N. : **Lopamide, Diarlop, Lopestal Imodium**
   With furazolidone: **Imosec-F, Diarlop Plus**

2. **Diphenoxylate:** 2.5 mg Tabs
   Dose : 2 tabs 6 hrly till diarrhoea is controlled.
   T.N. : **Lomotil, Lomofen (with furazolidone)**

3. **Mebeverine:** 100 mg Tabs
   Dose : 1-2 Tabs 3 times/day
   T.N. : **Colospa**
   Note : For Irritable Bowel Syndrome.

3a. **Fenoverine:** 100 mg Tab
   Dose : 100 mg tds
   T.N. : **Spasmopriv**

4. **Furazolidone:** 100 mg Tabs
   Dose : 100 mg 4 times/day
   T.N. : **Furoxone, Emantid**

5. **Nalidix acid:** 500 mg Tabs, 300 mg/5 ml syrup
   Dose : 1 gm 6 hrly for 7 days
   T.N. : **Gramoneg, Wintomylon**

6. **Quin iodo chlor:** 250 mg Tabs
   Dose : 1-2 tds x 10 days
   T.N. : **Enteroquinol, Dequinol**

7. **Combinations**
   i) Kaolin + Pectin + Neomycin: **Kaltin with Neomycin suspension**
   ii) Nalidixic acid + Metronidazole: **Bactomet, Negadix-M, Aldiagram, Bacigyl, Gramogyl, Gramoneg**
   iii) Furazolidone + Metronidazole: **Dependal-M, Dysfur-M, Fudone-M**
   iv) Chloromycetin + Streptomycin: **Enterostrep**
   v) Streptomycin + Sulfadimidine: **Inseptin**
   vi) Di-iodo hydroxy quinolin + Chloroquine: **Amicline, Amicline Plus**
   vii) Streptomycin + Pectin: **Streptomagma**
   viii) Norfloxacin + Tinidazole: **Loxone. T, Norflox-TZ, Tiniflox, Diaba, Norilet-A, Tini-NF**
   ix) Tinidazole + Ciprofloxacin: **Brakke, CiploxTZ, Cifran-CT**

8. **Saccharomyces Boulardii (Yeast)**: 250 mg sachet
   Dose : 250 mg OD for 7-10 days
   T.N. : **Econorm, Stibs**
   Note : Used for Chronic diarrhoea, IBS, Antibiotic induced diarrhoea, Diarrhoea in AIDS patients.

9. **Racecadotril:** 100 mg Cap, 15 mg sachet
   Dose : 1 cap tds, In children, 1.5 mg/kg tds
   T.N. : **Redotil, Zedott**
   Note : Reduces the watery secretion from intestinal mucosa.

10. **Rifaximin:** 200 & 400 mg Tabs
    T.N. : **Rifagut, Rcifax**
    Dose : 200 mg tds
    Note : Prevention & Treatment of Traveller's Diarrhoea

1 K: Anti-Emetic Drugs

A. *General Anti-emetics*

1. **Trifluopromazine HCl:** 10 mg Tab, 10 mg/ml inj.
   Dose : 1 to 5 tablets/day, 5–10 mg 1M.
   T.N. : **Siquil**

2. **Prochlorperazine:** 5 mg Tabs, 12.5 mg/ml inj.
   Dose : 1 to 3 tabs/day
   T.N. : **Stemetil, Emidoxyn**
   Note : Extrapyramidal reactions turning up of eyes, pulling of tongue or face, etc. can be countered with Tab Pacitane and Inj. Calmpose or phenergan. It is very effective in Vertigo.

3. **Promethazine:** 25 mg, 10 mg Tabs
   Dose : 25 mg 1-2/day For travel sickness, give 25 mg tab 2 hours before the Journey.
   T.N. : **Avomine, Phena, Phenergan**
   Note : Causes drowsiness. Do not drive after taking Avomine. Can be used in pregnancy.

4. **Metoclopramide:** 10 mg, Tabs, 5 mg/5 ml syrup, 10 mg in 2 ml inj.
   Dose : 10 mg 3 times/day
   T.N. : **Emenil, Maxeron, Perinorm, Propamid, Reglan, Tagrid**
   Note : It increases the tone of cardia and reduces reflux. No extrapyramidal side effects.

5. **Domperidone:** 10 mg Tabs, 5 mg/5 ml syrup & drops
   Dose : 10 mg 3 to 4 times/day, half hour before meals
   T.N. : **Domperon, Domstal, Endopace, Gastractiv, Normetic, Nausidome.** Combinations with Ranitidine, Omeprazole, Rabeprazole, Lanse-prazole & Pantoprazole available.
   Note : Do not use in Pregnancy, More useful in Gastric motility disorders, dyspepsia & vomiting.

6. **Ondansetron HCl:** 4 & 8 mg Tab, 2 mg/5 ml Syr, 2 mg/ml Inj.
   Dose : 8 mg I.V. prior to chemotherapy, Then orally 4-8 mg bd x 5 days,
   T.N. : **Emeset, Emsetron, Lupisetron, Nebutron, Oncoden, Onsett, Vomix, Zofer**
   Note : Specific for vomiting due to chemotherapy or Radiotherapy Also in postoperative vomiting & vomiting not controlled by routine drugs.

7. **Others**
   i) Cinnarizine - 25 mg Tabs: **Stugeron, Vertigon** (Ref. 4H)
   ii) Cinnarizine + Domperidone: **Stugil**

8. **Meclizine HCl:** 12.5 mg Tabs
   Dose : 25 to 50 mg/day at bedtime
   T.N. : **Diligan, Pregnidoxin**
   Note : Main use for nausea & vomiting of pregnancy, also for vomiting due to other causes & Meniere's syndrome.

9. **Doxylamine + Pyridoxine:**
   Dose : 2 HS + S.O.S. in morning
   T.N. : **Doxynate, Lupinate, Omnidox, Vominate,**

with Folic acid: **Pregdomstal**
Note : Specific For Vomiting of Pregnancy

B. Anti-emetics for Chemotherapy/ Postop:

1. **Ondansetron**
2. **Metoclopramide**
3. **Dimenhydrinate:** 50 mg Tab, 15 mg/5 ml Syr, Inj. 50 mg/ml
   Dose : 50-100 mg TDS, (5 mg/kg/day)
   T.N. : **Draminate, Gravol**
4. **Aprepitant:** 3 cap – 125, 80, 80mg
   Dose : 125 mg stat + 80 mg x 2
   T.N. : **Apristar, Empov**
   Note : Combine with Ondansetron.
5. **Granisetron:** 1 mg Tab, 1 mg/ml Inj.
   Dose : 10 mcg/kg before starting chemotherapy
   T.N. : **Avogran, Cadigran, Granicip, Graniset**

1 L: Anti-Spasmodic Drugs

1. **Dicyclomine HCl:** 20 mg & 10 mg Tabs, 10 mg/5 ml suspension, 10 mg/ml drops, 20 mg in 2 ml Inj.
   Dose : 20 mg 3 times/day
   T.N. : **Colimea, Cyclopam, Neurospas, Spasmindon, Cyclominol**
   Inj. : **Meftal spas, Spasmonil, Spasmoproxyvon, Cyclopam, Centwin**
   With Paracetamol: **Cyclopam Tabs, Colimex, Colirid**
   With Dextropropoxyphene: **Parvonspas, Spasmoproxyvon**
   With Clinidium: **Normospas**
   With Diclofenac: **Ridospas**
   With Mefenamic acid: **Paraspas**
   With Nimesulide: **Nicispas**
2. **Oxyphenonium Bromide:** 5 mg & 10 mg Tabs
   Dose : 1-2 tabs, 2-4 times/day
   T.N. : **Antrenyl, Antrenyl Duplex Alupromate, Ulpane**
3. **Hyoscine-N-Butylbr:** 10 mg Tab
   Dose : 1-2 tabs 3 times/day
   T.N. : **Buscopan Tab & Inj.**
4. **Propantheline Bromide:** 15 mg Tabs
   Dose : 15 mg x 3 times/day before meals + 2 HS
   T.N. : **Probanthine, Serebanthine (with haloperidol)**
   Note : For peptic ulcer Pain & GI colics.
5. **Isopropamide:** 5 mg with 1-2 mg Trifluoperazine
   Dose : 5 mg 2 times/day
   T.N. : **Gastrabid 1/2, Stelabid**
6. **Drotaverine:** 40 & 80 mg Tabs, 40 mg/2 ml Inj.
   Dose : 40-80 mg tds
   T.N. : **Doverine, Drotikind, Drotaspa, Trospa**
   With Mefenamic acid: **Abdospas DM, Drotikind-M, Tuela**
   With Nimesulide: **Nobelspas, Spasmoter-M**
   Note : For Renal, Gall bladder or Intestinal colic.
7. **Camylofin:** 50 mg Tabs, 25 mg/5 ml Inj. 1 M/IV
   Dose : 1-2 tabs tds T.N.: **Inj. Anafortan** with Paracetamol: **Anafortan Tab, Syr, Drops**
   With Diclofenac: **Anaspas**
8. **Combinations**
   Inj. Spasmindon: Codeine + Papaverine + Chlorocresol

1 M: Drugs to regulate G.I. Motility

1. **Domperidone** (See IK-7)
2. **Metaclorpramide** (See IK-5)
3. **Pinaverium Bromide:** 50 mg Tab
   Dose : 1 tab 4 times/day
   T.N. : **Eldicet**
   Note : Smooth muscle relaxant for IBS, peptic ulcer, biliary pain.

1 N: Drugs for Ulcerative Colitis

1. **Sulfasalazine:** 500 mg Tab
   Dose : 1 tab 3-4 times/day
   T.N. : **Salazopyrin, Sazo-EN, Salazar, Zemosal**
2. **Mesalazine** (5 amino-salicylic Acid): 400 mg Tab, 4 gm in 60 ml. Enema
   Dose : 1-2 tabs 3 times/day
   T.N. : **Tidocol, Mesacol, 5A, Asacol, Elmes, Walasa**
   Rectal : **Mesacol suppository**

3. **Balsalazide:** 750 mg Cap
   T.N. : **Intazide, Balacol, Colorex**
   Dose : 1 - 2 bd x 8 wks. In acute attack, upto 3 tds
   Note : Releases 5- ASA in colon.

2. NUTRITION

2 A: Protein Supplements

1. Powder or Granules: **Astymin, Alprovit, Bix, Gefrich, G.R.D. Prosoyal, Protal-M, Proteinules, Proteinex, Protone, Prosan, Syu, Soyal, Pramilac, Vipro FE, Trophox**
2. Liquid: **Alprovit, Olpro, Proferrin, Protone, Protectone, Santevini-Plus, Proteinules**
3. Drops: **Olpro, Protone, Alprovit, Astymin.C**
4. Biscuits: **Threptin, G.R.D.**
5. Intravenous Aminoacids: **Alamin-SE/SN/N, Aminodrip, Aminoplasmal-L 5%, Astymin-3**
6. Human Albumin: 20% infusion, 100 ml, 50 ml
   Dose: 1-2 gm/kg daily, at 5 ml/min
   T.N. : **Albudac, Albumin**
   Note: Hypoproteinemia, Ascites, Hypovolaemic shock
7. Parenteral Nutrion Proteins: 200 ml
   T.N. : **Hermin, Hermin-T**
   Dose: 200 ml OD to 8 hrly

2 B: Anabolic Drugs

Anabolic drugs are used to improve protein metabolism in chronic debilitating diseases & emaciation. They must be accompanied by adequate Protein intake.

1. **Nandrolone Phenyl propionate:** 25 mg/ml x 1 ml vial
   Dose : 25 mg IM x every wk x 3-12 wks
   T.N. : **Docabolin, Durabolin, Evabolin, Grothic, Metabol, Neurabol, Duraplon**

2. **Nandrolone Decanoate:** 25 mg, 50 mg & 100 mg amp
   Dose : 25-50 mg/wk x for 3 or more weeks
   T.N. : **Biodebol (25), Decadurabolin (25/50/100) Decaneurabol (25), Deca-neurophen (25/50) Metadec (25/50), Myobolin (25)**

3. **Stanozolol:** 2 mg Tabs
   Dose : 1-2 tabs x 3 times/day with meals
   T.N. : **Menabol, Neurabol, Stromba**

4. **Ethylestrenol:** 2 mg Tabs
   Dose : 1-2 Tabs/day
   T.N. : **Orabolin**

2 C: Calcium

1. **Injections:**
   T.N. : **Macalvit-IM,** (3 cc 1M x 5 Injections); **Calcium Sandoz-IV** (10 cc slow I.V. x 3 or more)
   Note : Intravenous calcium is used in Tetany & Bleeding disorders.

2. **Tablets:**
   Dose : 1 tab 2 times/day
   T.N. : **Calcimin, Calcinol, Calcium Sandoz, Calcivit, Dynacal, Magnical, Natcal, Ossivite, Ossopan, Omilcal, Osto-calcium, Sandocal (1 tab/day)**

3. **Syrups:**
   Dose : 10 ml 2-3 times/day
   T.N. : **Calpovit, Dicalciiplex, Macalvit, Natcal, Omilcal, Ossopan, Ossidoss, Ostocalcium-B12**

4. **Organic Calcium:** from Oyster shell = 250 mg, 500 mg & syrups
   Dose : 500 mg daily
   T.N. : **Calplus, Cal-D3, Caloshell, Shelcal Trical-D, Tryocal, Ocal**
   Note : Calcium is used in treatment of calcium deficiency such as leg cramps, Tetany, osteoporosis, Fractures & other bone diseases, Pregnancy & lactation, Prevention & treatment of Rickets in children and Hemorrhagic disorders.

5. **Calcium Carbonate 500 mg + Calcitriol 0.25 mcg**
   T.N. : **Calcimax forte, Calcikind, Celol**

6. **Calcium Carbonate 500 mg + Alfacalcidol 0.25 mcg**
   T.N. : **Alcidol, Acal**

7. **Calcium Citrate + D_3: 1250 & 250 mg Tab**
   T.N. : **Milical, C-Yum, Speracal, Methycal**

8. **Calcium Orotate : 740 mg Tab**
   T.N. : **Orotate, Calorate**

2 C-I: Drugs affecting Bone metabolism:

21. **Alendroic acid:** 10 & 70 mg Tabs
    Dose : 10 mg OD or 70 mg once/week
    T.N. : **Restofos, Denfos, Osteofos**
    Note : Taken early morning on empty stomach. Do not lie down for half hour.

22. **Zoledronic acid:** 4 mg Inj
    Dose : 4 mg in 100 ml slow infusion, 2nd dose after 1 mth
    T.N. : **Blaztere inj, Zolon**

23. **Risedronic acid:** 5, 35 & 70 mg Tab
    Dose : 35-70 mg once a week
    T.N. : **Gemfos, Risofos**

24. **Pamidronate:** 30 & 90 mg inj
    Dose : 30 mg IV daily x 3
    T.N. : **Aredronet, Bonapam**

25. **Salmon Calcitonin**
    Dose : 200 u spray daily- in alternating nostrils
    T.N. : **Calcinase, Ostospray, Miacalcic**
    Inj : Calsynar, Zycalcit

2 D: Vitamin A

1. Vitamin A: 5000 iu, 10,000 iu & 50,000 iu Tabs; 50,000 iu/ml Inj.
   T.N. : Tabs - **Adexolin** (A-D caps, 5000 iu) **Rovigon** (AE caps, 10,000 iu) **Arovit,**
   Inj. : **Aquasol-A** (50,000 iu in 2ml), **Arovit**
   Note : For mild deficiency - 5,000 to 10,000 iu/day x 15
   For severe deficiency, 50,000 iu x IM x daily x 3 days, Then orally 50,000 iu Tab/day x 2 wks. (i.e. for xerophthalmia, Night blindness, & Bitot's spots)

2 E: Vitamin D

1. **Vit D-3:** Inj. 3 lac & 6 lac iu in 1 ml. Oral 1 g sachet = 60,000 iu
   Dose : Rickets
   - Single dose of 3 lac or 6 lac units
   - Oral 1 g Sachet alt days x 10 times
   T.N. : **Arachitol Inj., Calcirol Sachets, D-Rise, D-360**

2. **Alfacalcidol (D3): 0.25 & 1 mcg Capsule**
   Dose : Start with 0.5 to 1 mcg/day. Then adjust dose to 0.25 to 0.5 mcg/day
   Children - 0.05 mcg/kg/day
   T.N. : **Alfa D-3 (0.25 mcg), One Alpha Leo (1 mcg), Alphacip, Calcirol With Calcium: Alf Plus, Alfacip Plus, Shelcal-OS**
   Note : Costly drug. Used for Vit D resistant & Renal Rickets, Osteomalacia & Hypopara-thyroidism.

3. **Calcitriol: 0.25 mcg cap, 1 mcg/ml Inj.**
   Dose : 0.25 mcg/day
   T.N. : **Caltrol, Calosto, Rocaltrol, Rolcical, Ostriol**
   with Calcium: **Admax, Calcimax forte, Celol, Ostriol Forte, Rolcical Plus**

4. **Vit D + Vit A**
   T.N. : **Syr. Haliborange, Syr Sharkovit, Sharkomalt Powder, Cap Adexolin, Aquasol A+D Drops**

2 F: Vitamin E

1. **Alpha Tocopherol:** 100, 200, 400 & 600 mg Pearls
   Dose : 1. Muscle cramps & claudication 400 mg/day for 3 to 4 mths
   2. Fibroadenosis of breast - 600 mg/day for 4-6 mths
   3. Angina - 200 mg/day
   T.N. : **Bio-E, Covita, Edge, Etoplex, Evion, Evit, Tocofer, Viteolin Natvie & Evion drops**
   Vit A+E: **Tab Rovigon, Tab Sclerobion, Cap Aquasol A-E,**
   Vit C+E: **Evitam, Natvie-C**
   with Evening Primrose oil: **Edge-P, NE-200**

2 G: Vitamin C

1. **Vitamin C:** 100 mg, 500 mg Tabs, 500 mg in 5 ml Inj.
   T.N. : Tab: **Cebion, Celin,**
   Chewable Vit C: **Citravite, Limcee, Redoxon, Sukcee, Sorvicin**
   Drops: **Cecon, Sorvicin, Sukcee (100 mg/ml) Injection: Redoxon, Tildoxon**
   Note : For scurvy, - 500 mg IM or IV daily in acute stage, then 1 gm orally 2-3 times/day.
   - For Pregnancy & lactation - 100 mg/day.
   - For Large wounds, burns, trauma 500 mg/day.

2 H: Vitamin B

1. **Vitamin B1:** 100 mg Tab, 100 mg/ml Inj. (Thiamine)
   Dose : 100-200 mg/day
   T.N. : **Berin, Beneuron (5 mg Cap), Benalgis (75 mg Tab)**
   Note : Use for Peripheral neuritis, Beri-beri, alcoholic tremors, anorexia nervosa, Korsakoff Psychosis.

2. **Vitamin B2:** 20 mg Tabs (Riboflavin)
   Dose : 1-2 tabs 3 times/day

T.N. : **Lipabol**
Note : Used in Arteriosclerosis, Hypercholesterolemia, obesity

3. **Vitamin B6:** Pyridoxin, 40 & 100 mg Tabs
Dose : 100 mg/day
T.N. : **B-Long, Pyricontin, Benadon**
Note : 1. For B6 deficiency, with INH therapy.
2. For morning sickness & Hyperemesis gravidarum (with Doxylamine 10 mg=Pregcare).
3. To suppress Lactation: 2 Tabs x 3 times/day till effective.

4. **Vitamin B-12 (cyanocobalamin):** 500 mcg & 1000 mcg vial
Dose : 500-1000 mcg IM x all days x 10 days. Maintenance = 1000 mcg IM every mth.
T.N. : **Macraberin**
Note : For Pernicious Anemia & other macrocytic Anemias.

4a. **Methylcobalamin (Mecobalamin):** 500 mcg Tab, 500 mcg/ml, Inj. 1000 mcg SL-Tab
Dose : 500 mcg tds
T.N. : **Tab Meconerv, Nurokind, Methylcobal, Cobamet OD, GLA-M**
Inj. : **Meconerv, Nervup, Cobamet**
Note : For Peripheral Neuropathies.

5. **Vit B_1 + B_6 + B_{12}:** Injection = B_1-100 mg + B_6 -100 mg + B_{12}1000 mcg.
T.N. : **Aristoneurol, Bethadoxin-12, Macraberin Forte, Neurobion, Neuroplan-12, Neurotral, Sioneuron, Vitneurin**
Dose : 1 amp. IM x daily or on alternate days till improvement (3-10 injections).
Tab : B_1-10 mg + B_6-3 mg + B_{12}15 mcg
T.N. : **Bethadoxin-12, Macraberin, Neurobion, Neurotrat, Sioneuron**
Dose : 1-2 Tablets daily
Syr : **Bethadoxin-12**
Note : In treatment of Peripheral neuropathies, Anemia, Weakness, Hepatitis, all neurological disorders. A course of 5-10 injections, followed by Tablets for several weeks.

6. **Vitamin B Complex:** B1, B2, B3, B6, B12 with Folic Acid & Vit C
Inj. : **Eldervit-12, Optineuron, Polybion, Vitcofol, Ranodine**
Cap : **Becatone, Beplex, Betonin, ComplexB, Eldervit, Hycibex, Multibay, Stresscaps, Bivinal Forte, Becosules, Cobadex. F**
Tab : **Optineuron, Polybion, Surbex-T, Beneuron Forte, Basitone-Forte, Becozyme-C, Cebexin**
Syrup : **Becatone, Beplex, Betonin, ComplexB, Elsoma, Hycibex, Lederplex, Polybion Syrup, Toniazole, Becosules**

7. **Folic Acid:** 5 mg Tabs
Dose : 1 to 2 Tab 2 times/day
T.N. : **Folik, Folvite**
Note : Used in megaloblastic anemias, anemias of pregnancy, prevention of congenital anomalies.

8. **Lactobacillus:**
Dose : 1-2 Caps daily
T.N. : **Lactobacil (cap/sachet) (L. acidophilus) Nutrolin-B (Cap Tab/Syr) Sporolac Tabs, Vizylac Caps (L.Sporogenes) Lactisyn ampule, Microlac caps.**
with Bplex - **Becoplus Caps, Sanvitone Caps.**
Note : Used as adjuvant to oral antibiotic therapy to normalise intestinal flora. Use for diarrhoea, induced by antibiotics, Monilial infection following antibiotics.

9. **Multivitamin Preparations:** Combinations of Vit A, D, C, B1, B2, B6, B12, E, Folic acid, Infusions (10 ml): Multibionta, MVI, Tilvit
Caps : **Becadaxamin, Becadex-F, Edinol, Filibon, Multibionta, Multivitaplex F, Prenatal**
Tabs : **Becadex, Beetrion, Hexavit, Supradyn, ACDC, A to Z**
Syr. : **Becadex, Dicalciplex, Hovite, Manadol, Paladac, Vimagna, Vidaylin, Visyneral**
Drops : **Hovite, Vi-magna, Vidaylin, Visyneral, ABDEC, Becadex, Dropovit**

2 I: Iron Preparations

Oral: Ferrous Sulfate - 200-600 mg/day; Ferrous Gluconate - 300-1200 mg/day; Ferrous fumarate - 300 mg daily

1. **Injection**
a) Iron Dextran 50 mg/ml: Imferon, Imferon-B12
b) Iron Sorbitol Citrate 75 mg in 1.5 ml: Jectofer, Jectofer Plus
c) Iron Sucrose Complex: 5 ml ampules
Dose : 1 amp. Venofer x 3 times a week or 5 amps. dissolved in 500 ml N. Saline over 4 hrs. x every week. Total Dose

= Refer manufacturer's chart. Approx: for 50 kg patient = 3 ampules for 1 gm% rise.

T.N. : **Venofer, Encifer, Ferri, Hemilift, Uniferon**

Note : Costly, but safer - no risk of anaphylactic reactions.

2. **Ferrous Sulfate:** 200 to 600 mg/day

Cap : **Conviron, Fefol-Z spansules, Ferrostan longules, Fersolate, Fesovit spansules, Iderol, Plastules, Redicyte, Ultiron-TR**

Syr : **Fesovit, Ibero/500**

3. **Ferrous Fumarate:** 300-600 mg/day

Cap : **Anemidox, Autrin, Benogen, Dumasules, Fercel-300, Hepa-sules, Idiglobin, Livogen, Macrofolin-Iron, Rediplex-T, Softeron, Vitcofol**

Syr : **Astyfer, Siderplex**

4. **Ferric Ammonium Citrate**

Cap : **Dexorange Plus, Neurophosphate -Iron, Preobofex, Proferrin**
with Hb: **Globac, Haemup, Hemfer, Hepp forte, Hb-Rich**

Syr : **Dexorange Plus, Ferrochelate, Globac, Hemup, Phosphomin-iron, Rubraplex**

5. **Ferrous Glycin Sulfate**

Cap : **Fecontin-F/Z, Ferinova, Fezocaps**

Syr : **Ferinova, Fezocan**

6. **Iron Cholin Citrate**

T.N. : **Ferrochelate - Cap & Syr**

7. **Ferrous Calcium Citrate**

T.N. : **Raricap (Forte/Liquid) Lysiron drops**

8. **Ferous Succinate:**

T.N. : **Hematrene**

9. **Pediadric Drops: Lysirol, Incremin, Siderplex, Fezocar**

10. **Carbonyl Iron:** 100 mg Cap

Dose : 100 mg OD

T.N. : **Safiron, Severon, Hbfast, Cofol-Z**

11. **Fe Hydroxide polymaltose complex:** 100 mg Tabs

Dose : 100 mg OD

T.N. : **Biofer, Epofer, Haem-up, Hepp forte, Orofer, Globac-PM, Ferich, Fegem, Jectocos**

12. **Sodium Feredetate:** 231 mg with Bplex

T.N. : **Feredate, Ferofast, Irex**

Note : Increases Bio-availability of Iron from diet.

Note:

1. All oral Iron Preparations stain the stools Black.
2. All Iron Preparations raise Hb by 1% every day, and 1 gm% per week. Continue treatment for 3 months to replenish stores.
Gastric irritation is minimal with ferrous fumarate.

2 J: Other Hematinics

1. **In combination with Ferric ammonium citrate in cap & syr. form.**

T.N. : **Globac, HaemUp, Homfer, Hepp forte, Hb-Rich, Dexorange**

2. **Erythropoietin:** Inj. 2000, 3000, 4000, 6000, & 10000 I.U.

Dose : 25 iu/kg IV x 3 times per week, Increase by 25 iu/kg every month

T.N. : **Epofer, Epox, Epotop, Zyrop**

Note : For Anemia due to CRF, or Bone marrow depression

2 K: Liver Extract

T.N. : Inj.: **Neo. Hepatex, Liver extract forte, whole Liver extract (10 ml vial)**

Syr : **Bayer's Tonic & Orheptal, Hepatoglobin, LivernutIron, Lederplex**

Cap : **Plastules-liver, Surbex- T**

2 L: Zinc

Zinc sulphate 61.8 mg per capsule giving 22.5 mg elemental Zinc.

1. **Zinc with Vit Bcomplex**

Cap : **Becozinc, Beplex-zee, Stress-ZN, Zenbex-T, Zevit, Optisulin, Cobadex-Z, Polyzee**

Syr : **Zevit**

2. **Zinc with Iron**

Cap : **Zinfe-SR, Ziferrin-TR, Livogen-Z**

Syr : **Hemozink**

3. **Zinc: 50 mg elemental Zinc Tabs**

Tab : **Dynazinc (Zinc Gluconate)**

Cap : **Zincolac (Zin Sulfate)**

Note:
Zinc is prescribed to improve cell mediated immunity in chronic illnesses, Diabetics, and for better wound healing.

2 M: Appetite Stimulants

1. **Cyproheptadine:** 2 mg, 4 mg Tab, 2 mg/5 ml syrup
   - Dose : 2-4 mg ½ hour before meals
   - T.N. : Tab: Apetone, Apenorm, Ciplactin, Peritol, Practin
   - Syr : **Ciplactin, Peritol, Practin**
     Syrup with Lysine: **Apetamin, Cepton, Apetone, Cyp-L, Cypon, Peritot-G, Practin-EN, Magnadyn.**
     with Tricholine: **Cydine, Cyp-L, Cypon-C, Cypon**
   - Note : Cyproheptadine only stimulates appetite. It is not a tonic. It may cause dryness of mouth, drowsiness & ataxia. Do not allow driving/working near moving machinery.

2. **General Tonics**
   - T.N. : **Altone, Bayer's tonic, Elsoma, Ferradol, Haliborange, Hemiphos, Hepatoglobin, JP Tone, Incremin, Lysatone, Neogadine elixir, Nervitone, Neurophosphates, Phosfomin, Raricap, Santevini, Repletone**

3. **Buclizine:** 50 mg Tabs, 25 mg/5 ml Syrup
   - Dose : 25-100 mg/day, half hour before meals
   - T.N. : **Longefene**
   - Note : H_1 Receptor antagonist

2 N: Traditional Tonics

1. **Ginseng:** 250 mg, 500 mg Tabs/Capsules
   - Dose : 1-2 Caps per day
   - T.N. : **Ginsec, Jensheng**
     With Vitamins: **Ambrosia, Biostar, Biovital, Revital (Cap & Liquid), Trinergic**
     With other plant extracts: **One Be, Renergy, Siotone, Winofit, Ginseng**
   - Note : Ginseng is a traditional medicine used to retard ageing process. It reduces fatigue, stress, and increases general resistance. It is used during convalescence from prolonged illness, debility, alcoholism etc. It is a Tonic for old age.

2. **Spirulina:** 500 mg
   - Dose : 1 gm BD × 2 mths. Then 500 mg BD × 2-4 mths
   - T.N. : **Eufit, Fitness11, Zirulina**
   - Note : Obtained from Marine Algae. Rich in proteins, Vitamins, Minerals & Anti-oxidants.

2 O: Anti-oxidants

a) **Combinations of Vit C and E, Betacarotene, Zinc, Selenium**
   - Dose : 1 Cap 1-2 times/day
   - T.N. : **Antoxid, Oxyvit, Ovista, Antoxyl Forte, Cardiovit, Cecure, Enfinity, Gardian, FRS, I-vit, Revup**
   - Note : Anti-oxidants are used for prevention of atherosclerosis, CAD, diabetes, delaying of cataract and macular degeneration.

b) **Levo carnitine:** 300 mg, 500 mg
   - Dose : 500 mg to 1 gm BD. For male infertility- upto 2 gm TDS
   - T.N. : **Carnitor, Lencar, Ree**

c) **Alpha Lipoic acid:** 100 mg Cap
   - Dose : 100-300 mg OD
   - T.N. : **Aladin, Lipocid, Resner**
   - Note : For Parkinson's Disease, Alzeimer

2 P: Gamma Linolenic Acid

- Dose : 1 Cap bd × 10 days before M.C.
- T.N. : **GLA-120**

2 Q: Electrolytes: Sachets

- T.N. : Electral, Relyte, Coslyte, Dextrolyte, Genlyte, Lelyte, Orfiz, Ricetral

3. ANALGESIC ANTI-INFLAMMATORY DRUGS

3 A: Analgesic: Anti-pyretic drugs

1. **Analgin (Metamizole):** 250 & 500 mg Tabs, 500 mg/ml Inj.
   - Dose : 500 mg 3-4 times/day For fever: 1-3 ml IM
   - T.N. : **Analgin, Novalgin**
   - Note : Analgin has 2 dangerous reactions - agranulocytosis, and in sensitive individuals - severe anaphylaxis.

2. **Aspirin:** 300 mg, 50 mg Tab (Acetyl Salicylic Acid)
   - Dose : For Pain: 300 mg 1 to 3 times/day
     As anti-platelet: 50-150 mg/day For Rheumatoid arthritis: 300 mg 1-2 tabs 3 times/day
   - T.N. : **Disprin, Micropyrin, Winsprin,** 50 mg = **ASA**
   - Note : It can cause severe Gastritis & Bleeding, Do not give to peptic ulcer

patients. Do not give to Children below 12 yrs.

3. **Paracetamol:** 500 mg Tab, 125 mg/5 ml syr (Acetaminophen)
   - Dose : 500 mg 1 stat to 2 tds
   - T.N. : **Crocin, Calpol, Predimol, Febrex, Dolo-650**
   - Inj. : **Mol, Febrex, Febrinil**
   - Note : Very safe drug. Most effective for fever.

4. **Combinations**
   - i) Analgin + Paracetamol: **Promalgin Tabs, Dolopar Tabs & syr, Paragesic, Zimalgin**
   - ii) Aspirin + Paracetamol: **Veganin**

5. **Propyphenazone:** 150 mg
   - Dose : 1-2 tabs 3 times/days
   - T.N. : **Anafebrin, Dart** (with paracetamol)

3 B: Analgesic Drugs

1. **Dextropropoxyphene:** 65 mg Tabs
   - Dose : 1 tabs 3-4 times/day

2. **Ketorolac:** 10 mg Tab, 30 mg in 1 ml Inj.
   - Dose : 20 mg stat + 1 Tab 4 times/day, Inj. = 2 cc IM stat + 1 cc 6 hrly
   - T.N. : **Dolac, Ketanov, Ketorol, Rorolac, Torvin, Zorovan, Zylac, Ketonic, Ketowin, Cadolac**

3. **Tramadol:** 50 mg in 1 ml Inj. (max 400 mg/day) IM/SC/IV, 50 & 100 mg Tab
   - Dose : 50-100 mg 1-4 times/day
   - TN. : **Contramal, Tramazac, Trasic**
     with Paracetamol: **ultracet, Trap (50 +500 mg)**

4. **Pentazocin:** 30 mg in 1 ml Inj., 25 mg Tabs
   - Dose : Oral: 1 tab 6 hrly. Inj. can be repeated 4 hrly
   - T.N. : Inj.: **Fortwin, Pentawin, Pentavon, Sosegan, Susevin**
   - Tab : **Fortwin, Sosegan,**
     With Paracetamol: **Fortacet, Fortagesic**

5. **Buprenorphin:** 0.3 mg/ml Inj., 0.2 mg sublingual tab
   - Dose : 1-2 ml IM/IV 6 hrly, 1 tab 6 hrly (maximum)
   - T.N. : Inj.: **Norphin, Pentorel, Tidigesic**
   - Tab : **Tidigesic, Norphin**

6. **Pethidine:** 100 mg in 2 ml Inj.
   - TN. : **Pethidine**
   - Note : Very effective Painkiller, But may cause addiction.

7. **Mophin:** 15 mg in 1 ml ampule. 10,30,60 & 100 mg Tabs
   - T.N. : **Morpin, Tab Morcontin**
   - Note : Very effective, but vomiting common, May cause Addiction.

8. **Fentanyl Citrate:** 50 µg/ml injection
   - Dose : 1-2 ml IM or Slow IV
   - T.N. : **Fendrop, Fenilate, Trofentyl**
   - Note : Opioid narcotic analgesic. Causes respiratory depression.

3 C: NSAIDs

1. Phenylbutazone & Oxyphenbutazone = Pyrazolones
2. Prionic acid derivatives: Ibuprofen, Ketoprofen, Flurbiprofen, Naproxen, Dexibuprofen
3. Indomethacin
4. Mefenamic acid
5. Diclofenac Sodium, Diclofenac Potassium
6. Piroxicam, Tenoxicam, Meloxicam, Lornoxicam
7. COX-2 Inhibitors: Nimesulide, Nabumetone, Celecoxib, Parecoxib, Etoricoxib

11. **Phenylbutazone: 100 mg,** 200 mg Tabs
    - Dose : 100-200 mg 3 times/day after food
    - TN. : **Zolandin, Zolandin Alka, Zolandin Inj., Algesin Inj., Esgypyrin-R Inj.**
      with paracetamol: **Actimol Parazolandin, parabutazone, Phenorin,**
      with salicylamide: **Algesin**
    - Note : Gastric irritation is marked. So stop the drug immediately if epigastric Pain. Combine with antacids or Ranitidine. Do not give for long periods.

12. **Oxyphebutazone: 100 mg** Tabs
    - Dose : 100-200 mg 3 times/day, after food
    - TN : **Jagril, Phenabid, Reparil,**
      With Paracetamol: **Flamar-P Tab & Syr,**
      With Analgin: **Algesin-O, Kentagesic, Kilpane, Oxalgin**
    - Note : Same as Phenylbutazone.

21. **Ibuprofen:** 200 mg, 400 mg, 600 mg Tabs 100 mg/5 ml Suspension
    - Dose : 400 mg 3 times/day
    - T.N. : **Bren, Brufen, Emflam, Fenlong, Ibuflammar, Ibugin, Norswel,**
      with paracetamol: **Combiflam, Carflam, Crocinibu, Duoflam, Emflam Plus, Febrafem, Fenceta, Flexon, Ibuclin, Ibuflammar P, Ibugesic Plus, Lederflam Plus, Zupar**

22. **Ketoprofen:** 50 mg Cap, 100 mg Controlled release caps. 50 mg/ml. Inj., 50 mg in 10 ml IV infusion

Dose : 50-100 mg 2 times/day, after food
T.N. : **Ostofen, Profenid, Profenid-CR**
Inj. : **Rhofenid. Rhofenid IM injection & IV infusion**
Local : **Ketopatch-Skin patch**

23. **Flurbiprofen:** 50 mg & 100 mg Tabs, 200 mg SR caps

Dose : 50-100 mg bd
T.N. : **Arflur, Furofen, Froben**
: **Arflur-SR, Froben-SR**

24. **Naproxen:** 250 mg Tabs

Dose : 250-500 mg 2 times/day after food maintenance = 250 mg HS
T.N. : **Nalyxan, Naprosyn, Movibon, Xenobid**

25. **Dex Ketoprofen:** 25 mg Tab

Dose : 25 mg TDS 1/2 hr before meals
TN : **Infen-25**

26. **Dex Ibuprofen:** 200 mg, 300 mg, 400 mg Tab

Dose : 200-800 mg OD
TN : **Brutek, Sibet**
with Paracetamol: **Sibet-P**

31. **Indomethacin:** 25 mg Cap. 75 mg-SR caps

Dose : 25-50 mg 3 times/day after food
T.N. : **Idicin, Indocap, Indocap-SR, Indoflam -TR, Microcid**
with Paracetamol: **Idicin-P**

41. **Mefenamic Acid:** 250 mg 500 mg, Tabs. 50 mg/5 ml syrup

Dose : 250-500 mg 3 times/day after food maximum 7 days
T.N. : **Mefril, Meftal 250/500/P, Ponstan Kapseals/Suspension, Pontx, Meflup**
With Paracetamol: **Meflup forte**
With Dicyclomine 10 mg: **Spasdic, Colitab-MF**
with Tranexamic acid: **Clip, Dubatran**

51. **Diclofenac Sodium:** 50 mg Tab 100 mg-SR Tab, 50 mg Dispersible Tab 75 mg in 3 ml Inj., local application Gel

Dose : 50 mg tds for 7 days, then 100 mg SR 1 daily
T.N. : **Dicloact, Diclomax, Diclomol, Diclonac, Dicloran, Difisal, Doflex, Jonac, Inac, Movonac, Naclo, Neodol, Ralexyl, Voveran,**
with Paracetamol: **Diclogesic, Dicloran-A, Relaxyl Plus**
with Serratiopeptidase: **Emanzen**

52. **Diclofenac Potassium:** 50 mg, 100 mg-SR Tab

Dose : 50 mg TDS
TN : **Delta-K, K-Nac, Neodol-K, Votaflam, Volini-SR**
With Paracetamol: **Anaida, Dicloact plus, Flammar-DP,**
with Serratiopeptidase: **Emanzen**

53. **Aceclofenac:** 100 mg Tab, 200 mg-SR, Inj. 150 mg/ml

Dose : 100 mg bd
T.N. : **Fico, Arflur-100, Affen, Aceclo, Signoflam-SR, Vorth-A, Zynac**
with paracetamol: **Aceclo plus, Dolokind plus, Affen plus**
Inj. : **Arflur, Hifenac, Zynac**
with Tizanidine, Chlorzoxazone, Serratiopeptidase: **Bestogesic MR, Nusaid MR, Emanzen**

61. **Piroxicam:** 10 mg, 20 mg Tabs, 20 mg Dispersible Tabs, 20 mg/ml Inj. local application Gel

Dose : 20 mg single dose daily. (40 mg for first 3 days)
T.N. : **Brexic, Dolonex, Piricam, Pirox, Toldin, Inflayan, Ecwin**

62. **Tenoxicam:** 20 mg Tab

Dose : 20 mg once/day
T.N. : **Tobitil**

63. **Meloxicam:** 7.5 & 15 mg Tabs

Dose : 7.5 to 15 mg OD
T.N. : **M-Cam, Mel-OD, Muvera, Rafree**
with paracetamol: **Melodol**
Note : Specific for rheumatoid arthritis and osteoarthritis. Selective COX-2 inhibitor. Safe in asthmatics and less gastric irritation.

71. **Nimesulide:** 100 mg Tab. 50 mg/5 ml Syrup

Dose : 100 mg × 2 times/day
T.N. : **Emsulide, Lupisulide, Nicip, Nimulid, Nimegesic, Nimind, Nise, Nimi-Rapitab**
Inj. : **Nimsaid, Nise, Nimulide**
with Paracetamol: **Emsulide-P, Nimegesic-P, Nimvista plus**
Note : Causes minimum Gastric irritation.

72. **Nabumetone:** 500 mg Tabs

Dose : 500 mg OD (in acute inflammation 500 mg tds)
T.N. : **Nabuflam**

Note : Selective COX-2 inhibitor. Less gastric irritation and safe in asthmatics.

73. Celecoxib: 100 & 200 mg Tabs. or Caps

Dose : 100-200 mg OD
T.N. : **Celact, Celecap, Cobix, Coxib, Orthocel, Revibra, Sionara, Zycel**
Note : For O.A. and R.A. Do not use in children & pregnancy.

74. Parecoxib: 40 mg in 2 ml Inj. – IM/IV

T.N. : **Praxib, Paroxib, Valdone-P, Vorth-P, Valz**

75. Etoricoxib: 80, 90, 120 mg Tabs

Dose : 60 mg OD, Acute Gout = 120 mg OD
T.N. : **Eldoflam, Etobrix, Etocox, Etoshine, Etozox**

81. Oxaceprol: 200 mg Cap

Dose : 200 mg bd/tds
T.N. : **Lupoxa**
Note : For Osteoarthritis pain.

99. Injectible NSAIDs

Diclofenac - **Voveran, Jonac, Diclonac, Diclofen**
Aceclofenac - **Arflur, Hifenac, Zynac**
Piroxicam - **Pirox, Dolonex**
Phenylbutazone - **Algesin, Zolandin**
Ketoprofen - **Rhofenid (IM/IV)**
Parecoxib - **Vorth 40 mg (IM/IV)**

3 D: Rubefacients

1. Methyl Salicylate: Ointment Methyl Salicylate. Combinations with menthol, eucalyptus oil, capsicum, mephenisin etc.: **Vicks, Amrutanjan, Iodex, Kilpane cream, Medicreme, Relaxyl oint. Arjet spray, Capsidol**
2. Phenylbutazone - **Flammar cream, Zolandin cream, Kilpane cream**
3. Diclofenac - **Voveran emugel, Diclonac Gel, Jonac Gel, Volini Gel/Spray**
4. Piroxicam - **Pirox Gel, Capsidol, Dolonex Gel, Felcam Gel, Proxym Patch**
5. Ibuprofen - **Ribufen Gel** with Paracetamol: **Melodol**
6. Nimesulide - **Emsulide Gel, NimegesicT Gel, Nimulid Gel, Nise Gel, Zolandin Gel**
7. Ketoprofen - **Rhofenid Gel, Ketopatch** (Transdermal patch)
8. Aceclofenac - **Micronac Gel, Valdone Gel, Zerodol Gel**

3 E: Anti-Inflammatory Enzymes

1. Serratio Peptidase: 5 mg, 10 mg Forte, Tabs

Dose : 5- 10 mg 3 times/day, after meal
T.N. : **Bidanzen, Bidanzen Forte, Kineto, Kineto Forte, Bio-suganril**
Note : Tablets must be swallowed without chewing.

2. Trypsin & Chymotrypsin: (6:1) 1 lac units Tabs

Dose : 1 Tab 4 times a day, half hour before meals
T.N. : **Alfapsin (sublingual), Chymoral forte, Soluzyme, Tendar**

3 F: Muscle Relaxants

Used for painful muscle spasms after trauma, contusion, inflammation, arthritis, dysmenorrhoea etc. in combination with NSAIDs.

1. Carisoprodol: 350 mg Tab

Dose : 1 tab 3-4 times/day
T.N. : **Carisoma, Carisoma compound** (with paracetamol)
Note : Do not give in children. Avoid long term use.

2. Methocarbamol: 500 mg, 750 mg Tab, 100 mg in 10 ml Inj.

Dose : 1-2 tabs 4 times/day. In Tetanus 2g I.V. 6 hrly
T.N. : **Robinax Tab & Inj.**
with paracetamol: **Robinaxol, Flexonol**
with Ibuprofen: **Robiflam, Ibugesic-M**

3. Chlorzoxazone: 250 mg, 500 mg Tabs (in combinations)

Dose : 250-500 mg 3-4 times/day
T.N. : **Parafon DSC**
with Paracetamol: **Brenlax, Duodil, Ibuflammar-MX**
with Diclofenac + Paracetamol: **Bufex-CD, Diclonac-MR, Doloban, Flammar-MX, Mofax, Oxalgin Plus, OsteoflamMR, Megadol-SP, Doloban**
with Ibuprofen: **Paraflax, Ibuflammar-MX**
with Acetaminophen: **Parafon**
with Nimesulide: **Sulbid-PC, Nicip-MR, Nise-MR**

4. Chlormezanone: 100 mg (in combination)

Dose : 100-200 mg 3 times/day
T.N. : **Beserol** (with Paracetamol), **Lobak** (with Ibu & paracetamol)

5. **Orphenadrine:** 35 mg Tab, 50 mg Forte Tab
   Dose : 35-50 mg 2-3 times/day
   T.N. : **Orphamol, Orphamol forte**

6. **Tizanidine:** 2 mg, 4 mg, and 6 mg SR Tabs
   Dose : 2 mg 3 times/day for 7 days with an NSAID
   T.N. : **Sirdalud, Tizan, Zatru**
   with Nimesulide: **Citanz, Zolandin-MR, Nimulid-MR, Emsulide-MR, Nicip-T**
   Note : Causes Drowsiness, Dry mouth.

7. **Baclofen:** 10 & 25 mg Tabs, 50 mcg/ml Inj.
   Dose : 10 to 75 mg/day
   T.N. : **Liofen, Lioresal**
   Note : For spasticity in cerebral palsy, multiple sclerosis, paraplegia etc. Also used for continuous hiccups. Dose should be tapered off.

8. **Thiocolchiside:** 4 & 8 mg Tab, Inj. 4 mg/2 ml
   Dose : 4-8 mg BD for 7 days
   TN : **Mobiwock, Thioact**
   With Diclofenac: **Thioact-D4**

9. **Tolperisone:** 150 & 100 mg Tab
   Dose : 50 – 150 mg tds, 5 mg/kg/day children
   T.N. : **Synaptol, Tolflex**
   Note : For Muscle spasticity & Spasm, centrally acting.

10. **Eperisone:** 50 mg Tab
    Dose : 50 mg tds
    T.N. : **Myosone, Skelact, Rapisone**

3 G: Other Anti-arthritic Drugs

1. **Glucosamine sulfate:** 500 mg Tab
   Dose : 500 mg tds × 3 mths, then 500 mg OD
   T.N. : **Cartilamine, Flextra, Lubrijoint**
   With chondroitin sulfate: **Carticare, Flexicaps, Osteocip, Ostofit**
   Note : Promotes cartilage biosynthesis, restores cartilage in osteoarthritis.

2. **Diacerein:** 50 mg Cap
   Dose : 50 mg OD after Dinner × 28 days, then 50 mg BD
   T.N. : **Diacer, Diasol, Hilin, Ostomod**
   With Glucosamine: **Diasten-GM, Dyserin-GM**
   Note : For osteoarthritis of Knee & Hip.

3 H: Drugs for Gout

1. **Allopurinol:** 100 & 300 mg Tab
   Dose : 100 mg OD to tds
   300 mg bd for Tophii
   T.N. : **Zyloric, Lodiric, Logout**
   Note : Also used with cancer chemotherapy to protect kidneys.

2. **Colchicine:** 0.5 mg Tab
   Dose : 2 stat, then 1 tab 2 hrly
   Till acute pain is controlled.
   : Maintainence = 1 tab daily
   T.N. : **Colchicindon, Coljoy, Zycolchin**

3. **Febuxostat:** 40 & 80 mg Tab
   Dose : 40 mg OD
   T.N. : **Fabuzest, Febumin**

4. **Probenecid:** 500 mg Tab
   Dose : 500 mg bd
   T.N. : **Benacid**

4. DRUGS FOR C.N.S.

4 A: Anti-Convulsants

4 A-A: Primary (First Line) Drugs

1. **Diphenyl Hydantoin:** 100 mg Tab, 50 mg/ml Inj.
   Dose : 1 to 2 tabs, 3 times/day
   T.N. : **Eptoin Tab & Inj.**
   Note : Same as Phenytoin

2. **Phenytoin Sodium:** 100 mg Tab, 25 mg/ml Suspension, Inj. 50 mg/ml
   Dose : 1 to 2 Tabs 3 times/day (5 mg/kg body wt/day)
   T.N. : **Dilantin (Tab & suspension), Eptoin, Epileptin, Epsolin**
   with Phenobarbitone – **Dilantin-P, Garoin, Phenytal, Epilan**
   Note : For grand mal & Temporal lobe epilepsy. Causes gingival hypertrophy - so instruct the patient to maintain Dental hygiene.

3. **Phenobarbitone:** 30 mg & 60 mg Tabs, 15 mg Tabs, 200 mg/ml Inj.
   Dose : 30 mg HS to 60 mg 3 times/day
   T.N. : **Gardenal, Luminal, Beetal (with Bplex)**

4. **Carbamazepine:** 200 mg Tabs, 100 mg & 400 mg Tabs 20 mg/ml syrup
   Dose : 200 mg Tabs 2 times/day up to 1200 mg/day
   Children - 20-30 mg/kg body wt/day
   T.N. : **Tegretol, Carbadac, Carbatol, Mazetol, Zeptol, Zen-200**

Note : Preferred in children, Prevents neurological deterioration. Also useful in Trigeminal Neuralgia, and Post-Herpetic Neuralgia. Use for Grand Mal & Temporal lobe epilepsy.

5. **Sodium Valproate:** 200 mg Tab, 200 mg/5ml syr
   Dose : 200 mg Tabs 3 times/day up to 2000 mg/day
   In children 20-50 mg/kg body wt
   T.N. : **Encorate, Valparin (Tab & Syr), Valprol, Epilex**
   Note : Broad spectrum anti-convulsant for Grand Mal, Petit Mal, Myoclonic & Focal epilepsy.

6. **Primidone:** 250 mg Tabs
   Dose : ½ HS to 2 HS
   T.N. : **Mysoline**
   Note : In the body, it is converted to phenobarbitone, use for Grand Mal, Focal seizures, Petil Mal, Myoclonic jerks.

7. **Ethosuximide:** 250 mg/5 ml syrup
   Dose : 250 mg/day (20-30 mg/kg/day)
   T.N. : **Sy. Zarontin, Syr. Ethosuximide**
   Note : For Petit Mal Epilepsy. May be combined with Gardenal/Eptoin.

8. **Trimethodione**
   Dose : 800 mg 1 to 2 caps 3 times/day
   T.N. : **Cap Tridione**
   Note : For Petit Mal Epilepsy.

9. **Lamotrigine:** 25, 50, 100 & 200 mg Tab
   Dose : 50 mg/day, upto 200 mg/day
   T.N. : **Lametec, Lamidus, Lamosyn, Lamitor**
   Note : Broad spectrum - All types of Epilepsy, in combination.

10. **Clonazepam:** 0.25, 0.5 mg, 2 mg Tab, 1 mg/ml Inj.
    Dose : 0.5 mg bd, upto 20 mg/day
    T.N. : **Clonotril, Lonazep, Epitril, Medclopam, Xenotril**
    Note : Atypical seizures, Myoclonic & Refractory Grand mal epilepsy.

10a. **Clobazam:** 5,10 & 20 mg Tab
    Dose : 5-20 mg/day
    T.N. : **Lobazam, cloba, Clodus, Solzam, Bazzy-5**
    Note : For refractory cases.

11. **Injectible Anticonvulsants:** for control of acute convulsions.

- Inj. Paraldehyde: 10 ml deep IM, (5 ml in each buttock); In children 1 ml/age in years
- Inj. Diazepam: 10 mg slow IV. (0.3 mg/kg/dose), may be repeated in 10-15 mins.
- Inj. Phenytoin: 100 mg in 2 ml ampule slow IV
- Inj. Gardenal: 200 mg/ml, 2 to 4 ml. IV (2.5-3 mg/kg)
- Inj. Lonazep 1 mg IV
- Inj. Fosphenytoin 75 mg/kg IV for Status Epilepticus

4 A-B: Add on Drugs

1. **Gabapentin:** 300, 400, 600 & 800 mg Tabs
   Dose : 300 mg OD upto 1.2 gm OD
   T.N. : **Gaba, Gabantin, Gabastar, Gabator** with Methylcobalamin: **Gabaneuron, Gabastar Plus, Gabator-M**
   Note : For Partial Seizures

2. **Levetiracetam:** 250, 500, 750 mg Tab
   Dose : 250 mg BD, upto 3 gm/day
   T.N. : **Epileve, Levipil, Levroxa, Torleva**
   Note : Partial onset seizures

3. **Divalproex:** 250, 500, 750 mg Tab
   Dose : 15-60 mg/kg/day
   T.N. : **Dayo-OD, Dicorate, Dilex, Dival Pro**
   Note : For Petit Mal, Grand Mal, Migraine

4. **Fosphenytoin:** Inj. 75 mg/ml, 2 ml & 10 ml amp
   Dose : 15 mg/kg IV
   T.N. : **Fosentin, Fosphen, Fosolin**
   Note : For Status Epilepticus

5. **Pregabalin:** 25, 50, 75, 150 mg
   Dose : 50 to 600mg/day
   T.N. : **Fibagin** with Methylcobalamin: **Gabafit**
   Note : Post-herpetic pain, epilepsy

4 A-C: Drugs for Partial Seizures

1. **Oxcarbazepine:** 150, 300, 450, 600 mg Tab
   Dose : 150 mg BD, upto 600 mg BD
   T.N. : **Lovax, Oleptal, Oxcarb, Oxeb, Oxetol, Trioptal**

2. **Zonisamide:** 25, 50, 100 mg Cap
   Dose : 50 mg BD, upto 200 mg BD
   T.N. : **Zonnicare, Zonisep, Zonit**

3. **Topiramate:** 25, 50, 100 mg Tab
   Dose : 25 mg OD, upto 50 mg BD
   T.N. : **Epitop, Nextop, Topamate, Topinil**

4 B: Anti-Migraine Drugs

For Acute Attacks

1. **Ergotamie Tartarate**: 1 mg Tab., 1 mg/ml injection
   - Dose : 2 Tabs sublingual at the onset of migraine, repeat 1 tab ½ hrly if necessary. (maximum 5 tabs)
   - T.N. : **Migranil, Vasograin** with Phenobarbitone: **Ergophen**
   - Note : Never exceed 5 mg in One day. Not for Prophylactic use. Do not give in pregnancy & elderly.

2. **Dehydro ergotamine**: 1 mg Tabs
   - Dose : 1-2 mg Tabs 3 times/day
   - T.N. : **DHE, Dihydergot**
   - Note : Also useful for Post-herpetic Pain.

3. **Sumatriptan**: 25, 50 & 100 mg Tabs 6 mg in 0.5 ml injs.
   - Dose : 50-100 mg stat & every 2 hrs. till migraine is controlled. Max = 300 mg/day.
   - T.N. : **Sumitrex, Suminat, Migratan S**

4. **Rizatriptan**: 5, 10 mg Tab
   - Dose : 10 mg stat, repeat after 2 hrs. Not more than 20 mg/day.
   - T.N. : **Rizact, Rizatan**

For Prophylaxis of Migraine

1. **Flunarizine**: 5 mg & 10 mg Caps
   - Dose : 10 mg OD
   - T.N. : **Nomigrain, Sibelium**
   - Note : For prophylactic use only. Also for vertigo.

2. **Clonidine**: 100 mcg Tabs
   - Dose : Upto 1 Tabs 3 times/day
   - T.N. : **Arkamine**

3. **Prochlorperazine**: 5 mg Tab
   - Dose : 5 mg OD to BD
   - T.N. : **Stemetil MD, Steminol**

4. **Propranolol**: (see 6A)
   - Dose : 20 mg 2 to 4 times/day

4 C: Anti-Parkinsonian Drugs

I. Atropine-like Drugs

These drugs have anticholinergic action, and reduce rigidity. They may cause dry mouth, urinary retention, tachycardia and glaucoma. They are very effective in Drug induced extrapyramidal symptoms (eg. siquil, stemetil, anti-psychotics).

1. **Biperiden**: 2 mg Tabs., 5 mg in 1 ml Inj.
   - Dose : 1 Tab 2 times/day. To 2 Tabs 3-4 times/day
   - T.N. : **Dyskinon**

2. **Orphenadrine**: 50 mg Tab
   - Dose : 50 mg 3 times/day. upto 400 mg/day
   - T.N. : **Orphipal, Disipal, Orphamol** (with Paracetamol)

3. **Procyclidine HCl**: 2.5 mg & 5 mg Tab
   - Dose : 2.5 mg 3 times/day upto 30 mg/day
   - T.N. : **Kemadrin**

4. **Trihexyphenidyl HCl**: 2 mg Tabs
   - Dose : 2 mg daily up to 5 tablets/day
   - T.N. : **Pacitane, Hixinal, Triphen, Parkin with Haloperidol: Combidol (1.5/5110), Hexidol, Trinorm** with Trifluoperazine: **Neocalm Plus, Parkin Plus, Tracine, Trinicalm Plus**

5. **Benztropine**: 0.5, 1 & 2 mg Tab
   - Dose : 0.5-2mg tds
   - T.N. : **Cogentin**
   - Note : Preventive use with anti-Psychotic drugs. Improves tremors.

II. Levodopa

Increases Dopaminergic activity in Basal Ganglia and controls Tremors & Akinesia. Its dose may be reduced by combining it with carbidopa or Benserazide. Do not give to patients with arrhythmias and Hypertension. It may cause psychosis, Hallucinations. Use for Idiopathic and postencephalitic Parkinsonism. (not for drug induced).

1. **Levodopa**: 500 mg Tabs
   - Dose : 250 mg daily, increase every 3 day upto 6-8 g/day
   - T.N. : **Bidopal, Eldopal, Levopa**

2. **Levodopa + Carbidopa**: (250 mg: 25 mg)
   - Dose : 1 Tabs 3 times/day. upto 7 tabs/day i.e. 1 Tab 3 hrly
   - T.N. : **Sinemet - 275, Syndopa - (110/275), Tidomet (Forte & L.S.)**

3. **Levodopa + Benserazide**: (100 mg: 25 mg) Capsules
   - Dose : 1 Cap 2 times/day, upto 4-8 cap/day
   - T.N. : **Benspar**

III. Dopamine Agonist Drugs

Given alone or in combination with Levodopa to reduce its dose.

1. **Bromocriptine**: 2.5 mg Tab
   Dose : ½ Tab. daily with meals upto 10 mg/day
   T.N. : **Proctinal, Serocryptine**

2. **Piribedil**: 50 mg Tab (Ref. 4G-5)
   Dose : 1 tab daily to 4 tabs/day with meals
   T.N. : **Trivistal L.A.**

3. **Ropinirole**: 0.5, 1, 2 mg Tab
   Dose : 0.5 mg OD
   T.N. : **Parkirop, Ropark, Ropitor**

4. **Pramipexole**: 0.5, 1, 1.5 mg Tab
   Dose: 0.5 to 1.5 mg TDS
   T.N.: **Parpex, Pramipex**

5. **Cabergoline**: 0.25 & 0.5 mg Tab
   Dose : 0.5-1 mg/week, upto 2 mg twice a week
   T.N. : **Cabgolin, Collete, Caberlin**
   Note : Also used for suppression of breast milk - 0.25 mg bd x 2 days

IV. *Other Drugs*

6. **Amantadine**: 100 mg caps
   Dose : 1 cap daily, maximum 2 caps/day
   T.N. : **Amantrel**
   Note : Releases Dopamine from Nerve endings.

7. **Selegiline**: 5 mg Tab
   Dose : 10 mg daily (1 tab with breakfast & lunch)
   T.N. : **Jumex, Selgin, Elegelin, Selerin**
   Note : Used alone or with Levodopa.

8. **Rasagiline**: 0.5 & 1 mg Tab
   Dose : 1 mg/day
   T.N. : **Azilect, Relgin**

4 D: Hypnotics & Tranquilisers

1. **Phenobarbitone**: 30 mg, 60 mg, 100 mg Tabs
   Dose : 60 mg at bed time, for epilepsy upto 80 mg/day
   T.N. : **Gardenal (30 mg, 60 mg), Luminal (30 mg, 100 mg) Luminalettes (15 mg)**

2. **Chlordiazepoxide**: 10 mg Tabs
   Dose : 10 mg at bed time, upto 4 tabs/day
   T.N. : **Librium, Equilibrium, Equibrom**
   with Trifluperazine: **Anxirid, Cynosleep**
   with Amitriptyline 25 mg: **Libotryp**

3. **Diazepam**: 2 mg, 5 mg, 10 mg Tabs, 10 mg in 2 ml Inj.
   Dose : 2 mg OD to 10 mg 4 times/day
   T.N. : **Anxol, Calmpose, Calmode, Dizep, Valium, Placidox (with B6)**
   Suspension – **Calmpose**
   Inj. : **Anxol, Calmpose, Dizep, P. Lori**

4. **Lorazepam**: 1 mg & 2 mg Tabs
   Dose : 1 to 4 mg/day maximum 10 mg/day
   T.N. : **Ativan, Calmese, Larpose, Lorazine, Lorvan, Trapex**

5. **Nitrazepam**: 5 mg & 10 mg Tabs
   Dose : 5 to 10 mg at bed time
   T.N. : **Dormin, Hypnotex, Nitrosun, Nitravet**

6. **Oxazepam**: 15 & 30 mg Tabs
   Dose : 15 to 30 mg HS to 30 mg 3 times/day
   T.N. : **Serepax, Serepax-30**

7. **Flurazepam**: 15 mg & 30 mg Caps
   Dose : 15-30 mg at bed time
   T.N. : **Fluraz - (15/30), Nindral**

8. **Alprazolam**: 0.25 mg, 0.5 mg & 1 mg Tabs
   Dose : 0.25 to 0.5 mg 3 times/day
   T.N. : **Alprax, Alzolam, Anxit, Restyl, Trika, Zenax, Zolam, Zola, Zoldac**
   with Sertraline 50 mg: **Alprax Forte, Alzolam Plus, Restyl Plus, Trika Plus**
   with Fluoxetine 20 mg: **Fludep Plus**
   with Melatonin 3 mg: **Alprax-T, Stresnil**

9. **Zopiclone**: 7.5 mg Tabs
   Dose : 1 Tab HS (max = 2 Tabs)
   T.N. : **Zopicone, Zopitran**

10. **Eszopiclone**: 1 & 2 mg Tabs
    T.N. : **Fulnite, Zolnite**

11. **Zaleplon**: 5 & 10 mg Tab
    Dose : 10 mg HS
    T.N. : **Silnite, Zalep, Zaplon, Zaso**

12. **Triclofos**: 500 mg/5 ml Syr
    Dose : 1-2 tsp dose. Infants – 25 mg/kg
    T.N. : **Pediclory!, Trichlory!**
    Note : Excellent sedative for children

13. **Zolpidem**: 5 & 10 mg Tab, 12.5 mg CR
    T.N. : **Nitrest, Zanlop, Zoldem, Nitrest CR**

14. **Etizolam**: 0.5 & 1 mg Tab, 1 HS
    T.N. : **Etirest, Etilaam**

15. **Midazolam:** Inj. 1 mg/ml & 5 mg/ml
Dose : 0.08 mg/kg IM
T.N. : **Fulsed, Midaz, Midosed**
Note : For IV Sedation, usually pre-anaesthetic use.

4 E: Major Tranquilisers (Anti Psychotics)

1. **Chlorpromazine:** 25, 50, 100 and 200 mg Tabs, 25 mg/ml inj.
Dose : 25 to 100 mg 3 times/day
T.N. : **Largactil, Emetil, Megatil, Sunprazine**
Note : For Schizophrenia, Acute mania, & intractable hiccups.

2. **Trifluoperazine:** 1 mg & 5 mg Tabs. 1 mg in 1 ml Inj.
Dose : 2-15 mg/day
T.N. : **Eskazine, Synconorm, Trazine, Trinicalm**
with Trihexyphenidyle: **Trinicalm Plus, Lacalm Plus, Synconorm Plus, Trazine H, Triphenazine**
with Trihexyphenidyl & Chlorpromazine: **Trinicalm Forte, Trazine -SC**
Note : Use for Hallucinations, delusions, schizophrenia.

3. **Haloperidol:** 0.25, 1.5, 5 & 10 mg Tabs 5 mg/ml inj.
Dose : 0.5 mg/day to 8 mg/day
T.N. : **Depidel, Halidol, Halori, Mindol, Senorm, Serenace, Trancodol**
with Trihexyphenidyl: **Haloplus, Hexidol, Mindol Plus, Trinorm**

4. **Thioridazine:** 10 mg, 25 mg & 100 mg Tabs
Dose : 10 to 200 mg/day (Schizophrenia Upto 600 mg/day)
T.N. : **Melleril, Melozine, Ridazin, Thioril**
Note : For schizophrenia, Manic, Thinking disorders, anxiety & depression.

5. **Fluphenazine:** 1 mg Tab & Inj.
Dose : 25 mg IM once in 2 wks
T.N. : **Anatensol, Anatensol Inj., Prolinate Inj.**

6. **Penfluridol: Flumap** 20 mg Tabs (up to 6 tabs/wk)

7. **Pimozide:** 2 & 4 mg Tabs
Dose : 2-8 mg/day
T.N. : **Larap, Mozep, Neurap, Orap, Primodac, Trib - 4**

8. **Trifluoperidol:** 0.5 mg Tab
Dose : 0.5 to 8 mg/day
T.N. : **Tab Triperidol** (Similar to Haloperidol)

9. **Thioproperazine** 5 mg Tab: **Majeptil**

10. **Flupenthixol Decaonate:** 0.5, 1, 3 mg Tab & Depot Inj. 20 mg/ml
Dose : 0.5-3 mg/day
T.N. : **Fluanxol, Exzilor, Forcalm, Restfull Inj. Fluanxol Depot** 1-2 ml IM every 2 Weeks

11. **Clozapine:** 25, 50, 100 mg Tabs
Dose : 25 mg tds to 200 mg tds
T.N. : **Lozapin, Leponex, Sizopin, Skizoril**
Note : For Resistant cases.

12. **Loxapine:** 10, 25 & 50 mg Caps, 25 mg/ml Syr
Dose : 10 mg BD to 50 mg tds
T.N. : **Loxapac, Loxapax**
Note : For Paranoid type Schizophrenia

13. **Olanzapine:** 2.5, 5, 7.5, 10, 15 & 20 mg Tab
Dose : 5-20 mg OD
T.N. : **Oleanz, Joyzol, JolyonMD, Olanex, Olexar, Psychozap, Tolaz**

14. **Quetiapine Fumarate:** 25, 50, 100 & 200 mg Tab
Dose : 100-400 mg/day
T.N. : **Q-mind, Placidin, Qutipin, Socalm**
Note : For aggressive Schizophrenia, anxiety, Delirium

4 F: Anti-Depressant Drugs

4 F-A: Tricyclic anti-depressants

11. **Imipramine**: 25 mg & 75 mg Tabs
Dose : 25 mg 3 times/day up to 300 mg/day for 6 months. Taper off over 1 month.
T.N. : **Antidep, Depranil, Depsol, Depsonil, Imipramine**
with Diazepam: **Trancodep, Prazep, Depsonil-DZ, Depsol Plus, Depranil Plus**
Note : For nocturnal enuresis, 25 mg at bed time for 3 months.

12. **Amitriptyline:** 10 mg, 25 mg & 75 mg Tabs
Dose : 10-25 mg 3 times/day, upto 250 mg/day
T.N. : **Amitone, Amiline, Eliwel, Quietal, Tridep, Tryptomer**
with Chlordiazepoxide (5 or 10 mg): **Amixide, Amitrol (DS), Libotryp (DS), Limbicon (Forte), Limbival**

13. **Doxepin**: 10 mg, 25 mg & 75 mg caps
    Dose : 10 mg 3 times/day upto 75 mg 3 times/day
    T.N. : **Doxetar, Doxin, Elevan, Exipeace, Spectra**

14. **Clomipramin**: 10 mg & 20 mg Tabs
    Dose : 25 to 100 mg/day, start 10-20 mg 3 times/day
    T.N. : **Anafranil, Clofranil, Clomifril**

15. **Dothiepin**: 25 mg & 75 mg Tab. (25 to 150 mg HS)
    T.N. : **Prothiaden**

16. **Loxapine**: 10 mg & 25 mg caps: **Loxapac**

17. **Nortryptyline**: 25 mg Tabs: **Primox, Sensival**

18. **Amoxapine**: 50 & 100 mg Tab, 50 mg BD to 100 mg TDS
    T.N. : **Ampine, Demolox**

19. **Trimipramine**: 10 mg, 25 mg Tab: **Surmontil, Versidep – 25**

4 F-B: S.S.R.I.: Selective Serotonin (5-HT) Reuptake Inhibitors:

1. **Fluoxetine**: 20 mg 3 caps
   Dose : 1 cap daily (maximum 3 caps/day)
   T.N. : **Fludac, Flufran, Nodep, Prodep, Trizac, Loftil**

2. **Sertraline**: 50 & 100 mg Tab, 20 mg/ml Syr
   Dose : 50 mg OD to 200 mg/day
   T.N. : **Asert, Daxid, Serdep, Serenata, Serlin, Zosert**
   with Alprazolam: **Serix-A, Sertagen Forte**
   Note : For Major Depression, Obsessive Compulsive Disorders.

3. **Citalopram**: 10, 20 & 30 mg Tabs
   Dose : 10 mg OD, to 40 mg OD
   T.N. : **Celica, Citadep, Citopam, C-Talo, Feliz, Ultidep**

4. **Escitalopram**: 5, 10 & 20 mg Tab
   Dose : 5-20 mg OD
   T.N. : **Articalm, Cilentra, Citofast, Esdep, Feliz-S, S-Citadep, Stalopam**
   with Clonazepam: **C-Pram-S Plus**

5. **Paroxetine**: 10, 20 & 40 mg Tab, 12.5 & 25 mg CR
   Dose : 20 mg OD, upto 50 mg OD
   T.N. : **Pari, Parotin, Pexep, Xet**
   Tab : **Parotin CR, Paxidep CR, Xet CR**

6. **Fluvoxamine Maleate**: 50 & 100 mg Tab
   Dose : 50 mg OD, Max- 300 mg/day
   T.N. : **Fluvater, Fluvoxin, Sorest**
   Note : For Obsessive Compulsive Disorders

7. **Duloxetine**: 20, 30, 40 & 60 mg Tab
   Dose : 20 mg BD to 60 mg/day
   T.N. : **Dulane, Dumore, Dulojay, Dulol, Duzac, Ulozet**
   with Mecobalamine 1500 mcg: **Dulane-M, Dumore-M, Duotop -20/30**
   Note : For Diabetic Peripheral neuropathic pain, Major Depression.

4 F-C: Other Drugs

1. **Lithium Carbonate**: 300 mg Tabs. 400 mg SR Tabs
   Dose : 300 to 1600 mg/day - in one or two divided dose
   T.N. : **Licab, Litbon, Lithium (S.R.), Lithocap, Lithocarb, Lithosun (S.R.)**

2. **Trazodone**: 25 mg, 50 mg & 100 mg Tabs
   Dose : 50 mg HS to Qid
   T.N. : **Trazodep, Trazonil, Trazodur S**

3. **Moclobemide**: 150 & 300 mg Tab
   Dose : 150 mg BD upto 600 mg/day
   T.N. : **Morex, Rimarex, Trima**
   Note : MAO Inhibitor, for Major Depression. Cannot be combined with other anti-depressants.

4. **Mianserin**: 10, 20 & 30 mg Tabs
   T.N. : **Tetradep, Seridac - 10**

5. **Milnacipron**: 25, 50 & 100 mg Cap
   Dose : 50 mg BD
   T.N. : **Milborn, Milnace**

4 G: Cerebral Activator and Protectors

These drugs improve cerebral microcirculation & Neurotransmission.

1. **Pyritinol**: Tab 100 mg, 200 mg, Suspension 100 mg/5 ml
   Dose : 100-200 mg tds for several weeks after C.V.A.
   In acute phase, Inj. 1 amp (200 mg) I.V. 12 hrly × 2-3 days
   T.N. : **Encephabol**
   Note : For use after stroke, Head Injury, Cerebral Hypoxia (as after cardiac arrest), senile cerebral dysfunctions

3. **Piracetam**: Cap 400 mg Syrup 500 mg/5 ml, Inj. 200 mg/15 ml or 800 mg in 60 ml
   Dose : 2 TDS. In acute stroke, 12 g IV injection over 20 minutes, till oral feeding starts.
   T.N. : **Normabrain, Piratam, Neuro-ce-tam, Nootropil**
   Note : Stroke, Mental retardation, Learning problems in children. Improves microcirculation & neurotransmission.

3. **Co-dergocrine Mesylate**: 1 mg Tabs, 0.3 mg in 1 ml ampoules
   Dose : 1-2 tds before meals
   T.N. : **Hydergine**
   Note : Stroke, loss of memory, confusion etc. Also used in prevention of migraine. Do not use in children.

4. **Nicergoline**: 30 mg Tabs
   Dose : 30 mg × 1-2 times/days
   T.N. : **Nicerbium, Dasovas**

5. **Piribedil**: 50 mg Tabs
   Dose : 1 tab daily with meals
   T.N. : **Ginkocer, Trivistal L.A.**
   Note : Dopamine effect, counters cerebral ageing symptoms. In Parkinson's disease, 1 to 4 tabs/day.

6. **Nimodipine**: 30 mg caps, Inj. 30 mg in 50 ml infusion
   Dose : 60 mg every 4-6 hrs for 21 days
   T.N. : **Nimodip, Nimotide, Vasotop** (Tab & Infusion)
   Note : Calcium channel Blocker, Prevents vasospasm after subarachnoid hemorrhage.

7. **Modafinil**: 100 & 200 mg Tab
   Dose : 200 mg OD in morning
   T.N. : **Modalert, Modapro, Provake**
   Note : CNS Stimulant for excessive sleepiness, Narcolepsy & Obstructive sleep apnoea. Used for Jetlag after international travel. - For Shift worker's sleepiness, 200 mg 1 hr before the shift.

8. **Ginkgo Biloba**: 40 mg Tab
   Dose : 40 mg tds
   T.N. : **Ginkocer, Ginkoba**

4 H: Drugs for Vertigo

1. **Prochlorperazine**: 5 mg Tabs, 12.5 mg/ml Inj.
   Dose : 5 mg 3 times/day. 1.5-2 ml IM injection
   T.N. : **Stemetil, Emidoxyn** (Ref. - IK)

2. **Cinnarizine**: 25 mg Tabs, 75 mg Forte Tabs
   Dose : 25 to 50 mg 3 times/day
   T.N. : **Cinzan (-75), Stugeron (-Forte), Vertigon (-75)**
   Note : Calcium channel blocker to arterial smooth muscles. Improves micro-circulation. Labyrinthine sedative. For motion sickness, give 25mg Tab 2 hrs before travel.

3. **Dimenhydrinate**: 50 mg Tab, 18.6 mg/5 ml Liquid
   Dose : 50 to 100 mg 3 times/day
   T.N. : **Dramamine, (Liquid), Gravol**

4. **Beta Histine HCl**: 8 & 16 mg Tab
   Dose : 8 mg 3 times/day up to 2 tabs 3 times/day
   T.N. : **Vertin, Balnase**

5. **Cyclizine HCl**: 50 mg Tabs
   Dose : 50 mg 1 to 3 times/day
   T.N. : **Marzine**

6. **Meclizine HCl**: 25 mg Tab
   Dose : 25 to 50 mg at bed time
   T.N. : **Pregnidoxin, Diligan** (12.5 mg with B6)

4 I: Drugs for Dementia/Alzeimer's

A: Acetyl cholinesterase inhibitors

1. **Donepezil**: 5, 10 mg Tab
   Dose : 5 mg HS, max 10 mg HS
   T.N. : **Donecept, Dopezil, Dorent, Donep**
   Note : For Early to severe - all stages of Alzeimer's.

2. **Galantamine**: 4, 8, 12 mg Tab, 8 mg SR
   Dose : 4 mg BD, to 12 mg BD
   T.N. : **Galamer, Galamer-OD**
   Note : Only for Early stages of Alzeimer's.

3. **Rivastigmine**: 1.5, 3, 6 mg Cap
   Dose : 1.5 mg BD to 6 mg BD
   T.N. : **Exelon, Rivadem, Rivasmine**

B: NMDA Receptor antagonist

1. **Memantine HCl**: 5 & 10 mg Tab
   Dose : 5 mg OD, Max - 20 mg/day
   T.N. : **Admenta, Mentadem, Demenzil** with Donepezil: **Donamem**
   Note : For Moderate to severe cases of Alzeimer's. Regulates Glutamate activity.

5. DRUGS FOR RESPIRATORY SYSTEM

5 A: Drugs for Cold

1. **These are various combinations of antihistaminic drugs, decongestants, Paracetamol, antipyretics, caffeine etc. They cause sedation, so caution for driving vehicles.**
   T.N. : Tab **Actifed, Coldarin, Cosavil, Dristan, Eskold, Febrex Plus, Ralcidine, Rhinolog, Rinostat, Sinarest, Sine-Aid, Sinus-77, Vikoryl, Sudafed, Refagan, Coldact**
   Syr : **Actifed Plus, Alex Syr, Pedia-3, Sinarest, Sneezy, Spicold**

2. **Cetirizine 10 mg + Pseudoephedrine 30 mg**
   T.N. : **Cetrifed-D, Cetriman-plus**

5 B: Anti-Histaminics

I. Older/Traditional Drugs (First Generation)

1. **Pheniramine Maleate:** 25 mg 2-3 times/day
   Tab : **Avil** (25/50/Retard (75)/Inj./Syrup), **Pheniramine Retard**
   Inj. : **Avil, Phencip**

2. **Chlorpheniramine maleate:** 4 mg Tab 3 to 4 times/day
   Piriton Tabs, D-Aler, and in combinations, cough formulas

3. **Dexchlorpheniramine Maleate:** 2 mg Tab 3-4 times/day
   Polaramine (Tab, Ped syrup)

4. **Dimethindene Maleate:** 1 mg Tab 3 times/day
   Foristal (Tabs, 2.5 mg Lontabs)

5. **Diphenhydramine HCl:** 25 mg & 50 mg tabs, 12.5 mg/5 ml syr
   Benadryl (Tab & Syr) Dimiril (Tab)

6. **Luvistin:** 20-40 mg 2-3 times/day
   Calciluvin (Dragees & syrup)

7. **Hydroxyzine:** 10 & 25 mg Tabs, 10 mg/5 ml Syr
   Dose : 25 mg 3-4 times/day
   T.N. : **Atarax**

8. **Methdilazine HCl:** 8 mg Tab 2 times/day
   Dilosyn syrup & Tab

9. **Phenylephrine HCl:** (with chlorpheniramine maleate)
   Cinaryl (T, Liq, drops), Salzine tabs

10. **Promethazine HCl:** 10 mg & 25 mg Tab, 5 mg/5 ml Elixir, Inj.
    Phenergan (Tab, Elixir) Promasun, combinations: **Tixylix, Phensedyl cough syrup**

11. **Triprolidine HCl** 2.5-5 mg 3 times/day
    Actifed Tabs (with pseudoephedrine)

12. **Trimeprazine Tartarate:** 10 mg Tab, 30 mg/5 ml syr
    Vellergan (Tab, Forte Syrup)

13. **Buclizine HCl:** 25 mg Tab 3 times/day after meals
    Longiphene (Tab & Syr)

14. **Loratadine: 10 mg** Tab once/day
    Lorfast (non-sedative)

15. **Embramine HCl:** 25 mg Tabs 1-2 tabs 3-4 times/day
    Mebryl

II. Newer Drugs

They have a lesser or minimal sedating effect as they do not cross blood brain barrier. Do not use in pregnancy and lactation, avoid in infants. Astemizole, Terfenadine are banned.

1. **Cetirizine:** 10 mg Tabs
   Dose : 10 mg OD
   T.N. : **Triz, Zirtin, Alerid, Cetiriz, Cetzine, Zyncet, Alday**
   Note : For urticaria, rhinitis (seasonal or perennial), Not for children below 6 years.

2. **Levocetirizine:** 5 mg Tab, 2.5 ml/5 ml Syr, OD
   T.N. : **1-Al, Allrite, Hicet-L, L-alerid, L-Cetrizet, Levorid, Starcet** with Pseudoephedrine: **1-Al Plus, CZ-L, Levorid-D, Hatric-2, Starcet-A** Plus Paracetamol: **Hatric-3, Levocold, Starcet cold**

3. **Clemastine fumarate:** 1 mg Tabs, 0.1 mg/ml suspension
   Dose : 1 tab bd (maximum 6 tab/day), 2.5 to 5 ml bd
   T.N. : **Tavegyl, Tavist**
   Note : Do not use in children below 1 yr

4. **Azatadine Maleate:** 1 mg Tab
   Dose : 1 mg 2 times/day
   T.N. : **Zadine Tabs**
   with pseudoephedrine: **Zadine-D, Zadine-DM**

5. **Mizolastine:** 10 mg Tab, OD
   T.N. : **Elina, Zehist**

6. **Rupatadine:** 10 mg Tab, OD
   T.N. : **R-2, Rupameg, Rupiz**

7. **Azelastine:** Nasal spray- 140 mcg/spray
   Dose : Once in each nostril OD
   T.N. : **Azep nasal spray, Duonase nasal spray**

8. **Rupatadine:** 10 & 20 mg Tab
   T.N. : **Rupameg, Rupanex, Rupahist**
   Note : For Allergic Rhinitis.

9. **Fexofenadine:** 30, 120 & 180 mg Tab, 30 mg/ml syr
   T.N. : **Allegra, Altiva, Allegix, Fegra**

10. **Ebolastin:** 10 mg Tab
    T.N. : **Ebolast**

11. **Embramine:** 25 mg Tab
    T.N. : **Mebryl**

5 C: Drugs for Cough

Cough remedies contain various combinations of the following drugs.

1. **Antitussives:** Codeine, Dextra methorphan, Noscapine, Ethyl Morphin, Phenoxdiazine
2. **Expectorants:** Ammonium chloride, Glycerine Guaiacholate, Carbocysteine
3. **Mucolytic:** Bromhexeine, Guaiaphenesin, Carbocysteine
4. **Decongestant/Antihistaminics:** Chlorpheniramine maleate, Diphenhydramine, Methdilazine, Mephyramine maleate

T.N.

1. **Antitussive:** (for non-productive cough)
   Codeine: **Banned**
   Noscapine: **Coscopin (Linctus/Plus/Paed), Ephedrex - N**
   Dextromethorphan: **Alex cough formula, Alex Lozenges, Grilinctus, Latuss LA syr, Zedex, Suppressa**

2. **Anti-Tussive Tablets:**
   Dextromethorphan: **Grilinctus softcaps, Alex cough lozenges**
   Benzonatate: **Benz Pearls**

3. **Expectorants:** (for productive cough)
   Avil expectorant, Benadryl cough formula, Clistin expectorant, Dilosyn expectorant, Eskold expectorant, Phensedyl expectorant, Piriton expectorant, Polaramine expectorant, Protussa Plus, Zeet expectorant, Tuspel

4. **Expectorants + Bronchodilator:**
   Asthalin Expectorant, Asthacure Exp., Benylin-E Exp., Tuspel Plus, Ventorlin Exp., Toxcof Exp.

5. **Expecto + Bronchodilator + Mucolytic:**
   Ambrolite-S, Ambrol Plus, Amol, Ascoril, Bricaline Plus, Brozedex, CZ Ex, LCF Cough Formula, Zephrol Syr, Toscof Exp., Tossex-AX, Viscodyne-S, Tusq-X

6. **Bromhexeine:** 8 mg Tabs, (mucolytic) **Bisolvon** (Tab & Expecto), **Bromhexeine** (Tab & Syr), **Respotab, Pulmorest**
   Combinations: **Ascoril, Cofdex Syr, Chestor Expecto, Cosome Expecto, Grilinctus BM, Mucaryl, Solvin Expectorant & Tab, Tuspel Plus, Zeecof, Zedex-P**

7. **Terbenthin:** 60 mg Tab, 12 mg/5 ml syrup
   T.N. : **Ozothine**
   Note : Hyperoxygenator - give 1 tds to patients of emphysema.

8. **Ambroxol:** 30 mg Tabs, 30 mg/5 ml syrup & Drops. Respules 15 mg/2 ml
   Dose : 1-2 bd
   T.N. : **Mucolite, Ambrodil, Acocontil, CoscopinBR**
   Note : For viscid & excessive sputum, Bronchitis, Bronchiectasis.

9. **Carbocisteine:** 375 mg Cap. Syrup 250 mg/5 ml
   Dose : 1-2 Cap tds
   T.N. : **Mucodyne**
   Note : For thick sputum in bronchiectasis, COPD, chronic bronchitis, sinusitis.

10. **Prenoxdiazine HCl:** 100 & 200 mg Tab
    Dose : 100-200 mg tds
    T.N. : **Prenoxid**
    Note : Peripheral action at bronchii, to suppress cough.

11. **Erdosteine:** 300 mg Cap, 175 mg/5ml Syrup
    Dose : 300 mg bd
    T.N. : **Erdomac, Erdozet**
    Note : For thick sputum.

12. **N-Acetyl Cystein** : 600 mg Tab, 200 mg/ml Solution
    Dose : 1 bd
    T.N. : **Mucomix, Mucinac**

5 D: Bronchodilator Drugs

1. **Adrenalin Injection:** 1:1000 in 1 ml
   - Dose : 0.5 ml subcut, may be repeated after 20 minutes
   - Note : Do not use in old persons, and if cardiac asthma is suspected.

2. **Aminophyllin Injection:** 250 mg in 10 ml ampule
   - Dose : 250 mg diluted to 20 ml in 25% glucose slow IV
   - Note : Aminophyllin causes tachycardia. It may be repeated after 10-15 minutes. In status asthmaticus, add 2 amps. aminophyllin to 5% dextrose and give slow drip.

3. **Salbutamol:** 2 mg & 4 mg Tab, 8 mg Sustained Action Tab, 2 mg/5 ml Syrup
   - Dose : 2-4 mg 3-4 times daily; 8 mg SA Tab - 1 HS or 1 bd (12 hrly)
   - T.N. : **Asthanil (T, SA, Sy, Inhaler), Asmanil (T), Bronkotab, Salbetol Tabs, Salburic Tabs, Ventomol (T, Sy), Ventorlin (T, Sy)**
     with Bromhexeine Expectorant: **Grilinctus - BM (T & Sy), Tuspel plus, Ventabrom Liq, Ventakof, Ventil B Tabs, Wintrel**
     with Guaiaphenesin expectorant: **Deletus-A, Ventil, Ventorlin expectorant.**

4. **Orciprenalin:** 10 mg Tabs, 10 mg/5 ml Syr, 0.5 mg/ml Inj.
   - Dose : 10-20 mg 4 times/day. Inj. 0.5-1 mg IM/subcut
   - T.N. : **Alupent (Tab, Sy & Inj.)**
     with Bromhexeine: **Bisolpent Syrup**

5. **Terbutalin:** 2.5 mg & 5 mg Tabs, 1.5 mg/5ml Syr, 0.5 mg/ml Inj. 5 mg & 7.5 mg sustained action durules
   - Dose : 2.5 to 5 mg 2-3 times/day. Inj. ½ to lee IM
   - T.N. : **Bricanyl (T, Sy, Inj., Durules), Brontaline (Tabs)**
     with Bromhexeine expectorant: **Bromenyl, Terpect Tabs**
     with Guaiaphenesin expectorant: **Bricarex - (Tab & Expecto), Bronkine - G Expecto, Tergil Syrup**

6. **Theophylline**
   - Dose : Upto 1 tds and s.o.s.
   - T.N. : **Cadiphyliate (250), Etophylate (150), Relasmin Elixir, TR Phyllin (125, 250)**
     Sustained Release: **Theolong (100/200), Theobid (200/300), Theo PA(100/300), Theo SR(200), Phylobid (200/300), Phyloday (400/600)**

7. **Theophyllin + Etophyllin:** 23 mg: 77 mg Tab
   - Dose : 1 tds and s.o.s.
   - T.N. : **Deriphyllin (T, Sy, Retard)**
   - Inj. : **Dericip, Deriphyllin, TR Phyllin**

8. **Doxophylline:** 400 & 800 mg Tab, 100 mg/5 ml Syr
   - Dose : 400 mg BD
   - T.N. : **Doxiba, Doxiflo-OD, Doxobid, Doxomax, Doxotec, Zordox**

9. **Acebrophyllin:** 100 mg Tab, 10 mg/5 ml Syr
   - Dose : 100 mg BD
   - T.N. : **AB Phyllin**

10. **Bambuterol HCl:** 10 & 20 mg Tabs, 1 mg/ml liquid
    - Dose : 10-20 mg OD in evening
    - T.N. : **Bambudil, Betaday**
    - Note : Beta-2 agonist, specially for emphysema.

Combinations

11. **Theophilin + Salbutamol:** 100 mg: 2 mg Tabs. or Syrup
    Bronchilet (T & Sy), Broncophyl Plus Tabs, Bronko Plus (T & Sy), SalburicTH (T), Vent (T, Forte, Liquid, PD)

12. **Etophyllin + Salbutamol:** 100 mg: 2 mg Tabs
    Etosalbetol (T), Salcomb-HET (T), Ventasmyl (T)

13. **Theophyllin + Terbutalin:** 100 mg: 2-5 mg Tabs
    Theobric, Theobric SR

14. **Theophyllin + Ephedrin + Pheno-barbitone:** 130: 2.4: 8 mg
    Tabs Tedral (Tab, Liquid, SATab), Franol Tabs, Asmapax Depot

5 E: Inhalers MDI or Rotacaps

I. Bronchodilators

1. **Salbutamol:** 100 Micrograms/dose
   - Dose : 1-2 puffs 3 to 4 times/day
   - T.N. : **Asthalin Inhaler, Asthalin Rotacaps, Salbair inhaler, Rheolin, Derihaler, Aerotaz inhaler, Aerovent**

2. **Terbutaline:** 0.25 mg/dose
   Dose : 1-2 puffs 3-4 times/day
   T.N. : **Bricanyl Inhaler**

3. **Isoprenalin:** 400 micrograms/dose. Inj. 2 mg/ml
   Dose : 1- 2 puffs at the onset of attack, may be repeated after ½ hour
   T.N. : **Autohaler**
   Inj. : **Isolin, Isopril**
   Note : For control of acute attacks. Not for maintenance. Avoid in Cardiac patients.

4. **Salmeterol:** 25 Micrograms/dose, Rotacaps = 50 micrograms
   Dose : 2 puffs bd
   T.N. : **Serobid inhaler, Salmeter inhaler, Azrol inhaler**
   Note : Do not use in children below 4 yrs.

5. **Ipratropium Bromide:** 20 Micrograms/dose
   Dose : 1 puff 2-3 times/day
   T.N. : **Ipravent inhaler & Respules, Ipratop, Ipneb**

6. **Levo Salbutamol:** 1 & 2 mg Tab, 100 mcg Rotacaps
   T.N. : **Levolin**
   With Beclomethasone: **Levair-B**
   with Ipratropium: **Levair-I**

7. **Tiotropium Bromide:** Inhaler & Rotacaps
   T.N. : **Tiova, Tiate, Tiotrop**
   with Formoterol: **Duova, Tiomate, Fomtrop, Triohale** (with ciclesonide)

II. *Steroid Inhalers*

1. **Beclomethasone:** 50, 100 or 200 Microgram/dose
   T.N. : **Beclate-50, 100 or 200, Beclate Rotacaps, Becoride, Bevent, Betafoam**
   Note : Systemic effects of steroids and steroid dependence are not observed with inhaled dose. So, safe for long term use.

2. **Budesonide:** 100 micrograms/dose
   Dose : 1-2 puff bd
   T.N. : **Budecort-100 inhaler, Budez, Budate, Budivent, Derinide, Pulmicort inhaler**

3. **Fluticasone:** Inhalers and Rotacaps 100 mcg/dose
   Dose : 1-2 puffs/day
   T.N. : **Flohale, Floease, Flutiflo, Ventiflo**

4. **Ciclesonide:** Inhaler 80/160 mcg, Rotacaps 400 mcg
   T.N. : **Ciclez, Ciclohale, Osonide**
   with Formoterol: **Osovair**

III. *Combinations*

1. **Salbutamol + Beclomethasone:** 100+50 mcg/dose
   Dose : 1-2 puff 3 to 4 times/day
   T.N. : **Aerocort Inhaler, Aerocort rotacaps, Aerotaz disc, Derisone, Salbair -B, Vent-Bec-100**
   Note : Use after need for inhaling both drugs is evaluated separately.

2. **Salmeterol + Fluticasone:** Inhaler/Rotacaps
   T.N. : **Seroflo, Serobid, Esiflo, Combitide, Combitide disk, Vent-SF**

3. **Formeterol + Budesonide:** Inhaler & Rotacaps
   T.N. : **Budamate, Foracort, Vent-FB, Fomtide**

4. **Salbutamol + Ipratropium:** 200 + 40 mcg
   T.N. : **Salbair-I, Duolin**

5. **Formeterol + Fluticasone**
   T.N. : **Combihale-FF**

6. **Formeterol + Beclomethasone**
   T.N. : **Duomate**

IV. *Preventive Inhalers*

1. **Sodium Cromoglycate:** 5 mcg/dose
   Dose : 2 puffs 4 times/day
   T.N. : **Fintal inhaler, Ifiral inhaler, Cromal-5 inhaler**

V. *Nebulising Solutions for Nebuliser*

1. Salbutamol 5 mg/ml: **Asthalin Respirator Solution**
2. Terbutaline 10 mg/ml: **Bricanyl Nebulising Solution**
3. Atropine, adrenalin & papaverin: **Brovon inhalant**
4. Ipratropium 250 mg/ml: **Ipravent respirator solution**
5. Ipratropium + Salbutamol: **Duolin solution**

VI. *Nasal Sprays*

For allergic rhinitis, spray once in each nostril, with head held upright, directed to lateral walls, protecting the eyes. Clean the tip (in boiling water) after use, and do not share the spray with anyone else.

1. **Azelastine HCl:** 10 ml solution with spray
   T.N. : **Azep nasal spray**

2. **Budesonide:** Steroid
   T.N. : **Rhinocort nasal spray**

5 F: Mast Cell Stabilizers

1. **Sodium Cromoglycate** inhalers (see above).

2. **Ketotifen:** 1 mg Tabs, 1 mg/5 ml syrup
   Dose : 1-2 mg twice daily
   T.N. : **Ketasma, Ketovent, Asthafen tab & syr, Zetiffen**
   Note : Give for 3 months and continue if effective. Can cause drowsiness. Interferes with oral hypoglycemic agents.

5 G: Leukotriene Antagonists

1. **Monteleukast:** 4, 5 & 10 mg Tabs
   Dose : 10 mg OD (2-5 yrs = 4 mg OD, 6-14 yrs = 5 mg OD)
   T.N. : **Montair, Ventair, Emuclast, Montek, Montelast, Telekast**
   with Bambuterol 10 mg: **Montair Plus, Telekast Plus**
   with Levocetirizine: **Montair-LC, Telekast-L**
   Note : For Prophylaxis. Useful for exercise induced Asthma.

2. **Zafirleukast:** 10 & 20 mg Tabs
   Dose : 20 mg bd. (5-12 yrs = 10 mg bd)
   T.N. : **Zuvair**
   Note : Preventive against inhaled allergens.

5 H: Respiratory Stimulants

1. **Doxapram: 5 ml vial, 20 mg/ml**
   Dose : 1 mg/kg slow IV
   T.N. : **Dopram, Caropram**
   Note : For Respiratory depression, induced by drugs or anaesthesia. Also during CPR.

6. DRUGS FOR C.V.S.

6 A: Anti Hypertensive Drugs

General: Reserpin, Methyl Dopa, Dihydralazine, Clonidine, Guanethidine
Beta Blockers: Propranolol, Atenolol, Metoprolol, Oxeprenolol, Pindolol, Labetol, Acebutolol, Esmolol, Carvedilol
Calcium Channel Blockers: Verapamil, Nifedipine, Amlodipine, Felodipine
Alpha Blockers: Prazocin, Terazocin, Doxazocin
ACE Inhibitors: Enalapril, Captopril, Lisinopril, Ramipril, Perindopril, Losartan potassium
Angiotensin II Antagonists: Losartan, Telmisartan, Candesartan, Valsartan, Olmesartan

6 A-I: General Drugs

1. **Reserpine:** 0.1 mg Tabs with Dihydralazine 10 mg
   Dose : 0.1 to 0.5 mg/day
   T.N. : **Adelphane, Genophane**
   With Hydrochlorothiazide: **Adelphane - Esidrex, Sarpalzino**

2. **Methyl Dopa:** 250 mg Tabs
   Dose : 250 mg 2-3 times/day up to 2 gm/day
   T.N. : **Alphadopa, Dopamet, Emdopa, Meldopa, Sembrina**

3. **Dihydrallazine:** 25 mg Tabs
   Dose : 12.5 mg-25 mg 2-3 times/day
   T.N. : **Nepresol**

4. **Clonidine HCl:** 100 mg Tabs
   Dose : 50 to 100 mcg 3 times/day
   T.N. : **Arkamin, Catapress**
   with Chlorthalidone: **Catapress-DIU**
   with HCTH: **Arkamin-H**
   Catapre Skin Patch 0.1 mg

5. **Guanethidine:** 10 mg, 25 mg Tabs
   Dose : 10 mg daily increase every wk
   T.N. : **Ismelin**
   Note : Moderate Hypertension Rena and of pregnancy. Avoid if recent infarction

6 A-II: Beta Blockers

1. **Propranolol:** 10 mg, 40 mg, 80 mg Tabs, 80 mg SR Tabs
   Dose : 40 mg 2 times/day upto 80 mg 3 times/day For angina 10 mg 3-4 times/day
   T.N. : **Ciplar, Inderal, Corbeta, Betacap**
   Sustained release: **Cardiolong, Betcap TR, Ciplar LA**
   with Hydrochlorothiazide: **Corbetazide, Ciplar-H, Betanol-D**
   with Dihydrallazine: **Baropress-H, Betazine**
   Note : Propranolol is nonselective Beta Blocker. It may cause broncho-spasm in asthmatics.

2. **Atenolol:** 25 mg, 50 mg & 100 mg Tabs
   Dose : 25 to 50 mg OD upto 200 mg/day
   T.N. : **Aloten, Altol, Atcardil, Atecor, Atelol, Aten, Atenova, Betacard, Catenol, Hipres, Lonol, Normole**

5. **Nitrendipine:** 10 and 20 mg Tabs
   Dose : 5 mg OD to 20 mg bd
   T.N. : **Cardif, Nitrepin**

6. **Lacidipine:** 2 & 4 mg Tab Once/day
   Dose : 2-6 mg/day
   T.N. : **Lacivas, Sinopil**

7. **Lercarnidipine:** 10 & 20 mg Tab Once/day
   T.N. : **Lotensyl, Lerva-SC**

8. **Cilnidipine:** 5, 10 & 20 mg Tab
   T.N. : **Cetanil, Nexovas, Cilacar**
   with Metoprolol: **Cetanil-M**
   with Telmisartan: **Cetanil-T**

6 A-IV: ACE Inhibitors

1. **Enalapril:** 2.5 mg, 5 mg & 10 mg Tabs
   Dose : 2.5 mg to 20 mg once daily. In CCF - 2.5 mg once daily
   T.N. : **Convertin, Envas, Enace, Enam, Enapril, Invoril, Normace, Nuril, Vasonorm, Vasopril, Viviril,**
   with Hydrochlorothiazide: **Enace-D, Enapril HT, Invozide, Envas-H**
   with Amlodipine (5+5 mg): **Amlogen-EL, Dilvas-AM**
   with Losartan: **Envas-RB**

2. **Captopril:** 25 mg & 50 mg Tabs
   Dose : 12.5 to 50 mg 2 times/day, For CCF upto 150 mg/day
   T.N. : **Aceten, Angiopril, Capotril**
   With Chlorthiazide: **Capotril -H, Acezide, Angiopril D.U.**

3. **Lisinopril:** 2.5 mg, 5 mg & 10 mg Tabs
   Dose : 2.5 mg Once daily upto 20 mg once daily
   T.N. : **Biopril, Cipril, Inras, Linvas, Lipril, Listril, Lisicard, Lisinace, Lisoril, Odace**
   with HCTZ: **Cipril-H, Lipril-H, Listril Plus, Lisoril-5HT**

4. **Ramipril:** 1.2 mg, 2.5 mg & 5 mg Tabs
   Dose : 2.5 to 10 mg once/day
   T.N. : **Ramace Tabs, Cardace, Cardiopril, Ecator, Prilace, Ramichek, Ramipres, Ramistar, Ramipril, Topril**
   with HCTZ: **Cardace-H, Cardiopril-H, Ecator-H, Ramace -H**
   with Amlodipine: **Ramistar-A, Rampril-AM, Topril-AM**
   Note : Used for Hypertesion & CCF.

5. **Fosinopril:** 10 & 20 mg Tabs
   T.N. : **Fosinace, Favas**

6. **Benazepril:** 5 & 10 mg Tabs
   T.N. : **Benace, Benace-BP (with Amlo), Benace-H (with HCTZ)**

7. **Perindopril:** 2, 4 & 8 mg Tabs, for CHF
   T.N. : **Coversyl, Eviper, Perigard**
   with Indapamid 1.25 mg: **Coversyl Plus, Perigard-DF**

8. **Imidapril:** 5 & 10 mg Tabs
   Dose : 2.5 to 10 mg OD, Long acting
   T.N. : **Tanatril**

9. **Quinapril:** 10 & 20 mg Tabs
   T.N. : **Aquapril, Q-Pres-H**

6 A-V: Alpha Blockers

For Hypertension & Enlarged Prostate

1. **Prazosin:** 1 mg, 2 mg, 5 mg Tabs
   Dose : 1 mg OD to 20 mg/day
   T.N. : **Prazopress, Minipress XL**

2. **Terazosin:** 1 mg, 2 mg, 5 mg Tabs
   Dose : 1 mg HS to 10 mg/day
   T.N. : **Hytrin, Olyster, Teralfa**

3. **Doxazocin:** 1, 2 & 4 mg Tab
   Dose : 1 mg HS to 8 mg/day
   T.N. : **Alfazocin, Doxacard, Duracard**

6 A-VI: Angiotensin II Antagonists

1. **Losartan:** 25 and 50 mg Tabs
   Dose : 25-100 mg, once daily
   T.N. : **Cosart, Losagard, Alsartan, Losacar, Losium, Tozaar, Zaart.**
   with Hydrochlorothiazide: **Alsartan-H, Losacar-H, Tozaar-H, Zaart-H**
   with Ramipril: **Tozaar-R, Loram, LR**
   with Amlodipine: **Alsartan-AN, Amlopres-Z, Tozam, Losacar-A**
   with Enalapril: **Arbitace, Envas-RB**
   with Atenolol: **Covance-AT, Losar-Beta, Repalol, Tozaar-ATH**
   Note : Once daily dose, less incidence of cough, reduces LDL cholesterol.

2. **Telmisartan:** 20, 40 & 80 mg Tab
   Dose : 20 to 80 mg OD, usually 40 mg OD
   T.N. : **Arbitel, Cresar, Telday, Teli, Telista, Telmichek-40, Telsartan**
   with HCTH 12.5 mg: **Arbitel-H, Cresar-H, Telday-H, Telsartan-H**
   with Ramipril: **Arbitel-R, Cresar-R, Telday-R, Telsartan-R**
   with Amlodipine: **Arbitel-AM, Tel-AM**

4. **Candesartan:** 4 & 8 mg Tab
   Dose : 8-32 mg/day, in 2 divided doses
   T.N. : **Candesar, Cantar, Candelong**
   with HCTH: **Candelong-H, Candesar-H**

4. **Valsartan:** 40, 80 & 160 mg Tab
   Dose : 20 to 80 mg OD
   T.N. : **Diovan, Valent, Valzaar**
   with HCTH: **Valent-H, Valzaar-H**
   with Ramipril: **Valent-R**

5. **Olmesartan:** 20 & 40 mg Tab
   Dose : 20 to 80 mg OD
   T.N. : **Olmat, Olmecip, Olmetor, Olmezest, Olsar**
   With HCTH: **Olmezest-H**
   With Ramipril: **Olmy-R**
   With Amlodipine: **Olmezest-AM**

6 B: Diuretics

1. **Frusemide:** 40 mg Tabs, 20 mg/2 ml Inj.
   Dose : 20 to 80 mg as single dose in mornings
   T.N. : **Lasix (Tab, Inj., 500 mg High Dose Tab) Kinex, Salinex, Frusenex**
   With Spironolactone: **Lasilactone -50, Fuselac, Spiromide Aquamide**
   With Triamterene: **Frusemene**
   With Amelcride: **Amifru-40, Frumil, Lasiride**

2. **Spironolactone:** 25 mg Tabs, 100 mg
   Dose : 25 to 100 mg/day
   T.N. : **Aldactone, Lactone**
   With Frusemide (see 6B-1)

3. **Chlorthalidone:** 100 mg Tabs
   Dose : 25 to 50 mg, 3 times/week
   T.N. : **Hythaltone**
   with Atenolol: **Tenoric (50/100)**
   with Clonidine: **Catapress DIU, Clothalon**

4. **Hydrochlorothiazide:** 50 mg Tabs
   T.N. : Aquazide, **Esidrex, Hydrazide, Xenia**
   Combinations with antihyper-tensives like Reserpine, Atenolol, Propranolol, Captopril, Metoprolol.
   with Ameloride 5 mg: **Biduret**

5. **Xipamid:** 20 mg Tabs. 1 to 3 tabs in morning
   T.N. : **Xipamid**
   with Propranolol: **Beta-Xipamid**

6. **Triamterene:** 50 mg 2 times daily up to 4 times/day
   T.N. : **Ditide** (with Benzthiazide), **Frusemene** (with Frusemide)

7. **Indapamide:** 2.5 mg Tabs: once daily
   T.N. : **Lorvas, Atrilix, Diuret, Natrilix**
   with atenolol: **Atelol-D**

8. **Clopamide:** 20 mg Tabs
   Dose : 5-20 mg once daily in the morning
   T.N. : **Brinaldix**

9. **Ameloride:** 5 mg with Hydrochlorothiazide 50 mg
   Dose : 1 to 1 tds
   T.N. : **Biduret, Biduret-L**

10. **Bumetanide:** 1 mg Tabs
    Dose : 1-4 mg/day
    T.N. : **Burnet**

11. **Torasemide:** 10, 20 & 100 mg Tabs, 10 mg/ml Inj.
    Dose : HT: 5-10 mg OD, For CCF: 10-20 mg OD
    T.N. : **Diurator, Dytor, Edeto, Retorlix, Tide, Toresa, Zator**
    with Spironolactone: **Dytor Plus, Retorlix-SP, Torlactone, Zator plus**

12. **Metolazone:** 2.5 & 5 mg Tabs OD or BD
    T.N. : **Diurem, Metoral**

13. **Bumetanide:** 1 mg Tab & Inj.
    I.N. : **Bumet**
    Note : For CCF & Acute Pulmonary Edema

14. **Acetazolamide:** 250 mg Tab
    Dose : 1 Tab OD to qid
    T.N. : **Diamox**
    Note : For Glaucoma & mountain sickness.

6 C: Potassium Supplements

Contain Potassium Chloride 500 mg/5 ml
T.N. : **Amkal, K-Grad, Kayciel, Keylyte, Pottnol, Potasol, Potklor**

6 D: Coronary Vasodilators

I. **Nitrates:** Glycerine Trinitrate, Isosorbide dinitrate, Isosorbide-Smononitrate, Tetranitrates, Nitroglycerine

II. **Calcium Channel Blockers:** Dilazep, Ditiazem, Nifedipine, Verapamil, Amlodipine, Felodipine, Nitrendipine

III. **Beta-Blockers:** Atenolol, Acebutolol, Metoprolol, Propranolol. (see 6A-6 to 11)

IV. Others: Oxyfedrin, Lidoflazine, Trimetazidine, Nicorandil, Dilazep

1. Glyceryl Trinitrate: 0.5 mg Tabs, Spray, Patch, Inj.

Dose : 0.5 mg Tabs every 3 minutes, till cessation of anginal pain. or 1 tabs prior to physical activity
T.N. : Sublingual Tab: **Angised, GTN, Nitrogard**
Tab : **Angispan-TR, N-long, Vasovin**
Spray : **GTN Spray pen, Nitrocin Lingual spray**
Oint : **Myovin 2%**
Skin patch: **Nitroderm TTS5, Top Nitro**
Inj. : **Nitrocin** (5 mg/ml), **NTG, Nitrocin, Nitroject**
Note : For Pulmonary edema, 1-2 Tabs every 5 minutes upto 5 Tabs. IV injection can be given in emergencies. Nitroderm T.T.S gives uniform drug levels for 24 hrs.

2. Isosorbide Dinitrate: 5 mg, 10 mg, 20 mg & 40 mg Tabs

Dose : 5-10 mg 4 times/day; For acute pain - 5-10 mg sublingual
T.N. : **Isordil (5/10), Sorbitrate (10 mg), Cardicap (10/20/40)**
Sustained release: **Isomack Retard, Sorbicap (20), Cardicap TR**
Spray : **Dinospray**
Note : Causes Headache in some patients - Change to mononitrate.

3. Isosorbide-5-Mononitrate: 10, 20 & 40 mg Tabs, SR Tabs-40/50/60

Dose : 20 mg 2 times/day
T.N. : **Ismo. 20, Isotrim, Monotrate, Monosorbitrate, Vasonit (10/20/30), Monit-20, Angitrit, Imnit, Angicor, Imdur**
Slow release: **Ismo retard 40, Isonorm SR 30, Monotrate SR 30, Vasotrate-OD, Vasonit-OD (30/60)**
with Aspirin: **Ecosmin, Monosprin, Solosprin, Vasoprin-LS**

4. Tetra Nitrates

Erythritil Tetranitrate: **Cardilate** 5 & 15 mg 15 mg 3 times before meals
Pentaerythritol Tetranitrate: **Peritrate SA** 80 mg 2-3 Tabs/day

5. Nitroglycerine: 2.5 mg caps, 5 mg/ml injection, 0.4 mg spray

Dose : 2.5 mg 2-3 times/day
T.N. : **Angispan (TR/SR), Nitromack Retard**
Spray : **GTN, Nitrolingual**
Inj. : **Millisrol, Myonit**
Transdermal Patch - **Nitroderm TTS (5 mg & 10 mg)**
Note : IV injection can be given in emergencies. Nitroderm T.T.S gives uniform drug levels for 24 hrs.

6. Dilazep: 100 mg Tabs

Dose : 50-100 mg 3 times/day
T.N. : **Cormelian**

7. Diltiazem: 30 mg & 60 mg Tabs, 90 SR Tabs. 5 mg/ml Inj.

Dose : 30 mg 3 times/day up to 240 mg/day
T.N. : **Dilcardia (Tab/SR), Dilgard (30/60), Dilgina (30/60) Diltime-SR (90/120), Dilzem (30/60/SR), engil (30/60), Masdil (30/60), Angizem, Inj. Dilzem**
SR Tab: **Angizem-CD (90/120/180), Dilgard-XL, Dilzem-CD, Masdil-OD**
Note : Potent coronary dilator, Mild fall in B.P, no bradycardia. Avoid if Heart Block, Bradycardia. with draw gradually, if stopped.

8. Oxyfedrin: 8 mg, 24 mg Tabs, 4 mg in 2 ml Inj.

Dose : 8-24 mg 3 times/day
T.N. : **Ildamen**
Note : In acute myocardial Infarct, 4-8 mg I.V. 6 hrly.

9. Lidoflazine: 60 mg Tabs, 1-6 tabs/day

T.N. : **Clinium**

10. Trimetazidine: 20 mg Tabs 3 times/day 60 mg SR

T.N. : **Cardimax, Carvidon, Flavedon-20, Trivedon**
SR Tab: **Cardimax-SR, Carvidon-OD**
Note : Has direct cytoprotective action on myocardium. No hemodynamic changes.

10A. Ranolazine: 500 mg Tab ER

Dose : Up to 2 bd
T.N. : **Caroza, Rancad, Ranolaz, Ranz, Revulant**

11. Nicorandil: 5 & 10 mg Tabs

Dose : 10 mg bd
T.N. : **Corflo, Nikoran, Korandil, Zynicor,** Nikoran-OD
Note : More suited for young patients Diabetics.

6 E: Anti-Arrhythmic Drugs

1. **Quinidine:** 200 mg Tabs
   - Dose : 200 mg 3 to 4 times/day
   - T.N. : **Quinidine, Natcardine (Phenyl ethyl Barbiturate of Quinidine - 100 mg Tabs)**
   - Note : Used for Atrial flutter & fibrillation, Supraventricular Tachycardia, Ventricular premature beats.

2. **Disopyramide:** 100 & 150 mg caps
   - Dose : 300 mg stat, Then 100 mg 6 hrly (upto 200 mg 6 hrly)
   - T.N. : **Norpace (100/150), Regubeat (T, Forte)**
   - Use : Ventricular extrasystoles, Atrial fibrillation & tachycardias, arrhythmias after myocardial infarction, or digitalis toxicity or surgery or WPW syndrome.

3. **Mexiletine:** 50 & 150 mg Caps, 250 mg in 10 ml Inj.
   - Dose : 600 mg stat, Then 200 mg 3-4 times/day
   - T.N : **Mexitil (Cap & Inj.)**
   - Use : Ventricular Arrhythmias, Particularly after myocardial Infarction. IV. slow injection 250 mg (10 ml) over 10 min. Then maintain 0.5 mg/min.

4. **Lignocain HCl** 20 mg/ml (2%) 5 ml, 30 ml & 50 ml vials
   - Dose : 5 ml slow IV. Bolus, Then 50 ml in 5% Dextose or N.Saline, Slow I.V.; Stop if ECG shows Bradycardia/A.V. Block
   - T.N. : **Gesicard, Xylocard Inj. 2%**
   - Use : Ventricular arrhythmias, & fibrillation after infarct, surgery, angio-graphy, digoxin toxicity etc.

5. **Procainamide HCl:** 250 mg Tabs, 100 mg/ml-10 ml vial
   - Dose : 4 tabs stat, 1-2 tab 4 hrly
   - T.N. : **Pronestyl (Tab & Inj.)**
   - Use : Atrial fibrillation, P.A.T., S.V.T., Ventricular premature beats.

6. **Amiodarone:** 100 mg & 200 mg Tabs
   - Dose : 200 mg 3 times/day for 1 wk. Then reduce gradually to 200 mg/day
   - T.N. : **Aldarone, Cardarone (100), Cardarone-X**
   - Use : WPW Syndrome, Atrial fibrillation & tachycardias not responding to other drugs.

7. **Propafenone HCl:** 150 mg Tabs
   - Dose : 150 mg 3 times/day, upto 300 mg 3 times/day
   - T.N. : **Rhythmonorm.**
   - Use : Arrhythmias in WPW syndrome.

8. **Verapamil: Isoptin/Calaptin** (Ref. 6A)
   - Use : Tachycardias like SVT, AF.

9. **Betablockers:** Ref. 6A: Particularly Thyrotoxicosis
   - Acebutolol: 200 & 400 mg Tabs: **Sectral**
   - Sotalol: 40 & 80 mg Tabs: **Sotagard**

10. **Adenosin:** 3 mg/ml Inj. 2 & 10 ml vial
    - T.N. : **Adenoject, Adenocor**
    - Dose : 3 ml Rapid IV, Repeat after 2 min for Paroxysmal SVT

6 F: Anti-Thrombotic Drugs

1. **Aspirin (low dose):** 50 mg & 75 mg Tabs, and in combination with Dipyridamole
   - Dose : 50-100 mg/day
   - T.N. : **ASA-50, Loprin-75, Loprin-DS, Disprin CV 100, Nusprin**
     Enteric coated: **E-Sprin (325mg), Ecosprin (75/150)**
   - Note : For prophylaxis against cerebral thrombosis, TIA, coronary thrombosis, after Bypass surgery Remember the risk of GI hemorrhage and avoid in cases of peptic ulcer.

2. **Dipyridamole:** 25 mg 75 mg & 100 mg Tabs/dragees (Less used now)
   - Dose : 25 to 75 mg/day
   - T.N. : **Cardiwell, Dynacard, Persantin, Plagerine-100, Thrombonil**
     with Aspirin: **Cardiwell Plus, Dynasprin Enco, Plagerine-A Thrombosprin**
   - Note : Standard drug after cerebral thrombosis, myocardial Infarct, unstable angina, Bypass surgery.

3. **Ticlopidine HCl:** 250 mg Tabs
   - Dose : 250 mg 2 times/day
   - T.N. : **Ticlopid, Ticlogard, Ticlovas, Tyklid**
     with Aspirin: **Taspin**
   - Note : Same indications, prevents platelet aggregation.

4. **Clopidrogel:** 75 mg Tab
   - Dose : 75 mg OD
   - T.N. : **Clopicard, Clopirad, Noklot, Plagril,**

Stromix, Torplatt, Clopivas
75 & 150 mg: **Clopilet, Clopitab, Deplatt**
with Aspirin: **Clopitab-A, Clopitor-A, Deplatt-A, Stromix-A**

Note : Indicated in recent M.I., Thrombotic Stroke, & P.V.D.

4a. Prasugrel: 5 & 10 mg Tab

Dose : 10 mg OD
T.N. : **Prax**

5. Cilostazol: 50 & 100 mg Tabs

Dose : 1 bd on empty stomach
T.N. : **Pletoz**
Note : Specific for Intermittent Claudications.

6. Tirofiban: 5 mg in 100 ml infusion, for impending M.I.

T.N. : **Cilodac, Pencil, Pletoz**

7. Trapidil: 100 & 200 mg tabs

T.N. : **Trapilet**

Fibrinolytic Drugs

11. Streptokinase: 750,000 iV, 250,000 IV

Dose : Acute myocardial Infarct-2,50,000 to 1500,000 iu I.V. as early as possible
T.N. : **Streptase (2.5 & 7.5 lacs), Kabikinase (7.5 & 15 lacs iu)**
Note : Should be given within 6 hrs of onset of myocardial infarct in a drip over 1 hr. Efficacy after 24 hrs is doubtful.

12. Urokinase: 50,000, 2.5 lacs & 5 lacs iu per vial

Dose : 1000 to 4500 iu/kg IV
Myo Infarct: 5 lacs IV in slow Bolus, followed by 2.5 lacs in drip over 6 hrs.
T.N. : **Urokinase, Ukidan** (1 & 5 lacs iu/vial)
Note : Also used for pulmonary embolism, Deep vein thrombosis.

6 G: Anti-Coagulant Drugs

1. Heparin: 1000 iu & 5000 iu/in 5ml vial

Dose : 5000 iu to 10,000 iu I.V. STAT (LOADING DOSE); Then 1000 iu/hour, for 5-6 days. Control Partial Thromboplastin Time to 1.5 to 2.5 times normal, clotting Time should not exceed 12 min.
T.N. : **Beparine Inj., Caprin, Heparin**
Note : Contraindicated in cases with recent surgery, Peptic ulcer, Bleeding tendencies, uncontrolled Hypertension. If bleeding occurs, give Inj. Protamine sulfate (1 mg for 100 iu of heparin), maximum 50 mg slow IV. over 10 minutes.

2. Low Molecular Weight Heparins

i) Reviparin: **Clivarine**
ii) Dalteparin: **Fragmin, Dalpin**
iii) Enoxaprin: **Clexane, Grefac, Lupenox, LMWX**
iv) Nadroparin: **Fraxiparine, Nadroparine**
v) Others: **Fluxum, Troparin**

3. Warfarin Sodium: 1, 2 & 5 mg Tabs

Dose : 5 to 15 mg Tabs, To maintain prothrombin time 2½ times normal. Start with 10 mg tds on 1st day Onset of action after 3 days.
T.N. : **Uniwarfin, Warf**
Note : Overlap Heparin & warfarin for 5 days, then stop Heparin & maintain with warfarin. If bleeding occurs, Give Inj. Vit K.

4. Phenindione: 50 mg Tabs

T.N. : **Dindevan**
Note : Colours the urine red. If hemorrhage occurs, give Inj. Vit K.

5. Acenocoumarol: 1 mg & 4 mg Tabs

Dose : 1-4 mg/day, to maintain Prothrombin time 2½ times normal.
T.N. : **Acitrom**

6 H: Hemostatic (Coagulant) Drugs

1. Adrenochrome: 1 or 5 mg IM injection in 2 ml

i) Inj.: **Stryptochrome, Stryptocid, Chromostat, K-Stat**
ii) Tab: (With vit C, Calcium etc.) **Stryptovit, Stryptocid, Styptomet, Siochrome**

2. Epsilon Amino Caproic Acid: 250 mg, ml 20 ml vial, I.V. in drip

Inj. : **Hemocid, Caprostat**
Tab : **Hemocid (500 mg)**

3. Calcium Gluconate: 10 mg/ml 10 ml vial IV

Note : Calcium injection is always given when bleeding tendency is noted, and combined with Inj. Dicynere, Rivid etc.

4. Ethamsylate: 250 mg & 500 mg Tabs, 250 mg/3 ml Inj. IM/IV

Dose : 500 mg 4-6 hrly
Inj. : **Dicynene, Ethamcip, Ethasyl, Hemsyl, Sylate, Themisylate**
Tab : **Dicynene, Ethamsyl, Sylate**
With Tranexamic acid: **Sylate-T, Trapic-E**
Note : For control of capillary haemorrhage.

5. **Conjugated Estrogens**
   Inj. : **Premarin** 25 mg vial with 5 ml diluent
   Dose : 1 vial IM or slow IV. 6-12 hrly

6. **Rutin + Ascorbic Acid + Menadione + Calcium etc.**
   Tab : **C.K.P, Cadisper.C, Stryptocid, Kerutin-C, Clot**

7. **Citrous Biflavonoid Co + Vit C**
   Tab C.V.P., Tab Daflon 500,
   Tab Gynae-CVP (with Vit K, Iron & Calcium)

8. **Diosmin:** 150 & 300 mg Tabs
   Dose : 300 mg 2 times/day
   For Piles - 600 mg 3 times/day for 3 days
   T.N. : **Venusmin (150/300), Daflon - 500, Venex**
   Note : Increases venous tone. Used for piles, varicose veins, DUB.

9. **Hemocoagulase:** 1 Thrombin unit/ml ampule
   Dose : 1 ml IV/IM/SC/Local
   T.N. : **Reptilase**

10. **Botropase:** 1 ml Inj. IV

11. **Calcium Dobesilate:** 500 mg Cap
    Dose : 500 mg OD/BD
    T.N. : **Dobest, Dobilet, Doxium 500 Ointment for piles**

12. **Phytomenadione:** 1 mg Inj., 10 mg Tab
    T.N. : **Kenadion, Injek**
    Note : For Deficiency of Vit K and Factors II, VII, IX, X

13. **Menadione – Vit K:**
    T.N. : Tab **Cadisper-C, Gystat, Stypindon**
    Inj. : **Stypindon, Kapilin**

14. **Tranexamic acid:** 250 & 500 mg Tabs
    T.N. : **Dubatran, Tranarest, Tranemic, Trapic**
    With Mephenamic acid: **Dubatran -MF, Tranarest-MF, Trapic-MF**
    Note : For DUB and Gynaec bleeding.

15. **Feracrylum:** Topical Gel/solution 1%
    T.N. : **Hemolok, Sepgard, Uniheal**
    Advise: For Bleeding Piles: Tab Diosmin
    For DUB & Menorrhagia: Tab Gynae CVP, Ethamsylate, Tranexamic acid

6 I: Peripheral Vasodilators

1. **Xanthinol Nicotinate:** 150 mg Tabs, 300 mg in 2 ml Inj. IM/IV
   Dose : 300-600 mg 3 times/day
   T.N. : **Complamina (Inj., Tab, Retard 500 mg Tabs)**
   Note : For P. V.D. claudications & cerebral thrombosis.

2. **Pentoxiphyline:** 400 mg SR Tabs, 300 mg in 15 ml amp
   Dose : 400 mg 2-3 times/day after meals. IV Slow infusion in N. Saline tds.
   T.N. : **Tab & infusion Flexital, Flow-pent, Kinetal-400, Phentofyl, Trental-400**
   Note : For P.V.D., atherosclerosis, cerebral thrombosis.

3. **Nylidrin HCl:** 6 mg Tabs, 6 mg/ml 5 ml vials
   Dose : 3-12 mg 3-4 times/day
   T.N. : **Arlidin**

4. **Isoxsuprine HCl:** 10 mg Tabs, 10 mg in 2 ml Inj. IV/IM
   Dose : 20 mg 3-4 times daily in acute phase. maintenance - 10 mg 3 times/day
   T.N. : **Duvadilan (Tab, 40 mg Retard tab, Inj.), Tidilan (Tab, Inj.), Suprox (Tab SR, Inj)**

5. **Cyclandelate:** 200 mg & 400 mg Tabs
   Dose : 200-400 mg 3 times/day
   T.N. : **Cyclasyn, Clendal, Cyclospasmol**

6. **Cilostazol:** 50 & 100 mg Tab
   Dose : 100 mg ½ hr before meal
   T.N. : **Pletoz, Cletus**
   Note : For Intermittent Claudications.

6 J: Cholesterol Lowering Agents

I. Drugs To Retard Cholesterol absorption

1. **Psyllium Husk Fiber**
   Dose : 1-2 tsp in water 1-2 times a day
   T.N. : **Isovac**
   Note : Also used to treat constipation.

2. **Ezetimibe:** 10 mg tab
   Dose : 10 mg OD
   T.N. : **Ezedoc, Ezetib, Ezentia, Ezibloc, Zetica, Zeteze**
   Note : Inhibits intestinal absorption of Cholesterol.

3. **Gugulipid:** 25 mg Tab
   Dose : 25 mg TDS after meals
   T.N. : **Guglip**
   Note : Prevents biosynthesis of cholesterol.

II. Statins

1. **Atorvastatin:** 10 mg, 20 mg Tabs
   Dose : 10-80 mg/day, single dose at night
   T.N. : **Atchol, Atocor, Atorec, Atorlip, Atorva, Aztor, Lipikind, Ldtor, Lipira, Lipvas, Tonact, Zivast**
   with Aspirin: **Atoplus, Atchol-asp, Aztor-asp, Tonact-asp**
   with Ezetimbe: **Atcor-E, Atorlip-EZ, Atorva-E, Lipivas-EZ, Tonact-EZ**
   with Fenofibrate: **Atocor-F, Lorilip, Storfib, Zivast-F**
   with Amlodipine: **Amditor, Storvas-AMF**

2. **Simvastatin:** 5 mg, 10 mg, 20 mg Tabs
   Dose : 10-40 mg HS
   T.N. : **Simcard, Simchol, Simvotin, Zosta**
   with Ezetimbe: **Simcard-EZ**
   with Nicotinic acid: **Simvotin-N**

3. **Lovastatin:** 10 mg, 20 mg Tabs
   Dose : 10-80 mg HS
   T.N. : **Aztatin, Lostatin, Lovadac, Lovastat, Lestric, Lovacard, Lovex, Rovacor**

4. **Rosuvastatin:** 5 mg, 10 mg, 20 mg Tabs
   Dose : 10-20 mg HS
   T.N. : **Novastat, Rostan, Rosuvas, Rovalip, Rozucor**
   with Ezetimbe: **Rozawel-EZ**

5. **Pravastatin:** 10 mg, 20 mg Tabs
   Dose : 10-40 mg HS
   T.N. : **Pravator, Prastatin**

6. **Cerivastatin:** 0.4 & 0.8 mg Tab: **Seriva**

7. **Pitavastatin:** 1 & 2 mg Tab: **Flovas, Pitava**

8. **Fluvastatin**

III. Fibric Acid Derivatives

1. **Gemfibrozil:** 300 & 600 mg Tab
   Dose : 600 mg BD ½ hr before meals
   T.N. : **Gempar, Lipigem, Lopid, Normolip**

2. **Benzafibrate:** 200 mg & 400 mg-R Tab
   Dose : 200 mg TDS, Less if renal failure
   T.N. : **Benzalip**

3. **Fenofibrate:** 200 mg Cap, 160 mg Tab
   Dose : 200 mg OD
   T.N. : **Fenolip, Fibmate, Finate, Lipicard, Stanlip**

IV. Nicotinic Acid

1. **Nicotinic Acid:** 500 mg Tab
   Dose : 500 mg 1-4 per day
   T.N. : **Nialip, Nicocin, Neasyn-SR**

6 K: Cardiotonic Drugs for CHF

1. **Digoxin**: 0.25 mg Tab 0.05 mg/2 ml Inj.
   T.N. : **Cardioxin, Digoxin, Lanoxin, Dixin**
   Syr : **Digoxin Paed, Digosyp**
   Inj. : **Cardioxin, Digoxin, Dixin**
   Note : Low output CHF, Atrial fibrillation or flutter, SVT.

2. **Amrinone:** 10 mg/ml Inj. IV
   Dose : 0.75 mg/kg
   T.N. : **Amicor, Cardiotone**

3. **Milrinone:** 10 mg/10 ml IV Inj.
   Dose : 0.5 mg/kg
   T.N. : **Milicor, Milron**

Drugs to raise B.P.

1. **Dopamine:** 200 mg/5 ml Inj.
   Dose : 5-20 mcg/kg/min
   T.N. : **Domin, Dopacard, Dopar**

2. **Dobutamine:** 250 mg vials
   Dose : 5-15 mcg/kg/min
   T.N. : **Cardiject, Dobicard, Dobustat, Dobutrex**

3. **Mephentermine:** 15 & 30 mg/ml
   T.N. : **Mephentine, Termin**

7. DRUGS FOR INFECTIONS & INFESTATIONS

7 A: Antibiotics & Antibacterials

1. **Sulpha group**

a) **Sulfadiazine with Trimethoprim:** (400 mg + 80 mg) or DS = 800 mg + 160 mg; or suspension = 200 mg + 40 mg per 5 ml
   Dose : 1 × 2 times × 5-10 days
   T.N. : **Aubril (D.S.)**
   Note : Used in Respiratory infections, Urinary & skin infection, ENT, Gonorrhoea. Many patients are sensitive to sulpha & develop black patches on skin (F.D.R.), Itching etc.

b) **Sulfamethoxazole with Trimethoprim:** 400 + 80 mg or suspension 200 mg + 40 mg per 5 ml, or DS = 800 mg + 160 mg

T.N. : **Bactrim (T, S, DS), Ciplin (T, DS), Comsat (T, S, DS), Kombina (T, S, Forte) Oriprim (Ds, S, Inj. 1M/IV), Otrim (T,S), Septran (T, S), Stan (T, Kid), Synastat (T,S) Trisulfos (T,S) Ultrox (T,S, DS)**

c) **Trimethoprim:** 100 mg Tabs

T.N. : **Tulprim, Baktar**

2. **Chloramphenicol:** 250 mg & 500 mg caps, 125 mg/5 ml suspension, 1 gm Injection

Dose : 250-500 mg 4 times/day (25 to 50 mg/kg wt/day)

T.N. : **Chloramphenicol, Chloromycetin, Enteromycetin, Kemicetine, Paraxin, Reclor, Vitamycetin**

Note : Cause Bone marrow depression, so its use is generally limited to enteric fever and urinary infections. It should be avoided during pregnancy, lactation & in children.

3. **Macrolides**

a) **Erythromycin:** 250 & 500 mg Tabs, 125 kidtabs, 125 mg/5 ml suspension

Dose : 250 to 500 mg 4 times/day (20 to 40 mg/kg wt/day)

T.N. : **Althrocin, Eltocin, E-mycin, Emthrocin, Ero-b Eroate, Erythrocin, Ery-safe, Erythrocin, Inderyth. Thromycin**
With Bromhexeine: **Eltocin-BR, Syr. Ero-B**

Note : Very effective for upper respiratory tract infections, and skin infections. It is hepatotoxic on prolonged use.

b) **Azithromycin:** 250 mg caps (Pack of 6 Caps) 100 mg/5 ml Syrup, 500 mg inj. vial

Dose : 2 Caps once daily for 3 days

T.N. : **Azithral, Aziwok, Azee, Azicip, Azilup, Zycin**
With Ambroxol: **Azee-AX, Azro-AM**

Note : Very effective in URTI, LRTI skin & ENT infections.

c) **Roxithromycin:** 50 & 150 mg Tabs, 50 mg/5 ml Suspension

Dose : 150 mg 2 times/day before food

T.N. : **Roxid, Roximol, Roxitem, Ralrox, Luprex, Roxee, Roxithro**
With Ambroxol: **Roxid-M, Ralrox-A**

Use : Respiratory, ENT & Skin infections.

d) **Clarithromycin:** 125, 250 & 500 mg Tabs, 125 mg/5 ml suspension

Dose : 1-2 tabs x 2 times/day, 7.5 mg/kg BD

T.N. : **Claribid, Acem, Clamycin, Claricip, Clarimac, Clarithro, Klacin, Synclar**

4. **Tetracyclines**

a) **Tetracycline:** 250 mg & 500 mg Caps

Dose : 250-500 mg 6 hrly

T.N. : **Achromycin, Dicicyclin, Hostacyclin, Indiclin, Resteclin, Subamycin, Tetracycline, Tetrabact**

Note : Drug of choice for common upper Respiratory tract infections, Trachoma, Lymphogranuloma Venereum, Acne. Do not give with antacid, Avoid in children & in later half of pregnancy.

b) **Oxytetracycline:** 250 mg & 500 mg Caps, 6 hrly, 50 mg/ml Inj.

T.N. : **Terramycin, Oxysteclin (Inj.) Tetramac (cap)**

c) **Demeclocycline:** 150 mg & 300 mg Cap

Dose : 150-300 mg 2 times/day x 5 days

T.N. : **Ledermycin**

d) **Doxycycline:** 100 mg caps

Dose : 100 mg 2 times on 1st day, Then 100 mg daily

T.N. : **Doxy-1, Cadoxy, Doxycip, Doxt, Doxypal, Duracyclin, Lydox, Minicycline, Oradoxyn, Tetradox, Vivocycline**

Note : For U.R.T.I., LRTI, Urinary infections, Skin & soft tissue infections, Acne.

e) **Minocycline:** 50 & 100 mg Tab

Dose : 100 mg BD

T.N. : **Cynomycin, Minolox, Minova**

5. **Penicillins**

a) **Crystallin Penicillin:** 10 Lac units/vial Inj.

Dose : 10 lac IM 6 hrly; In Meningitis - up to 20 lac units IV. 2 hrly

T.N. : **Crys-4, Diapen**

Note : Drug of Choice in syphilis, Respiratory tract & skin infections.
It can give anaphylactic reaction of severe intensity, so test dose 0.1 ml intradermal is a must.

b) **Procaine Penicillin:** 3 lac units + Penicillin G 1 lac units IM

Dose : Once daily

T.N. : **Fortified Procaine Penicillin Inj.**
With Streptomycin 500 mg: **Bisterpen, Dicrysticin S**

Note : Longer acting, with once/day Injection.

c) **Benzathine Penicillin:** 6 lac, 12 lac & 24 lac vials

Dose : Syphilis - 24 lac IM, A.T.D., every week, 3 injections; Rheumatic Heart 6-12 lac IM once a month
T.N. : **Penidure (LA6/LAI2/LA24), Longacillin (6/12/24) Pencom (6/12)**

d) **Penicillin V:** 65 mg (1 Lac units) Tabs, 130 mg Forte Tabs

Dose : 1-2 tabs x 3 times/day
T.N. : **Penivoral, DepenTabs, Crystaphe V, Veripen, Pensol V**

e) **Penicillin G:** 2, 4 & 8 lac units/per tab

Dose : 2-4 lac 3 times/day or 8 lac 2 times/day
T.N. : **Pentids (200/400/800)**

6. Penicillin Derivatives

a) **Ampicillin:** 250 mg & 500 mg cap, 125 mg kidtabs, 125 mg/5 ml syrup, 100 mg/ml Paed drops. 500 mg vial Inj. IM/IV

Dose : 250 mg to 1 gm 6 hrly (150 mg/Kg wt/day)
T.N. : **Albercillin, Ampicillin, Ampidil, Ampilin, Ampkid, Ampisyn, Aristocillin, Bacipen, Biocilin, Broacil, Campicilin, Deplin, Lupilin, Roscillin**
with Sulbactum 250 + Ampicillin 500: **Subacin (Inj., 750, 1.5 G) Ampitum Inj. (75, 1.5 g), Betamp Inj.**
with Lactobacillus: **Diacillin Plus Caps**
with Probenecid 250 mg: **Ampilong, Prompicin** (2 times/day Dose)
with Cloxacillin: 250 + 250 caps, 125 + 125 per 5 ml syrup or per kid tab, 500 + 500 In IM/IV T.N.: **Adilox, Ampilox, Amplus, Ampoxin, Baxin, Broadiclox, Clamp, Duoclox, Megapen, Penmix, Remclox. Baciclox, Ampoxin**

b) **Amoxycillin:** 250 mg & 500 mg Caps, 125 mg kidtabs, 125 mg/5 ml syrup

Dose : 250 to 500 mg 3 times/day
T.N. : **Amotid, Amoxil, Amoxivan, Amoxybid, Biomox, Cidomex, Cipmox, Danemox, Delamin, Flemipen, Hipen, Idimox, Lamoxy, Mox, Moxydil, Novamox, Pulmoxyl, Symoxyl, Tromoxin, Warcilin, Zamox**
with Bromhexein 8 mg: **Ambrox, Amotid BR, Bromolin (Cap & Syrs), Lamoxy-BX Mycocin**
with Clavulanic acid 125: **Aclav, Acuclav, Advent, Augpen, Augmentin (Tab & Inj.), Baciclox, Clamp, Clavum, Clavmox, Curam, Oneclav, Nuclav, Novaclav**
with Carbocisteine 150 mg: **Cidoresp (250/500) Moxycarb, Carbomox Mucobron**
with Cloxacillin & Lactobacillus: **Amcox, Amclo, Flemiclox, Lamklox, Moclox, Novaclox, Respimox, Suprimox, Tresmox, Twiciclox**
With Dicloxacillin: **Ampoxin Plus, Flemiclox-LBX, Novaclox-LB**
with Probenecid: **Moxylong**
With Lactobacillus: **Novamox-LB**

c) **Cloxacillin:** 250 & 500 mg Caps, 125 mg/5 ml syrup 500 mg inj.

Dose : 250-500 mg 4 times/day before food
T.N. : **Bioclox, Klox, Clocilin, Clopen**
Note : Effective against gram Positive organisms.
Combinations with Ampicillin or Amoxycillin: see above.

d) **Carbenicillin:** 1 gm & 5 gm Vials

Dose : 1 gm IM 6 hrly, upto 5 gm IV 4-6 hrly; 50-40 mg/kg body wt./day
T.N. : **Biopence, Carbelin, Pyopen**
Note : Effective against Pseudomonas & Proteus used in septicemia, fulminant infections, infected burns.

e) **Piperacillin:** 1 g & 2 g Vials

Dose : 6-12 g/day
T.N. : **Piprapen Inj., Pipracil, Piprex, Lupitax, Piprapen-T, Pipza, Pybactum, Tazar**
With Tazobactum: **Tazira, Torbac**
Note : Similar to Carbenicillin.

f) **Bacampicillin:** 200 mg & 400 mg Tabs

Dose : 2 tabs x 2 times/day
T.N. : **Penglobe**

g) **Sultamicillin:** 375 mg Tab, 250 mg DT

Dose : 1-2 Tab BD
T.N. : **Saltum**

h) **Ticarcillin:** 3.1 gm Vial

Dose : 3.1 gm 4-6 hrly
T.N. : Timentin (3 gm + K-Clavulanate 100 mg)
Note : For Pseudomonas, Proteus & anaerobic infections

7. **Aminoglycosides**

a) **Gentamycin:** Inj. 40 mg/ml and 10 mg/ml (Pediatric)
Dose : 60-80 mg/IM/IV 3 times/day 3-5 mg/kg body wt./day
T.N. : **Biogarcin, Garamycin, Gentacip, Gentasporin, Genticyn, Gentaril, Lyramycin, Primicin, Tamiacin**
Note : Effective against Pseudomonas & Proteus, and Gram-negative infections. Useful in resistant urinary infections, Respiratory infections. Do not use in patients with renal problems.

b) **Amikacin:** 100 mg, 250 mg & 500 mg/2 ml vials
Dose : 15 mg/kg body wt/day IM; maximum 500 mg 8 hrly IM
T.N. : **Amicin, Amicip, Amikef, Amisafe, Amistar, Amitax, Ivimycin, Mikacin, Minakin, Primikacin, Zycin**
Note : For Gram Negative infections, resistant to Gentamycin. Also effective against staphylococci and Tuberculosis.

c) **Tobramycin:** 20 mg, 40 mg & 80 mg vials
Dose : 3-5 mg/kg body wt/day in 3 doses
T.N. : **Tobacin, Tobraneg**

d) **Kanamycin:** 500 mg & 1 gm vial
Dose : For infections: 1 gm IM once daily. For Tuberculosis: 500 mg IM 2 times/wk
T.N. : **Kancin, Efficin, Kanamycin**
Note : Very Toxic to kidney & cochlea. Mainly used in streptomycin resistant Tuberculosis.

e) **Sisomycin:** 10 mg & 50 mg in 1 ml ampule
Dose : 3 mg/kg body wt/day. in 3 doses
T.N. : **Sisoptin-10 (/50), Ensamycin**
Note : For septicemia, Burns & severe infections.

f) **Netilmicin:** 100 mg/ml vial, 10 mg/ml vial
Dose : 4-6 mg/kg body wt/day for Gram negative septicemia
T.N. : **Netromycin, Neticin, Netspan**

g) **Neomycin:** Cap 350 mg
Dose : 1-2 caps 4 times/day
T.N. : **Neomycin sulphate**
Note : Used for local action in bowel - for bacterial diarrhoea, and to sterilize bowels in hepatic coma and for bowel surgery.

8. **Lincosamides:** Used in Respiratory infections, Skin & soft tissue infections. Hepatic & Renal toxicity. Do not use in Pregnancy & Children.

a) **Clindamycin:** 150 mg Caps, Inj. 150 mg/ml
Dose : 1-2 caps 4 times/day
T.N. : **Dalacin-C, Dalcinex**
Note : For URTI, Dental, Skin Infection. Do not use in pregnancy & chilcren.

b) **Lincomycin:** 500 mg caps, 125 mg/5 ml, Syr. 300 mg/ml inj.
Dose : 500 mg 3-4 times/day
T.N. : **Lincocin, Lynx**
Note : For URTI, LRTI, Skin & Bone infections. May cause colitis & diarrhoea.

c) **Vancomycin:** 500 mg & 1 gm vial, 250 mg Cap
Dose : 500 mg 6 hrly
T.N. : **Vanacin, Vancoled, Vanlid**
Note : For Pseudomembranous enterocolitis & Meningitis

d) **Spiramycin:** 1.5 & 3 million unit Cap bd
T.N. : **Rovamycin**
Note : For Toxoplasmosis, Protozoal infections 1.5 million units infusion 8 hrly.

e) **Spectinomycin:** 2 gm vial
T.N. : **Spectin**
Note : Single dose Inj. for Resistant Gonorrhoea.

f) **Teicoplanin:** 200 & 400 mg vials
Dose : 400 mg IV 12 hrly
T.N. : **T-Planin, Celplanin**
Note : For Gram +ve infections.

g) **Daptomycin:** 500 mg vial
Dose : 4 mg/kg infusion in NS
T.N. : **Cubicin**
Note : For Staphylococcal infections (skin)

9. **Cephalosporins**

First Generation
Cephaloridine, cephalexin, Cephazolin, Cephalothin, Cefadroxil
Second Generation
Cefoxitin, Cefuroxime, Ceftriaxone, Ceftazidime, Ceftizoxime, Cefixime
Third Generation
Cefotaxime, Cefoperazone, Ceftriaxone, Ceftazidime, Ceftizoxime, Cefixime

I. **First Generation:** Are very effective against staphylococci & other gram positive organisms. Less gram negative activity. Used in Respiratory, Skin & soft tissue, Bone infections, Peritonitis & pelvic infections.

g-Ia. Cefazolin: 250 mg, 500 mg & 1 gm vials

T.N. : **Alcizon, Azolin, Cefamezin, Cezolin, Lyzolin, Orizolin, Prilex, Reflin, Zocef**

g-Ib. Cephalexin: 250 mg & 500 mg caps, 125 mg kidtabs, & 125 mg/5 ml syrup

T.N. : **Alcephin, Ceff, Cefadyl, Carbicef, Cephaxin, Neocef, Nufex, Oriphex, Phexin, Premspor, Ralcef, Sepexin, Sporidex, Injection Ceporan, Cefaxin**
with Bromhexine: **Respo-ridex, Mucikef, Cep-Bro**
with Probenecid: **Alcephin LA, Cefalong, Ceff LA,**
with Carbocysteine: **CA ceff, Carbiceff, Cecarb**

g-Ic. Cephaloridine: 500 mg & 1 gm vials

Dose : 500 mg to 2 g × 3 times/day
T.N. : **Cephaxin Inj., Ceporan**

g-Id. Cephadroxil: 500 mg Cap, 125 mg Kidtab, suspension

Dose : 1-2 caps × 2 times/day
T.N. : **Bicef, Bid, Cefadrox, Cefastar, Droxyl, Droxycad, Kefloxin, Lactocef, Lydroxil, Neodrox, Odoxil**
with Ambroxol: **Vepan-AX, Waladox-AX**
with Probenecid: **Ceoxil-PR**
with Clavulanate: **Droxyclav, Zadro-CV**

II. Second Generation: Beta Lactamase resistant, Do not act against pseudomonas, enterococci

g-IIa. Cefachlor: 250 & 500 mg Caps, 125 mg/5 ml Suspension

Dose : 1-2 caps × 3 times/day, (20 mg/kg body wt/day)
T.N. : **Distaclor, Kefclor, Echlor, Vercef**

g-IIb. Cefuroxime: 250 mg & 750 mg vials; 250, 500 & 125 mg Tabs

Dose : 250 mg × 2 times/day
T.N. : Tabs **Ceftum, Altacef, Cephadur CA, Cetil OD, Zefu, Widecef**
Inj. : **Cefogen, Furoxil, Supacef, Cefadur, Cetil**
With Clavulanate: **Zefu-CV**
With Probenecid: **Altacef LA**

III. Third Generation

g-IIIa. Cefotaxime: 250 mg, 500 mg & 1 g vial

Dose : 1-2 g × 12 hrly. 50-100 mg/kg/day
T.N. : **Biotax, Claforan, Cefantral, Cefotim, Gramotax, Nepotax, Omnatax, Omnicef, Oritaxim, Novatax, Taxobid, Taxim**
with Salbactam: **Augtax, Cefantral-S, Duotax, Taximax**

g-IIIb. Ceftazidime: 250 mg, 500 mg & 1 g vial

Dose : 500 mg 12 hrly upto 6 g/day; 100-150 mg/kg/day
T.N. : **Bectozid, Cefazid, Fortum, Nepocef, Tizime, Zidime, Zytax**
with Tazobactam: **Combitaz, Zidime-T**

g-IIIc. Ceftriaxone Sodium: 250 mg, 500 mg & 1 gm vial

Dose : 1-2 gm IV once daily; 50-75 mg/kg/day
T.N. : **Axone, Cadiceft, Cefezone, Cefaxone, Ceftril, E-cef, Gramocef, Monocef, Oftramax, Supraxone, Torocef, Zefone**
with Sulbactam: **Cefril-S, Ecef-S, Supraxone-S, Xtum**
with Tazobactam: **Augtaz, Cefbact-T, Tazox, Zetri-T**

g-IIId. Ceftizoxime: 250 mg & 1 g vial

Dose : 1-3 gm × 12 hrly (not for children)
T.N. : **Cefizox, Epocelin, Eldcef**

g-IIIe. Cefoperazone: 1 g & 2 g vial IM/IV

Dose : 1-2 g 12 hrly
T.N. : **Magnamycin, Cefomycin, Purecef**
with Sulbactam: **Cefobeta, Ceftop, Fytobact, Magnex, Kefbactum, Sulbanex, Zosul**

g-IIIf. Cefixime: 200 & 400 mg Tabs, 500 mg & 1 gm IV Inj.

Dose : 1-2 tabs once daily
T.N. : **Topcef, Cefglobe, Cefi, Cefinar, Cefspan, Celitol, Omnatax-O, O-Powerceef, Topcef, Zifi, Ziprax**
with Cloxacillin: **Cefi-XL, Zifi-LBX**
with Clavulanic acid: **Clacent, Zifi-CV, Topcef-clav**
with Ornidazole: **Cefex-OZ, Ornicef**

g-IIIg. Cefpodoxime: 100 & 200 mg Tab, 50 mg KT, 50 mg/ml Syr

Dose : 100 mg BD
T.N. : **Bactogard, Cefakind, Cefoprox,**

Cepime-O, Doxcef, Pecef, Zi-pod
with Clavulinic acid: **Augpod, Pod plus, Zipod CV**
with Ambroxol: **Finecef-AM**

g-IIIh. Cefetamet: 250 & 500mg Tabs
T.N. : **Cepime-O, Recocef**

g-IIIi. Cefdinir: 30 mg Cap, 100 mg DT, 125 mg/5 ml Suspension
Dose : 300 mg bd
T.N. : **Cefrine, Adcef, Aldinir, Cefdiel syr, Cefditis**

IV. Fourth Generation Cephalosporins

g-IVa. Cefepime: 500 mg & 1 gm Inj.
Dose : 0.5-1 gm IV BD for 7-10 days
T.N. : **Cepime, Forpar, Maxicef, Novapime**
with Tazobacam: **Tazopime, Magnova**

g-IVb. Cefpirome: 250, 500 mg & 1 gm Inj.
Dose : 1-2 gm BD IV/IM
T.N. : **Bacirom, Cef-4, Forgen, Omnirom, Tafrom**

10. Quinolones

a) **Ciprofloxacin:** 250 mg, 500 mg & 750 mg Tabs.; 200 mg in 100 ml Infusion
Dose : 500 mg × 2 times/day × 7-10 days IV 200 mg infusion 12 hrly
T.N. : **Abact, Alcipro, Bekaycin, Biocip, Cifran, Cipad, Cipic, Ciplox, Ciprobid, Ciprocore, Ciprodac, Ciprolet, Ciprova, Ciprowin, Orpic, Penquin, Quintor, Raflox, Wyserin**
With Tinidazole: **Ciplox-TZ, Cifran-CT, Ciprolet-A, Tidicip** (Also in half dose)
With Ornidazole: **Ciplox-OZ**
Note : Drug of choice for enteric fever, It is effective against a wide range of Gram positive & negative organisms. Use with caution in Pregnancy & Lactation.

b) **Pefloxacin:** 400 mg Tab, 400 mg in 100 ml Infusion
Dose : 400 mg × 2 times/day
T.N. : **Pefbid, Pefcin, Peflobid, Pelox, Perti, Piflasyn, Proflox, Qucin, Infusions - Pelox, Qucin**
Note : Excellent General Antibiotic for respiratory, soft tissue and urinary infections, specific for enteric fever. Not for children.

c) **Ofloxacin:** 200 mg Tab, 400 mg CR Tab, 100 mg DT, 50 mg/5 ml suspension, 200 mg in 100 ml Infusion
Dose : 200 mg-400 mg × 2 times/day
T.N. : **Alproxen, Eufox, Ofla, Oflacin, Oflatoon, Oflin, Tarivid, Zanocin**
With Ornidazole: **Eufox-O, Oflostar-OZ, Olox-OZ, Ordent, Zenflox-OZ**
With Metronidazole: **Genflox-M, Oflostar-M, Orno-F**
Note : Drug of choice for enteric fever; For Respiratory, soft tissue & urinary infections, Not for children.

d) **Lomefloxacin:** 400 mg Tab
Dose : 400 mg once daily for 10-14 days
T.N. : **Lomaday, Loflox, Lomef 400, Lomflox 400, Lomibact, Qumax**
Note : For chronic bronchitis & cystitis

e) **Rosoxacin:** 300 mg Cap
Dose : 300 mg single dose for Gonococcal urethritis
T.N. : **Eradacil**

f) **Norfloxacin:** 200, 400 & 800 mg Tabs. 100 & 200 mg DT
Dose : 400 mg × 2 times/day
T.N.: **Alflox, Enteroflox, Loxone, Negaflox, Nitidin, Norbactin, Norbid, Norflox, Norilet, Nor-U, Obax, Quinolax, Tamflox, Uroflox, Utibid**
Note : First line treatment for urinary infections, 800 mg single dose for Gonorrhoea. Antibiotic of choice for Bacterial Gastroenteritis.

g) **Sparfloxacin:** 100 & 200 mg Tabs
Dose : 2 Tabs stat, then 1 daily 4 days
T.N. : **Acuspar, Flospar, Rexspar, Sparbact, Spardac, Sparta, Sparlox, Sparta, Torospar**
Note : For Community Acquired Pneumonia RTI, Tuberculosis.

h) **Nalidixic Acid:** 250 mg & 500 mg Tabs. 300 mg/5 ml suspension
Dose : 1 gm 6 hrly × 7 days, 55 mg/kg/day
T.N. : **Gramoneg, Nadix, Negadix, Ulix-P, Wintomylon**
Note : For acute & chronic urinary infections, especially in children.

i) **Gatifloxacin:** 200 & 400 mg Tabs, 400 mg/200 ml IV Infusion
Dose : 400 mg OD for 7-10 days in UTI & RTI
T.N. : **Gaity, Gatilox, Gatiquin, Gaticin, Powergat, Zigat**

With Ornidazole: **Gatiquin-OZ, Gatri-OZ**
With Ambroxole: **Gaity-A, Respigat, Ecogat-A**
Note : For Community Acquired Pneumonia, UTI, Pelvic infections.

j) **Levofloxacin:** 250 & 500 mg Tabs, 500 mg in 100 ml infusion
Dose : 500 mg OD for 7-14 days
T.N. : **Lotor, L-cin, Levoday, Glevo, Zilee**
With Ornidazole: **Lcin-OZ, Levocide-OZ, Levomni-OZ, Loxof-OZ**
With Ambroxol: **Lcin-A, Lebact-AM, Zilee-AX**

k) **Moxifloxacin:** 400 mg Tab, 400 mg in 200 ml Infusion
Dose : 400 mg OD
T.N. : **Moxicip, Moxif, Staxom**
Note : More Bactericidal action. For Chronic bronchitis, Community acquired Pneumonia, Chr sinusitis.

l) **Gemifloxacin: 320 mg Tab** (4th Generation)
Dose : 320 mg OD × 5-7 days
T.N. : **EG1, G-cin, Gemone, GQ-320, Zemi**
Note : For Respiratory infections.

m) **Prulifloxacin:** 600 mg Tab
Dose : 600 mg OD × 5-10 days
T.N. : **Alpruli, Percin, Prudila, Pruflox**

11. Polymyxins: Effective only against Gram -ve Bacteria esp. Pseudomonas.

a) **Polymyxin B:** 500,000 IV/vial Injection
Dose : 25000 u/kg/day for 7 -10 days
T.N. : **Aerosporin, Poly-B**

b) **Colistin Sulphate:** 12.5 mg (2.5 lac units) per 5 ml syrup
Dose : 5-15 mg/kg/day. 25-100 mg × 3 times/day
T.N. : **Colitin, Walamycin**

12. Oxazolidinones

a) **Linezolid:** 600 mg Tab, 600 mg in 300 ml Infusion
Dose : 600 mg BD
Note : For multiple drugs resistant Staphylococci.

13. Betalactams – For Multi-drug resistant infections

a) **Meropenem:** 0.5 & 1 gm vials
Dose : 0.5 to 1 gm 8 hrly IV
T.N. : **Merocrit, Meroza, Merotrol, Meronem**
Note : For Severe & resistant Infections, Meningitis, Pyelonephritis, Septicemia.

b) **Faropenem:** 150 & 200 mg Tab
Dose : 200-300 mg tds
T.N. : **Duonem, Farobact, Faronem**

c) **Imipenem + Cilastatin:** 250 + 250 mg or 500 + 500 mg
Dose : 500 mg bd/tds
T.N. : **Imicrit, I-nem**

d) **Doripenem:** 500 mg vial
Dose : 500 mg-1 gm IV 8 hrly
T.N. : **Doribax, Doriglen, Sudopen**
Note : Peritonitis, complicated UTI, Septicemia.

7 B: Urinary Antiseptics

1. **Nalidixic Acid:** 500 mg Tab, 125 mg Kidtab. 300 mg in 5 ml suspension
Dose : 1-2 tabs × 4 times/day after meals for 7-14 days
T.N. : **Gramoneg, Negadix, Wintomylon, Ulix-P**
with Phenazopyridin: **Azowintomylon, Urodixic**

2. **Nitrofurantoin:** 50 mg, & 100 mg Tabs, 25 mg/5 ml suspension
Dose : 50-100 mg Tab. 6 hrly
T.N. : **Furadantin, Furadantin with Liquorice**
with Trimethoprim - **Trifuran Caps**

3. **Trimethoprim:** 200 mg Tabs
Dose : 200 mg × 2 times/day (6-8 mg/kg/day)
T.N. : **Baktar, Tuliprim**

4. **Methenamine:** 0.5 & 1 gm Tabs
Dose : 1 gms Tab 6 hrly × up to 30 days, with Vit C (Ascorbic Acid, to acidify the urine)
T.N. : **Mandelamine, Urolomine**

5. **Other Antibiotics**
I) Norfloxacin: 400 mg × 2 times/day [7 A/10]
II) Ciprofloxacin: 500 mg × 2 times/day [Quinolones - 7A/10]
III) Co-Trimoxazole-DS: 1 × 2 times/day [7 A-1]
IV) Chloramphenicol: 500 mg × 4 times/day [7 A-2]
V) Gentamycin: 80 mg × 8 hrly [7A-7a]

6. **Urinary Alkalinisers:** Disodium Hydrogen Citrate 1.4 g/5 ml

Dose : 15 ml 2-3 times/day, Dissolved in glassful of water
T.N. : **Alkanil, Alkasol, Cital, Citralka, Oricitral**
Note : Most urinary antibiotics act in alkaline urine, except mandelamine. So it should be combined in treatment of urinary infections.

7. Urinary Analgesics

7a. Phenazopyridine: 200 mg Tabs
Dose : 1-2 tabs × 3 times/day × after meals
T.N. : **Pyridium, Pyridactil**

Combinations:
Nephrogesic - (with Nitrofurantoin)
Azowintomylon - (with Nalidixic Acid)
Note : Urine is coloured orange red; Avoid in pregnancy & in renal failure. Do not give for pro'onged periods.

7b. Flavoxate: 200 mg Tab
Dose : 1 tds
T.N. : **Flavoxate, Urispas**

8. Drugs for Bladder

8a. Oxybutynin: 2.5, 5 & 10 mg Tab
Dose : 5 mg 1 hr before sleep for nocturnal enuresis. 5 mg tds for neurogenic bladder
T.N. : **Nocturin, Tropan, Oxypas**

8b. Tolterodine: 2 & 4 mg Tab
Dose : 2 mg bd, maintain with 1 mg OD
T.N. : **Urotel XL, Roliten, Tolter, Terol-LA**
Note : For overeactive bladder.

8c. Bethanechol: 25 mg Tab
Dose : 25 mg stat for Post-op Retention. 1tds For neurogenic bladder
T.N. : **Myocholine, Urivoid, Betheran**

7 C: Anti Fungal Drugs

1. **Griseofulvin:** 125 mg, 250 mg & 500 mg Tabs
Dose : 250 mg 3 times/day × 21 days, with meals
T.N. : **Dermonorm, Grisovin, Idi-fulvin, Medifulvin, Walavin**
Ultramicronised: **Gris-OD** (1 tab once daily)
Note : Only for Cutaneus fungal infections.

2. **Ketoconazole:** 200 mg Tabs
Dose : 1-2 tabs, once daily, after food × 4 wks
T.N. : **Fungicide, Kenazol, Ketozole, Nizrol, Phytoral**
Note : For cutaneous, and systemic fungal infections.

3. **Fluconazole:** 50 mg, 150 mg & 200 mg Caps, 200 mg in 100 ml infusion
Dose : Systemic Inf - 200 to 400 mg once daily IV
Teniasis - 150 mg, once a week × 4 wks
Onychomycosis - 150 mg, once a week × 6-12 mths
Tenia versicolor - 400 mg single dose
Mucosal candidiasis - 50 to 100 mg daily
Children - 3-6 mg/kg/day
T.N. : **Alfucoz, Fluzide, Focan, Syscan, Zocon, Flucos**
Note : Mucosal & systemic candidiasis, Also used for prevention of fungal infections after chemotherapy, Radiotherapy & AIDS.

4. **Itraconazole:** 100 mg Cap
Dose : 100 mg OD, more if immuno-compromised
T.N. : **Candistat, Itracan**
Note : For Systemic Fungal Infection

5. **Voriconazole:** 50 & 200 mg Tab, 200 mg vial IV inj.
T.N. : **Roxtro, Voraze, Voritek, Vorittrol, Vorizef**

6. **Amphotericin:** 50 & 100 mg vial
Dose : 250 mcg/kg/day gradually increased to 1 mg/kg/day
T.N. : **Fungizone, Amphocil, Ampholip**
Note : Only for hospital treatment of serious fungal infections.

7. **Nystatin:** 5 lac Tab
Dose : 1 to 3 times/day
T.N. : **Mycostatin**
Note : Used for Intestinal Moniliasis. Can be used for local application by dissolving one tab in 5 ml Glycerin.

8. **Hamycin:** Local application 2 lac units/ml
Dose : Apply locally for oral thrush, 2-3 times/day for 7 -10 days
T.N. : **Hamycin**

9. **Terbenafine:** 250 mg Tab, 1% cream
Dose : 250 mg OD for 2-6 wks
T.N. : **Daskil, Exifine, Fungotek, Terbicip, Terbiderm, Terbifin**
Note : Good for Nail infections

7 D: Anti-Leprosy Drugs

1. **Dapson:** 25 mg, 50 mg & 100 mg Tabs
Dose : 100 mg Tabs once daily (2 mg/kg/day)
T.N. : **Dapsone**

Note : Start with low dose & increase gradually every week. Check Blood counts every 2 mths.

2. **Clofazimin:** 50 mg & 100 mg caps
   Dose : 300 mg per week in divided doses, eg. 100 mg on alternate day, For children 4-6 mg/kg once a month.
   T.N. : **Hansepran, Clofozdine**
   with Dapsone: **Clofodape**
   Note : May cause dark discoloration of Skin. In Lepra reaction to Dapsone, give 200 mg per day for 3 wks.

3. **Rifampicin:** 450 mg & 600 mg Caps. (ref. 7G.)
   Dose : 450 mg once/day × 15 days. Then 600 mg once/wk
   T.N. : **600 mg- Famcin, Rcin, Rifadin, Tibicin, Zucox**
   Note : 1. Do not use if Jaundice or Hepatic dysfunction. 2. Stains urine, Sweat & Saliva Red.

7 E: Anti Malarial Drugs

1. **Chloroquine:** 250 mg & 500 mg Tabs, 40 mg/ml Injection, 100 mg/10 ml suspension
   Dose : 4 Tabs (250 mg) stat, 2 tabs after 6 hrs. Then 2 tabs daily × 2 days (Total = 10 Tabs), After food
   Inj. : 10 ml IM stat, 5ml after 6 hrs & 5 ml daily × 2 days
   Children: 10 mg/kg stat, 3 doses of 5 mg/kg Injection = 5 mg/kg stat
   T.N. : **Clokit, Cloquin, Emquin, Idiquin, Lariago, Malaquin, Nivaquin-P, Quinross, Resochin**
   Note : Causes Nausea & Vomiting. So coprescribe antacids and Tab Emeset or Metoclorpramide.
   For Malaria Prophylaxis: 2 tabs (250 mg) once weekly on the same day each week.
   Also used in Amoebic Liver Abscess - 3 tabs daily × 3 wks.

2. **Amodiaquin:** 200 mg Tabs, 150 mg/5 ml suspension
   Dose : 4 tabs stat, 2 Tabs after 6 hrs. 24 hr & 48 hrs, after food
   T.N. : **Camoquin Tabs, Basoquin suspension**
   With Primaquin = **Comaprima**

3. **Primaquin:** 7.5 mg Tabs
   Dose : 2 tabs daily × 14 days (0.3 mg/kg/day × 14) with Chloroquine
   T.N. : **PMQ-INGA, Primaline, Malirid**
   Note : Curative treatment for Pl.Vivax

4. **Quinine Sulphate:** 300 mg Tabs 300 mg/ml Inj.
   Dose : 1-2 Tabs 3 times/day × 7 days 25 mg/kg/day in 3 divided doses
   T.N. : **P-Falci, Quinarsol-300, Quininga**
   Injection: **Quininga**
   Note : Used if malaria is resistant to other drugs & Falciparum malaria.

5. **Mefloquin hydrochloride**
   Dose : 2 Tabs × every 6 hrs × 6 tabs
   T.N. : **Lariam, Mefque, Meflotas**
   Note : Not available used for resistant cases of malaria.

6. **Sulfadoxime (500 mg) + Pyrimethamine (25 mg):**
   Dose : 2 Tabs Single dose. For Prevention 1 Tab every wk
   T.N. : **Amalar, Laridox, Malocide, Metasulfin, Onli-2, Pyralfin**
   Note : In acute case, use chloroquine. Main use of this drug is in prevention.

7. **Proguanil:** 100 mg Tabs (For Prevention)
   Dose : 2 tabs daily during & for 6 wks after exposure
   T.N. : **Laveran**

8. **Mepacrin:** 300 mg Tabs
   Dose : 6 days treatment, 3,2,2,1,1,1 Tabs. Prevention - 2 Tabs per week
   T.N. : **Maladin**
   Note : Particularly for Falciparum Malaria.

9. **Artesunate:** 60 mg Vial, 50 mg Tab
   Dose : 600 mg: Tab = 100 mg bd × 1, 50 mg bd × 4; Inj. = 60 mg 12 hrly
   T.N. : **Inj. Falcigo, Tab Arnate, Larinate, Malocide, Ulteria, Rtsunate**
   With Amodiaquine: **Falcimon, Falmal**

10. **Artemether:** 80 mg ampule × 6, 40 mg Cap
    Dose : 80 mg IM × bd × 3 days
    T.N. : **Paluther, Falcithar, Larither, Syr Artium**
    With Lumefantrine: **Combither, Lumerax, Lumether**

11. **Arteether:** 150 mg in 2 ml amp
    Dose : 150 mg IM OD × 3 days
    T.N. : **Cadither, Duther, Mosether, RapitherAB**

7 F: Anti-Tuberculous Drugs

1. **Streptomycin:** 0.75 and 1 gm Vial
   Dose : 1 gm IM per day (after test dose) to

maximum 90 injections If age > 45 yrs, Wt. < 50 kg-0.75 g IM/day (20-40 mg/kg/day)

T.N. : **Ambistryn-S, Merstrep, Streptomycin, Cipstryn**
with INH: **Streptourbazide**

Note : Bacterocidal drug, very effective in initial phase. Stop immediately if Giddiness, Give test dose before first injection. Avoid in pregnancy.

1. **Isoniazide (INH):** 100 mg and 300 mg Tabs, 100 mg/5 ml Liquid

Dose : 300 mg once daily 10-20 mg/kg/day for children

T.N. : **Erbazide, Esokin, Isonex, Solonex**

Syr : **Ipcazide, Siozide, Solonex DT (100 mg)**
with B6: **Isokin-300**

Note :
- INH is a part of every TB regime.
- INH alone is used in treatment of TB in children and for Prophylaxis in contacts.
- Skin rash is common, but continue the drug.
- Stop if Jaundice.
- May cause neuritis due to B6 deficiency.

3. **Rifampicin:** 150 mg, 300 mg, 450 mg & 600 mg Caps. 100 mg/5 ml syr

Dose : 450 mg 1 capsule, before breakfast, Weight > 60 kg-600 mg/day; Weight < 45 kg-300 mg/day; Children - 10-20 mg/kg/day

T.N. : **Coxid-450, Famcin, Gocox, Rcin, Rifacept, Rifadin, Rifacilin, Rifakem, Rifaminal, Rimactane, Rimpin, Tibicin, Zucox, Tibrim**
with INH: **Arzide, Coxinex, Famcin-H, Iso-Rifa 450, Montonex Forte, Rcinex, Rifa I-6, Rifadin-INK, Rifakem-INH, Rifaminal-forte, Rimactazid, Rimpazide-450, Tibinex, Tibrim-INH, Zucox-Plus**
KidTabs with INH: **Ipcacin KT, Rcinex KT, Rifal-6KT, Rimactazide Disped, TibinexKT**

Note :
1. Bactericidal drug.
2. Stains urine, saliva sweat & tears - Red.
3. Hepatotoxic, - stop immediately if Jaundice develops.

4. **Ethambutol:** 200 mg, 400 mg, 600 mg 800 mg Tabs

Dose : 800 mg single dose, at bedtime. 15 mg/kg/day

T.N. : **Combutol, Ebutol, ET-800, Etibi, Etinol, Lybutol, Myambutol, Mycobutol, Thaminal, Themibutol, Tibitol**
with INH: **Combunex, Isokoxi, 800, Myconex 800/600, Themibutol Plus, Coxrid combipack**

Note :
1. Bacteriostatic drug.
2. Can cause optic neuritis, so visual function should be assessed periodically.

5. **Pyrazinamide:** 500 mg, 750 mg & 1 gm Tabs

Dose : 1500 mg/day single dose (20-35 mg/kg/day)

T.N. : **Alzide, Civizide, Lynamide, PZide, Piraldina, Pyra, Pyzina, PZA-CIBA, Rizap, Tibimide**

Note:
1. Bactericidal drug.
2. It is given for first 2 months in multidrug regimes.
3. Hepatotoxic - stop if Jaundice.

6. **Multi-Drug Combinations**

a) **Rifampicin + INH + Ethambutol**

i) RHE KITS 450/300/800: **AKT-3, Rimactazide-E, Rifa 1-6E, Themicox-3 Kit, Wokex-3, Zucox-3**

ii) RHE Tabs 150/75/275: **Akurit-3, Rimthree FDC**

b) **Rifampicin + INH + Pyrazinamide (RHZ)**

i) Kits (450 + 300 + 1500): **AnticoxZ Kit, Rifacom-Z, Rimactazid + Z, Tibikit, Zucox Kit**

ii) Combined 102/80/250: **Caviter, Rifater** (1 tab per 10 kg body wt.)

iii) Combined 225/150/500: **3-FD, Caviter Forte, Rcinex -Z, Tricox** (1 tab per 20 kg body wt.)

iv) Combined 150/100/375: **Rifacept3, Rimpin-IPZ, Rinizide** (1 tab per 15 kg body wt.)

v) Combined 150/75/400: **Akurit-Z**

vi) Pediatric 60/30/150: **Akurit-Z Kid DT, Rcinex-Z Kidtab, Montoripkid** (100/50/300)

c) **Rifampicin + INH + Ethambutol + Pyrazinamide:**

i) 4-Drug kits 450/300/800/1500: **4D, AKT-4, Anticox-4, CX-5, Rifacom-EZ, Themicox-4, Tibikit Plus, Zucox-E Kit**

ii) 4-Drug Tabs 150/75/275/400: **Akurit-4, Rimstar-4 FDC, Wokex-4FD, Rcinex-EZ**

7. **Cycloserine:** 250 mg cap

Dose : 500 mg to 1 gm/day

T.N. : **Cyclorine, Cycloserine, Coxerin**

Note :
i. For drug resistant Tuberculosis.
ii. Coprescribe Vit B12 & Folic acid.
iii. May cause nervousness and psychotic state at higher doses, convulsions in alcoholics.

8. **Ethionamide:** 250 mg Tabs
   Dose : 1 tab × 2 to 3 times/day
   T.N. : **Ethide, Ethomid, Myobid-250, Mucotuf**
   Note : Hepatotoxic, contraindicated in pregnancy, hypothyroidism.

9. **Prothionamide:** 250 mg Tabs
   Dose : 1 tab × 2 times/day, 15-20 mg/kg/day
   T.N. : **Prothicid, Protomid, Mucotuf-P**

10. **Thiacetazone**
    Dose : 150 mg/day
    T.N. : with INH: **Isokin-T forte**

11. **Kanamycin:** 500 mg & 1 gm Vial
    Dose : 500 mg IM 2-3 times/week
    T.N. : **Kanamycin, Kancin, Kanmac**
    Note : Like streptomycin, it is toxic to cochlea & kidneys.

12. **Capreomycin:** 0.5, 0.75 & 1 gm Inj.
    Dose : 15-20 mg/day OD × 2-4 mths, Then 2-3 times/week × 1-2 yrs
    T.N. : **Kapocin**

13. **Rifabutin:** 150 mg Cap OD
    T.N. : **Ributin**
    Note : Rifamycin derivative, Effective in MDR TB

14. **Para Amino Salicylic acid (PAS):** 100 gm Jar, 1 gm Tab
    Dose : 200 mg/day
    T.N. : **Inapas, Mycipas, Q-Pas**

15. **Other second line drugs Levofloxacin (750 mg OD), Ofloxacin, Lomefloxacin**

7 G: Anti- Viral Drugs

A: For Herpes Virus

1. **Acyclovir:** 200 mg Tabs, ointment
   Dose : H.Zoster: 800 mg × 5 times/day (4 hrly) × 7 days
   H.Simplex: 200 mg × 5 times/day × 5 days
   T.N. : **Cyclovir, Herpex, Zovirax, Zovirax infusion 250 mg**
   Note : It is important to start treatment early at the onset of Herpes Zoster.

2. **Valacyclovir:** 500 mg & 1 gm Tab
   Dose : 1 gm BD × 7 days
   T.N. : **Valcivir**

3. **Famciclovir:** 250 & 500 mg Tab
   Dose : 500 mg TDS × 7 for H.Zoster, 250 mg TDS × 5 for Genital Herpes
   T.N. : **Famtrex, Microvir, Virovir**

B: For Hepatitis B Virus

1. **Interferon Alfa 2A:** 3 & 5 million units vial
   Dose : 5 mu × subcut × 3 times/week × 4-6 mths
   T.N. : **Alferon, Intalfa**

2. **Interferon Alfa 2B:** 3 & 5 million units vial
   Dose : 3-5 mu × IM/subcut × 3 times/week × 6 mths
   T.N. : **Viraferon, Shanferon**
   Note : For Condylomata Acuminata, 1 MU intralesional.

3. **Ribavirin:** 100 mg, 200 mg caps, 50 mg/5 ml syr
   Dose : 500-600 mg BD, 10 mg/kgday, combined with Interferon
   For Chronic Hepatitis C, 6 mths
   T.N. : **Rebetol, Ribavin, Virazide**
   Note : 1. Duration of treatment in Viral Hepatitis - 2 wks, Influenza 5 days, Herpes 7 days. 2. Avoid in asthma, renal dysfunction, pregnancy & lactation.

4. **Adefovir:** 10 & 30 mg Tabs
   Dose : 10 mg OD for Hepatitis B
   T.N. : **Adesera, Adfovir, Adheb**

5. **Entecavir:** 0.5 mg Tab OD

C: For Flu virus

1. **Amantadine HCl:** 100 mg cap For H. Influenza
   Dose : 200 mg single dose/day
   T.N. : **Amantrel**

2. **Oseltamivir:** 75 mg Cap for Swine Flu
   Dose : 75 mg BD × 5 days
   T.N. : **Tamiflu**

D: Anti-Retroviral Drugs for HIV

a) **Protease Inhibitors (PI)**
   1. **Indinavir:** 400 mg Cap: **Inbec, Indivan**
   2. **Ritonavir:** 100 mg Tab: **Empetus, Ritomune**
   3. **Lopinavir + Ritonavir: Emletra, Lopimmune**
   4. **Tenofovir:** 300 mg Tab: **Tavin, Tenvir**
   5. **Abacavir:** 300 mg Tab: **Abammune, Abec**

6. **Nelfinavir:** 250 mg Tab, Syr: **Emnel, Nelvir**
7. **Ganciclovir:** 250 & 500 mg Tab: **Ganvir, Gangard**
8. **Atazanavir:** 100 & 300 mg Cap: **Atazor, Atavir**
9. **Saquinavir:** 500 mg Tab: **Maximune, Saquin**

b) **Nucleotide Reverse Transcriptase Inhibitors (NRTI)**

1. **Zidovudine:** 100 & 300 mg Tab, 50 mg/5 ml Syr: **Zidine, Zidovir**
2. **Stavudine:** 30 & 40 mg Cap: **Stadine, Stavir**
3. **Lamivudine:** 100 & 150 mg Tab: **Lamivir, Lavir**
4. **Didanosine:** 250 & 400 mg Tab: **Dinex, Virosine-DR**

c) **Non- Nucleotide Reverse Transcriptase Inhibitors (NNRTI):**

1. **Nevirapine:** 200 mg Tab: **Nevimune, Nevir**
2. **Delavirdine**

d) **Combinations:**

1. Lamivudine 100 + Zidovudine 300 mg: Combivir, Virocomb, Duovir
2. Lamivudine 100 + Zidovudin 300 + Nevirapine 200 mg: Duovir-N, Zidclam-N
3. Lamivudine 100 + Stavudin 40 mg: Lamistar, Lamivir-S
4. Lamivudine 100 + Stavudin 40 mg + Nevirapine 200 mg: Nevilast, Triomune

7 H: Intestinal Antibiotics

1. **Neomycin Sulphate:** 350 mg Cap
   Dose : 1-2 Caps × 4 times/day (12.5 mg/kg/dose)
   T.N. : **Neomycin Sulphate**
   Note : 1. Used in Bacterial Dysenteries, and 2. To sterilize the Bowel in Hepatic coma & as preparation to bowel surgery.
2. **Sulfaguanidine**
3. **Nalidixic Acid**
4. **Furazolidone**
5. **Streptomycin**

8. DRUGS USED IN OBSTETRICS & GYNAECOLOGY

8 A: Pessaries (Vaginal Tablets)

For Candidiasis

1. **Clotrimazole:** 100 mg, 200 mg, 500 mg Tabs, 2% Gel
   Dose : 100 mg pessary to be inserted deep into the vagina for 6 consecutive nights
   or 200 mg HS × 3 nights, or 500 mg HS once. Male partner should also be treated by local Gel application.
   T.N. : **Candid, Canesten, Cansoft, Clotrin-V, Imidil-V, Surfaz**
   with Clindamycin 100mg: **Candid-CL, Cansoft-CL**
   with Tinidazole 500mg: **Tinicide-V, Femguard-V**
2. **Econazole:** 150 mg Vaginal Tab
   Dose : 1 tablet inserted in vagina at bed time × 3 consecutive nights
   T.N. : **Ecanol, Ecosupp**
3. **Miconazole:** 200 mg ovule, 2% Gel
   Dose : Insert 1 Tab in vagina at bedtime × 3 consecutive nights
   or Apply Gel intravaginally × 7 to 14 days. Male partner to be treated with Gel.
   T.N. : **Gyno-Daktrin, Zole, Micogel**
4. **Ketoconazole:** 2% Oint
   Dose : Local intravaginal application for 7-14 days
   T.N. : **Phytoral**
5. **Hamycin:** Suspension 2 lac u/ml., Ovules 4 lac u each
   Dose : Local application 2-3 times/day × 10 days
   T.N. : **Hamycin Vaginal**
   Note : For vaginal Moniliasis.
6. **Nystatin:** Tab of 1 lac units
   Dose : Insert 1 tab in vagina daily × 14 days
   T.N. : **Mycostatin Vag**
7. **Terconazole:** 0.8%: Pessary or Cream
   Dose : 1 tablet or application in vagina at bedtime × 3 days
   T.N. : **Gyno-Terazol Vag**
8. **Ciclopiroxalamine:** 15 gm Cream
   Dose : 5 gm cream, intravaginally at bedtime
   T.N. : **Laprox-vaginal, Onylac, Batrafan-vaginal**

8 B: Anti Microbial & Other Pessaries

1. **Povidone Iodine**
   Dose : 1 pessary at night & morning × 7-14 days
   T.N. : **Alphadine, Betadine Vaginal, Wokadine, Vaginal, Povidone Vaginal**
   Note : Broad spectrum bactericidal + fungicidal. Use in mixed infections, non specific vaginitis, preoperative preparation.

2. **Chloromycetin: Kemicetine Vaginal**

3. **Sulpha: Trisulpha cream, Triple Sulfa**

4. **Quiniodochlor: Gynosan**

5. **Lactobacillus: Myconip** - 1 HS × 10 days

6. **Dienoestrol:** 0.01% Cream
   Dose : Apply 1-2 times/day × 2 wks
   T.N. : **Dienoestrol**
   Estriol: **Evalon, Vagifem**
   Note : For senile & atrophic Vaginitis.

7. **Benzydamioe:** Powder for vaginal Douche
   Dose : Douche morning & night
   T.N. : **Tantum Vaginal Douche**
   Note : It has anti inflammatory & local anesthetic - soothing action. For symptomatic relief in vaginitis & endocervicitis due to any cause & postradiation.

8. **Tinidazole:** 500 mg Vaginal Tabs
   Dose : Insert 1 pessary at bedtime × 7 night
   T.N. : with miconazole: **Candizole-T, Iofa-V, Zoacide-V**
   with Clotrimazole: **Tinicide-V**

8 C: Contraceptive Pills & Depots

1. **Estrogen + Progesterone combinations:**

i) Ethinylestradiol 0.05 mg + Levonorgestrel 0.25 mg
   Dose : 1 tablet daily for 5th to 25th day of M.C. followed by 7 day Tablet free interval.
   T.N. : (0.05 + 0.25 mg): **Bandhan, P & S, Duoluton-L, Ergest, Lyndiol, Orgalutin, Ovral, Primovlar-30, Triquilar, Unwanted-21**
   Low dose pills: (0.03 + 0.15): **Ovral-L, Ergest-LD, Ovilow, Contra-L**
   With Iron: **Choice, Oralcon-F**
   Note : Also for postponement of Menstruation.

ii) Ethinylestradiol 0.05 mg + Drospirenone 3 mg
   T.N. : **Crisanta, Dronis, Jazz, Yaminni**

iii) Ethinylestradiol 0.02 mg + Desogestrol 0.15 mg
   T.N. : **Femilon, Novelon**

iv) Ethinylestradiol 0.05 mg + Norgestrol 0.5 mg
   T.N. : **Ovral-G**

2. **Centhroman:** 30 mg Tabs
   Dose : 1 Tab Day 1 (of M.C.) 2nd Tab Day 4. Repeat every week on same days. Eg. Tuesday & Friday for 3 mths. Then 1 Tablet once a week.
   T.N. : **Centron**

3. **Norethisterone Enanthate:** 200 mg in 1 ml Injection
   Dose : 1 ml IM injection, every 8 wks × 4, Then every 12 wks
   T.N. : **Noristerat**
   Note : Depot contraceptive.

4. **Medroxy-Progesterone:** 150 mg in 1 ml vial-2.5, 5 & 10 mg Tabs
   Dose : 150 mg deep IM injection, to be repeated every 3 months.
   Give during 1st 5 days of Menstrual cycle or during first 5 wks. after delivery.
   T.N. : **Depo-Provera**

5. **Spermicidal Contraceptives**

a) **Nonyl phenoxy poly ethoxy ethabol - 5% Delphen, Ortho-Gynol**
   Note : Applicatorful inserted deep into vagina, just prior to intercourse. Effective for 1 act of intercourse only.

b) **Nonoxymol 5% - Today vaginal pessary**
   Note : One Tab inserted 5-10 mins. before intercourse. Effective for one hour.

6. **Emergency Contraceptives**

a) **Levonorgestrel:** 0.75 mg
   Dose : First Tab as early as possible, but not later than 72 hrs from the time of unprotected sex. Second Tab 12-24 hrs after 1st Tab. Withdrawal bleeding occurs after 3-7 days.
   T.N. : **i-pill, Pill-72, Unwanted-72, Norlevo**

8 D: Drugs to induce Ovulation

1. **Clomiphene:** 50 mg & 25 mg Tabs
   Dose : 50 mg × 1 tab daily × For 5 days × starting on 3rd or 5th day of M.C.
   T.N. : **Clofert, Fertomid, Fertotab, Fertyl, Omicite, Ovofar, Siphene**

Note : Ovulation study by ultrasonography to detect the day of ovulation is necessary to advise copulation. commonly it occurs on 13th day. Do not give for more than 6 cycles at a stretch.

2. **Human Chorionic Gonadotrophin:** 1000, 2000, 5000, 10,000 iu
   Dose : 500 iu to 10,000 iu, IM on day (midcycle)
   T.N. : **Corion, Pregnyl, Profasi, Pubergen**
   Note : This drug is given only after endocrine studies if FSH & LH levels are low.

3. **Menotrophin: FSH + LH = 1:1** = 75 iu each
   Dose : 3-5 injections on alternate days, start on 3rd day
   T.N. : **Gonadotrophon-HM, Gonotrop-M, Metrodin, Pergonal 75 & 150, Pregnorm**
   Note : 1. Used for Follicle stimulation in I.V. F. 2. for Hypogonadotrophic hypogonadism & infertility.

4. **Gonadotropin LH:** 1000 iu & 5000 iu x 3 amps.
   Dose : 1000 iu 1-2 times/week (after FSH course)
   T.N. : **Gonadotrophon LH**

5. **Gonadotrophin FSH:** 1000 iu x 3 amps
   Dose : 1000 iu 1-2 times/week x 3 weeks Followed by LH
   T.N. : **Gonadotrophon FSH**

6. **Bromocriptine:** 2.5 mg Tabs
   Dose : 1 tab 2 times daily, with meals for upto 6 months
   T.N. : **Proctinal, Serocryptin**
   Note : If Primary pituitary failure is diagnosed on Hormone studies.
   Other use: Prevention of lactation, Growth Hormone deficiency.
   To stop lactation - 1 x 2 times x 14 days.

8 E: Drugs Used to induce Spermatogenesis

1. **Clomiphene Citrate**: 25 mg Tabs. (Ref. BC-1)
   Dose : 25 mg daily x 25 days, then 5 days rest. For 3 months.
   T.N. : **Clofort**

2. **Tamoxiphene citrate:** 10 mg, 20 mg Tabs
   Dose : 10 mg x 2 times/day x 3 mths
   T.N. : **Mamofen, Eldtam, Oncomox, Tamofen, Tamoxifen**
   Note : Also used in palliative treatment of postmenopausal advanced carcinoma Breast.

3. **Testosterone Propionate:** 25 mg, 50 mg Injection
   Dose : 25 mg IM x every wk. x 3 mths.
   T.N. : **Testanon-25 or 50, Testoviron -25 or 50**
   Depot preparation 100 & 250 mgs Sustanon 100/250, Testoviron 100/250
   Note : 1. Used in infertility due to disorders of spermatogenesis stop after 3 mths. Do not repeat for 1 year.
   2. Hypogonadism: 250 mg IM every 2-3 wks.
   3. Potency disorders: 25 mg IM every wks.
   4. Aplastic Anemia: 250 mg IM x 2-3 times per week.

4. **Testosterone Undecaonate:** 40 mg caps
   Dose : 1 cap 4 times/day x 3 wks. Then 1 cap 2 times/day
   T.N. : **Nuvir**
   Note : Also used in hypogonadism, Male climacteric & osteoporosis.

5. **Mesterolone:** 25 mg Tabs
   Dose : 1 Tab x 3 times/day x 90 days
   T.N. : **Restore, Provironum**
   Note : For Impotence: 25 mg 3 times/day. For Hypogonadism: 25 to 50 mg 3 times/day.

6. **Ayurvedic Drugs**
   T. Speman 1-2 tablets x 3 times/day

7. **Coenzyme Q10:** 30, 100 & 300 mg
   Dose : 1 daily
   T.N. : **CoQ, Lyco -Q, Hi-Q**
   Combinations: **Hi-Q plus, CoQ Forte, Carni-Q**

8 F: Drugs for Threatened Abortion

1. **Allyl oestranol:** 5 mg Tabs
   Dose : 5 mg x 3 times/day x 7 days. Then 2 daily till normal.
   For theatened premature labour up to 2 Qid.
   T.N. : **Fetugard, Fulterm, Gestanin, Gravidin, Maintane, Stremnol**

2. **Isoxsuprine HCl:** 10 mg Tabs, 40 mg SR Tab, 5 mg/ml inj.

Dose : IV infusion 0.2 to 0.5 mg/min. Then 60 to 80 mg orally daily (2 tab × 3 times/day)
T.N. : **Duvadilan, Perivalan, Tidilan, Udilan**
Note : Also used for peripheral vascular diseases and C.V.A.

3. **Hydroxy progesterone Caproate**
Dose : 250 to 500 mg IM 2-3 times/wks
T.N. : **Proluton Depot, HPC depot, Anin, Inj. Uniprogestin Depot**

4. **Ritodrine:** 10 mg Tab, 50 mg/5 ml Inj.
Dose : 10 mg IM 4-6 hrly or 0.05 mg/min I.V. till contractions stop. Then Tab 10 mg 4-6 hrly.
T.N. : **Yutopar**
Note : To prevant preterm labour.

8 G: Drugs to induce Labour

1. **Oxytocin**: 5 iu/ml injection
Dose : 5 iu oxytocin in 500 ml 5% dextrose for induction. Also After delivery 5 iu IM/IV
T.N. : **Evatocin, Foetocin, Oxytocin, Pitocin, Syntocinon, Gynotocin**

2. **Desamino-Oxytocin:** 50 iu Tablets
Dose : 1 tab every 30 mins. till regular good contractions, Maximum 10 tabs
T.N. : **Buctocin**

3. **Dinoprostone: (PGE-2)**
Dose & T.N.:
1. **Cerviprime Gel, Dinoripe Gel:** 0.5 mg in 1 syringe applied endocerviacally
2. **Primiprost, PG Tab** - 500 mcg Tabs: 500 mcg Tab every hour till induction

4. **Carboprost Tromethamine:** 250 mcg in 1 ml Inj.
Dose : 250 mcg deep IM, repeat once if necessary
T.N. : **Prostodin, Deviprost, Prostopan**
Note : Indicated for PPH, Induction for IUD & missed abortion

5. **Ethacridine lactate:** 1 mg/ml 50 ml vial for inducing 2nd trimester abortion
Dose : 100 ml injected extraamniotically via catheter & clamped.
T.N. : **Abortil, Emcredil, Vecredil, Inducin**

6. **Valethamate:** 8 mg in 1 ml inj.
Dose : 1 ml deep IM at 2-4 cm dilatation of OS
T.N. : **Osdil**
Note : Used for dilatation of Cervix.

8 H: Drugs for P.P.H.

1. **Ergot Alkaloids:** 0.125 mg Tabs, 0.2 mg in 1 ml Inj.
Dose : 0.2 mg (2 amps) I.V. or IM after delivery of shoulder. May be repeated after 2 hrs.
2 tabs 3 times a day for 3 days for puerperal bleeding.
T.N. : **Ergometrine, Ergomir, Tergotab, Lerin, Methergine, Utergin, Stergin**
Note : i) Routinely used in active management of 3rd stage of Labour.
ii) Uterine atony & P.P.H.

2. **Carboprost Tromethamine:** 250 mcg in 1 ml.
Dose : 1 ml deep IM for Refractory P.P.H. repeat after 15 to 30 mins
For M.T.P. 1 ml deep IM, repeat after 3 hrs
T.N. : **Prostodin**

8 I: Drugs for Menopausal Syndrome

1. **Ethinyl Estradiol Patch:** 25 mcg, 50 mcg & 100 mcg
Dose : Transdermal Patch 50 mcg. to be applied to clean non-hairy area of skin, below waist, and replace every 4 days.
T.N. : **Estraderm TTS/MX, ETS Patch, Sandrena Gel, Estofem Nordisk**
Note : Contraindicated in breast cancer, endometrial cancer, CCF.

2. **Ethinyl Estradiol:** 0.01, 0.05 & 1 mg Tabs
Dose : 0.05 mg/day for 1st week, Then reduce to 0.01-0.025 mg/day
T.N. : **Evalon, Lynoral, Progynon. C, Progynon Depot Inj. (10 mg in 1 ml)**
With Desogestral: **Femilon, Perilon**

3. **Ethinyl Estradiol + Methyl testosterone:**
Dose : 1-2 tabs daily, or Inj. 1 ml IM every 3 weeks
T.N. : **Mixogen, Perilon-E**

4. **Conjugated Estrogen:** 0.625 mg 1.25 mg Tablets
Dose : 0.625 mg 1-2 tabs daily
T.N. : **Premarin, Conjugase**

5. **Dienoestrol:** 0.01% Cream 50 gm with applicator for atrophic vaginitis
Dose : One applicatorful, applied intra vaginally 1-2 times/day till vaginal mucosa becomes normal
T.N. : **Dienostrol cream**

6. **Alendronate Sodium:** 10 mg Tab
   Dose : 10 mg OD
   T.N. : **Bifosa, Osteofos**
   Note : For post - menopausal osteoporosis. One tablet on empty stomach with full glass of water. No food and erect posture for 30 minutes. Inhibits osteoclast-mediated bone resorption.

7. **Tibolone:** 2.5 mg Tab
   Dose : 1 OD
   T.N. : **Maxtib, Tibofem**
   Note : For Vasomotor symptoms like flushing after menopause.

8 J: Drugs for Endometriosis

1. **Danazol:** 50 mg, 100 mg & 200 mg Tabs
   Dose : 200-400 mg daily × 6 mths
   For Fibroadenosis breast 100-400 mg/day × 3 mths
   T.N. : **Danogen, Ladogal, Endometryl, Gynazol**
   Note : Also used for Gynaecomastia & menorrhagia. Inhibits Gonadotrophins from pituitary and suppresses ovaries/testis.

8 K: Progesterones

1. **Natural Progesteron:** 100, 200 & 400 mg Tab, 100 mg in 2 ml Inj.
   Dose : 200 mg BD for Threatened abortion
   T.N. : **Algest, Endogest, ETS, Hormorin, Lupigest, Puregest, Susten**

2. **Norethisterone Enanthate:** 5 mg Tab
   Dose : 5 mg OD
   T.N. : **Gynut-N, Noreta-HRT, Nortis, Norlut-N, Primolut-N, Regestrone -HRT**
   Note : Hormone Replacement Therapy (HRT), and for contraception

3. **Megestrol Acetate:** 40 mg Tab
   Dose : Breast cancer - 160 mg/day
   T.N. : **Carcinase, Endace, Unistrol**
   Note : For advanced carcinoma of Breast & Endometrium. For Endometriosis.

4. **Norethisterone Acetate:** 5 mg Tabs,
   Dose : 5 mg bd. × 4-6 mths
   T.N. : **Regestrone, Styptin**
   Note : For Postponement of Menses 5 mg Tabs. 3 days before onset of M.C. To arrest excess bleeding = 5 mg bd. × 10 days

5. **Hydroxy Progesterone:** 250 & 500 mg Inj.
   Dose : 250-500 mg IM, 1-3 times/week
   T.N. : **Gravidin, Prolustar depot, Proluton depot**
   Note : Threatened or Habitual abortion, Deficient Luteal phase.

6. **Medroxy Progesterone:** 2.5, 5 & 10 mg Tab, 150 mg in 1 ml inj.
   Dose : For contraception and Menopausal symptoms-150 mg IM every 3 mths; For Endometriosis – 50 mg/week for 6 mths
   T.N. : **Inj. Depo-Provera**
   Tab : **Deviry, Empeea, Modus, Orgamed, Provera**
   Note : For Carcinoma of Breast & Endometrium, Endometriosis.

7. **Dydrogesterone:** 10 mg Tab

9. HORMONES

9 A: Corticosteroids

1. **Prednisolone:** 5, 10, 20 & 40 mg Tabs, 15 mg/5 ml Syr
   Dose : Variable 5 to 60 mg/day, after food 2 mg/kg/day
   T.N. : Tabs **Deltacortil, Hostacortin-H, Omnacortil, Wysolone**
   Inj. : **Melpred, MPA, Histacortin-H**
   Note : a) Do not give if Hypertension, diabetes, or peptic ulcer symptoms eg. epigastric burning.
   b) Higher doses must be accompanied by antacids & 150 mg Ranitidine.
   c) Stop Immediately, if epigastric Pain. Be very cautious to combine with NSAIDs.

2. **Dexamethasone:** 0.5 mg Tabs, 4 mg/ml injection
   Dose : 4 to 20 mg, repeated as necessary maximum 80 mg/day
   T.N. : **Decadron, Decdan, Dexona, Idizone, Wymesone**
   Note : In emergencies eg. shock, Anaphylaxis, Allergic reactions, severe infections. Also in Rheumatoid Arthritis, Asthma & nephrotic syndrome.

3. **Betamethasone:** 0.5 mg & 1 mg Tabs, 4 mg/ml inj., Drops
   Dose : 0.5 to 6 mg/day
   T.N. : **Betacortil, Betnelan, Betnesol, Celestone, Cortomin, Cortil, Solubet, Walacort**
   Note : In emergencies, similar to Dexamethasone.

4. **Triamcinolone:** 1 mg & 4 mg Tab, 10 mg/ml & 40 mg/ml Inj.
   Dose : Upto 8 mg Qid
   T.N. : **Kenacort, Ledercort, Tricort, Pericort**
   Note : Also use for intraarticular & intradermal injections. (Not for IV. use)

5. **Hydrocortisone Succinate:** 100 mg vial
   Dose : 100 mg IM/IV, repeated as required
   T.N. : **Efcorlin Inj., Hydrocortisone sodium succinate Inj. Lycortin-S, Cort-S**
   Note : Quicker acting than Betamethasone & Dexamethasone.

6. **Hydrocortisone Acetate:** 25 mg/ml Inj.
   Dose : Local hydrocortisone injections in Joints, Periarticular Sprains, Tendon sheaths, Ganglia etc.
   T.N. : **Wycort, Hydrocortisone Acetate Inj.**
   Note : It has poor absorption, hence specific local action at the site of injection. Not for IM/IV uses.
   Sites for L.H.C. Injection:
   Tender spots around Joints in Periarthritis, bursitis, tendinitis, epicondylitis, etc.
   Intra-articular in Rheumatoid arthritis, osteoarthritis and after fractures.
   Intrathecal/Epidural injections.
   Keloids, Hypertophic lichen planus, Psoriasis
   Tubal stenosis in infertility cases.
   Retention enema for proctitis & proctocolitis.

7. **Hydrocortisone Sodium Succinate:** 100 mg & 200 mg vial, IV Inj.
   Dose : 100-300 mg IV
   T.N. : **Cipcorlin, Efcorlin, Lycortin-S, Unicort**
   Note : Rapid onset of action. So used in Emergencies.

8. **Deflacort:** 1, 6, 24 & 30 mg Tab, 6 mg/ml Suspension
   Dose : 6 mg OD to 30 mg OD, 0.25-1.5 mg/kg/day
   T.N. : **Asteride, Defnalone, Defcort, Tenflay**
   Syr : **Defcort**
   Note : For Rheumatoid arthritis, Asthma. Low incidence of Peptic Ulcer, Hypertension & Diabetes.

9 B: Drugs for Thyroid

1. **Thyroid supplements: Thyroxin**: 100 mcg Tabs
   Dose : 1 tab daily, upto 3 tabs/day
   T.N. : **Eltroxin, Roxin, Thyrox, Proloid**
   Note : Thyroxin suppresses secretion of TSH & causes regression of Goitre size.

Anti-thyroid drugs

2. **Carbimazole:** 5 mg Tabs, 20 mg Tabs Dose: 15 to 45 mg/day
   T.N. : **Antithyrox, Neo-mercazole, Thyrozole**
   Note : To control Thyrotoxicosis - as medical treatment or prior to thyroidectomy.

3. **Methimazole**: 5 & 10 mg Tab
   T.N. : Methimez

4. Iodine: **Collosol Iodine:** 8 mg/5 ml liquid
   Dose : 5-10 ml in water, 3 times/day
   T.N. : **Collosol Iodine**
   Note : Reduces size & vascularity of the Thyroid for few days only. So used in preoperative preparation for thyroidectomy.

5. **Propylthiouracil:** 50 mg Tab
   Dose : 50 mg tds
   T.N. : **P.T.U**
   Note : For Hyperthyroidism in Pregnancy.

10. DRUGS FOR DIABETES

10 A: Insulins (Bovine)

Commonly used & cheapest. Antigenic in a small percentage of patients, in whom insulin resistance may develop to bovine insulin.

1. Plain (soluble) Insulin: 40 iu/ml, 80 iu/ml: **Bovine Fastact**
2. 'Lente' (Zinc suspension) Insulin: 40 iu/ml, 80 iu/ml: **Bovine Longact**
3. Isophane (N.P.H.) Insulin: 40 iu/ml
4. Protamine Zinc Insulin (P.Z.I): 40 iu/ml
5. Plain + Lente Insulin: **Bovine Mixact**

10 B: Porcine Insulins: 40 iu/ml

1. Plain Insulin, fast acting: **Actrapid, Rapidica, Iletin-R, Porcine Fastact, Rapisulin CPI**
2. Lente Insulin: **Lentard, Iletin-L, Zinulin, Rapisulin HPI**
3. Isophane Insulin: **Insulintard, Iletin-n**

4. Premixed 30% Plain + 70% NPH: **Mixtard, Actraphane, Rapimix, Porcine Mixact, Mixulin HPI 30:70**

10 C: Human Insulins

1. Plain Insulin - **Human Actrapid, Huminsulin-R, Wosulin-R**
2. Lente Insulin - **Human Monotard, Huminsulin-L. Huminsulin-UL**
3. Isophane Insulin - **Human Insulatard, Huminsulin-N, Wosulin-N**
4. Premixed 30% Plain + 70% NPH: **Human mixtard 30:70 & 50, Huminsulin 30:70 & 50:50, Wosulin 30:70 & 50:50**
5. 100 iu/ml Penfil cartridges, used with special syringe - Novapen II:-
   i) **Actrapid HM Penfil** – 5 × 3 ml, **Novorapid Flexpen**
   ii) **Insulinatard HM Penfil**
   iii) **Mixtard 30 HM Penfil (30:70), Novomix-30 Penfill**
   iv) **Mixtard 50 HM Penfil (50:50)**
6. 100 iu/ml strength Human insulins:
   i) **Human Actrapid**
   ii) **Human Monotard**

10 D: Sulphonylureas

These drugs stimulate Beta Cells of Pancreas to secret insulin.

1. **Chlorpropamide:** 100 mg, 250 mg Tabs. (Not in use)
   Dose : 100 to 500 mg/day
   T.N. : **Diabenese, Copamid**
   with Phenformin: **Chlorformin**
   Note : Long acting drug, given once daily Avoid in Liver & kidney disorders.
2. **Tolbutamide:** 500 mg Tabs (*Not in use*)
   Dose : 1-2 Tab daily before breakfast. If necessary to increase the dose, 1-2 Tabs before evening meals.
   T.N. : **Rastinon**
3. **Glibenclamide:** 5 mg Tabs, 2.5 mg Tabs
   Dose : 2.5 mg daily upto 5 mg × 3 times/day
   T.N. : 5 mg = **Betanase, Daonil, Euglucon;** 2.5 mg = **Semi-Daonil Semi-Euglucon**
   With Metformin: **Daonil-M, Diabetrol, Duotrol, Duotrol SR, Beclamet, Glifil-M, Glucored**
   Note : Most widely used anti-diabetic.
4. **Glipizide:** 2.5, 5 & 10 mg Tabs
   Dose : 2.5 mg daily, up to 5 mg × 3 times/day
   T.N. : **Glynase, Glide, Glucolip, Glucotrol, Glibetic**
   with Metformin 5/500: **Glipimet, Glipimet Forte, Glimet, Glimet DS, Glynase-MF**
5. **Gliclazide:** 40 & 80 mg Tabs; 30 & 60 mg MR
   Dose : 80 mg daily upto 320 mg (i.e. 4 Tabs) daily
   T.N. : **Diabend, Diamicron, Glizide, Reclide, Azukon**
   MR : **Claz OD, Azukon-MR, Diabend-MR, Glutide-CR, Glizide-MR, Reclide-MR**
   with Metformin 80/500: **Azukon-M, Diabend-M, Dianorm-M, Glizide-M, Glychek-M, Glycigon-M, Reclimet**
   with Rosiglitazone: **Glyroz-2**
6. **Glimepiride:** 1, 2 & 4 mg Tab
   Dose : 1 mg OD to 2 mg bd
   T.N. : **Betaglim, Diapride, Dibiglim, Glimpid, Glimestar, Glador, Glypride**
   With Metformin: **Gluformin G-1, Glimaday, Glycomet-GP, Wallaphage-GP**

10 E: Biguanides

These drugs enhance peripheral action of Insulin. They do not cause hypoglycemia. They are drug of First choice in Obese diabetic patients. Can be combined with insulins or sulfonylureas to potentiate their action.

1. **Phenformin:** 25 mg Tabs (not in use)
   Dose : 25 mg 1 to 4 times/day
   T.N. : **DBI, DBI-TD (50 mg)**
2. **Metformin:** 500 mg Tabs
   Dose : 250 mg 1-2 times/day, upto 1 gm 3 times/day
   T.N. : **Gluformin, Glumet, Gluconorm, Glycomet, Glyciphage, Walaphage**
   SR : **Dibeta-SR, Gluformin-XL, Glumet-XR, Glyciphage-SR, Glycomet-SR**

10 F: Drugs to reduce Carbohydrate Absorption

1. **Guargum:** 5 gm sachets, stirred in a glass of water, and taken 15 minutes before meals, 2-3 times/day. It reduces carbohydrate absorption.
   T.N. : **Carbotard, Diat-Aim, Nosulin**
2. **Acarbose:** 50 mg and 100 mg Tabs
   Dose : 50 mg tds to be taken just before each meal.

T.N. : **Glucobay, Rebose**
Note : Primary or adjuvant therapy. Retards absorption of carbohydrates and Reduces Post Prandial surge in glucose levels.

3. **Voglibose:** 0.2 & 0.3 mg Tabs
Dose : 0.2 mg tds before each meal
T.N. : **Vocarb, Voglitor, Volvo, Vozua**
Note : For Postprandial hyperglycemia

4. **Glucomannan:** 1 gm Cap, 1.2 gm sachet
Dose : 1 gm before each meal
T.N. : **Dietmann**
Note : Reduces glucose absorption. Causes Anorexia.

5. **Miglitol:** 25, 50 & 100 mg Tab
Dose : 25 to 100 mg tds
T.N. : **Miglor, Misobit, Elitox**
Note : Taken with first bite of meals. with Metformin: **Mignor-MF**

10 G: Agents to Aid Insulin Action - Glitazones

1. **Pioglitazone:** 15 mg & 30 mg Tabs
Dose : 15 mg OD to 45 mg OD
T.N. : **Diavista, Dibizone, Glizone, Pioz, Pioped, Pioglit, Piozone, Piozulin**
with Metformin (15/30 + 500 mg): **Pioz-MF15, Piotop-OB, Pioglit-MF, Glyciphage-P, Gluconorm-P, Metanorm 15/30**
with Glimepride (15 + 1 or 2 mg): **Dibiglim-P, Pioz-G**
with Glibenclamide + Metformin: **Pioglucored Forte, Triglycomet**
with Glimepiride + Metformin: **Gemer-P1, Glyciphage PG 1 & 2, Pioz-MF-G**

2. **Rosiglitazone:** 2, 4 & 8 mg Tabs
Dose : 2 to 8 mg OD
T.N. : **Enselin, Reglit, Rosicon, Rezult, Roglin, Senzia**
with Metformin (2+500 mg): **Enselin-MF, Roglin-M2 & M4, Roglin-M2 & M4**
with Glimepiride: **Enselin-2G**
with Glimepiride+Metformin: **Roglimet, Rosinorm-GM**

10 H: Meglitinides

Stimulate pancreas to secrete insulin, but are very short acting. So act only around the mealtime, if taken just before meals. Useful for patients with irregular meal timings.

1. **Repaglinide:** 0.5, 1, 2 mg Tabs
Dose : 0.5 to 4 mg just before each major meal.
T.N. : **Eurepa, Rapilin, Repide**

2. **Nateglinide:** 60 & 120 mg Tabs
Dose : 60 to 120 mg half hour before each major meal.
T.N. : **Glinate, Natelide, Natiz**
with Metformin: **Glinate-MF**

10 I: Sugar Substitutes

1. **Saccharin**

2. **Aspartame:** 18 mg Tablets equal to 1 teaspoonful of sugar
T.N. : **Aspasweet, One Up, Sugarfree, Equal**
Note : Not for pregnant women & children.

10 J: Miscellaneous

1. **Glucagon: 1 mg in 1 ml vial**
Dose : 1 mg subcut/IM/IV
T.N. : **Glucagon, Glucagon Nova**
Note : In hypoglycemic shock, if vein is not quickly found for Glucose 25% injection Give 1 cc Glucagon S.C./IM. Also used in cardiogenic shock.

2. **Chromium Picolinate:** 200 mcg & 500 mcg Tabs
Dose : 200 to 1000 mcg, improves insulin sensitivity
T.N. : **CP200, CP500, Chromate**
with Metformin (200 + 500 mg): **Pichromate**

10 K: DPP 4 Inhibitors – gliptins

1. **Sitagliptin:** 25, 50 & 100 Tab
Dose : 25 to 100 mg OD
T.N. : **Januvia Istavel**
with Metformin 50/500: **Janumet, Istamet**
Note : Improves glycemic control.

2. **Vildagliptin:** 50 mg Tab
Dose : 50 mg OD
T.N. : **Galvus, Jalra, Zomelis**
with Metformin – **Glavusmet, Jalra-M, Zomelismet**

3. **Saxagliptin:** 2.5 & 5 mg Tab OD
T.N. : **Onglyza**

4. **Alogliptin :** 25 mg Tab OD
T.N. : **Vipidia**

5. **Linagliptin:** 5 mg Tab OD
T.N. : **Trajenta, Trajenta Duo**

11. TOPICAL APPLICATIONS

11 A: Antifungal Ointments and Powders

1. **Tolnaftate:** 10 mg/ml Lotion, 10 mg/gm Cream
   Dose : Apply & rub gently 3 times/day × 3 weeks
   T.N. : **Tinaderm, Tinavate, Tolnaderm, Toisol**
   Note : Solution is more useful for hairy areas. All underclothes should be boiled before reuse. Apply for 10 days after lesions have subsided.

2. **Clotrimazole:** 1% W/W lotion, cream or powder
   Dose : Apply & rub gently 3 times/day
   T.N. : **Calcrem, Candid, Canesten, Clocip, Clomycin, Clotrin, Imidil, Surfaz**
   Powder: **Candid, Cloben, Clocip**
   Note : 10 mg Oral Tab: **Clenorush Torche** to suck for oral candidiasis.

3. **Miconazole:** 2% Gel or Ointment
   Dose : Apply 2 times daily
   For nail infections - apply ointment layer and cover with dressing, daily for 3 mths.
   T.N. : **Candistat, Daktarin, Micodol, Mizole, Sigmazol, Siloderm-C, Zole, Decanazole**
   Powder: **Rexcel**
   with steroid: **Daktacort, Micogel-F, Tenovate-M**

4. **Quin iodo chlor:** 4% cream
   T.N. : **Dermoquinol**
   with steroid: **BetasoneQ, Millicorten - Vioform, Cortoquinol**

5. **Ketoconazole:** 2% W/W Ointment, Solution or Shampoo
   T.N. : **Funginoc, Nizral, Phytoral, Dandoff, Danrof**
   with Zinc Pyrithione: **Dandsol shampoo, Scalpe lotion**

6. **Econazole:** 1% cream
   T.N. : **Ecanol**
   Note : For mucocutaneus candidiasis.

7. **Ciclopirox Olamine:** 1% W/W lotion or vaginal cream
   Dose : Apply 2-3 times & allow to dry x 2-4 wks
   T.N. : **Batrafen, Fumin, Laprox**
   Note : For Vulvo- Vaginal or Skin Candidiasis.

8. **Combinations**
   Multifungin: Solution, Cream/Powder
   Mycoderm

11 B: Antiseptic & Antibiotic Ointment

1. **Povidone Iodine:** 5% oint, Solution & Powder
   T.N. : **Alphadine, Betadine, Cipladine, Torvidone, Wokadine**
   with Metronidazole: **Metrogyl-P, Povicidal-M**

2. **Chloroxylenol:**
   T.N. : **Dettol liquid, Dettol antiseptic cream**
   Di-chloroxylenol: **Fairgenol, Iteol-3**

3. **Cetrimide:** 5% lotion
   T.N. : **Cetavlon, Cetrilak, Cetavlex cream, Endruff lotion**

4. **Silver Sulphadiazine:** 1% cream
   T.N. : **Argenex, S.S.Z., Silver Sulphadiazine, Silvindon**
   with Chlorhexidine: **AG-X, Burnheal, C.S.S., Silverex**
   Note : Specifically indicated for deep i.e. 2nd & 3rd degree Burns, as it can penetrate the eschar.

5. **Nitrofurazone:** 0.2% cream, Powder & Ointment
   T.N. : **Furacin**

6. **Framycetin Sulphate:** 1% cream, powder
   T.N. : **Soframycin, Frade**

7. **Neomycin:** Powder & Ointment
   with Polymixin: **Neosporin, Alsporin**
   with bacitracin & sulpha: **Nebasulf**

8. **Other:** Fucidin (Sodium Fusidate 2%) Oxytetracyclin oint., Ensamycin Cream, chloromycetin topical

9. **Clostebol Acetate:** Ointment
   T.N. : **Clostagen, Trophodermin**
   Note : Tissue regenerator

10. **Mupirocin 2%:**
    T.N. : **Bactroban, Muprax-B**
    with Betamethasone: **Muprax-B**

11. **Chlorhexidine:** Cream & Lotion for scrubbing
    T.N. : **Savlon, Chlorhexidine, Microshield**

12. **Sodium Fusidate:** 2% Oint, Cream
    T.N. : **Fucidin, Fusiderm**
    With Beclomethasone: **Fucin-B, Fusiderm-B**
    Note : For Staph. Aureus, Gram positive.

13. **Nadifloxacin:**
    T.N. : **Nadibact, Nadiderm, Nadoxin**

11 C: Topical Steroids

1. **Beclomethasone**
   T.N. : **Beclasone (C, GM, N, S), Beclate (C, N) Betamil, Derbec (N), Zovate (GN, M, S)**

2. **Betamethasone**
   T.N. : **Betamil (GM, M, N), Betasone (N,Q), Betnovate (C,N) Diprovate (MF, N), Topicasone (N), Walacort**

3. **Fluocinolone**
   T.N. : **Alcort-M, Flucort (C, MZ, M), Supricort-N**

4. **Flucortolone**
   T.N. : **Colsipan, Colsipan-N, Ultralan**

5. **Clobetasone & Clobetasol**
   T.N. : **Clobetamil (G, M), Clobetavate, Clobespan (G,M), Dermotyl (G, M), Eumosone (G,M), Lobate (G, M, GM), Steriderm-S (SM), Tenovate (G, M), Topifort**

6. **Triamcinolone**
   T.N. : **Ledercort (N), Cortrima**

7. **Dexamethasone:** 0.1%
   T.N. : **Millicortenol, Sofradex (F)**

8. **Hydrocortisone**
   T.N. : **Wycort (-N), Locoid, Lipocream, Lycortin**
   Combi: **Crotorax. HC, Furacin-H, Neosporin-H**

9. **Prednicarbate:** 0.25%
   T.N. : **Dermatop Cream**
   Note : 4th Generation topical steroid. Apply 2 times, not more than 4 wks.

10. **Halobetasol Propionate:** 0.05% oint
    T.N. : **Halovate, Supacor, Supratop**

11. **Prednicarbate**
    T.N. : **Dermatop, Sterotop**

12. **Mometasone Furoate:** 0.1%
    T.N. : **Azokid, MMS, Mometa, Momoz, Topcort**

13. **Fluticasone Propionate:** 0.05%
    T.N. : **Futicare, Zoflut, Moliderm**

11 D: Keratolytics & Skin Softeners

1. **Salicylic acid + Benzoic acid:**
   T.N. : **Exsora, Keralin, Mycoderm, Sallilac 6 & 12, Salicylix SF 6 & 12, Whitfield SF**

2. **Urea,** Lactic acid, Liq paraffin etc:
   T.N. : **Cotaryl, Footcare, Moisturex**

3. **Paraffin: Cetraben, Cutinorm**

4. **Aloe vera:** Alovit cream, Dewsoft cream, Aloben, Softe, Actvera, Ahaglow, Aloekin, Elovera, Hidrate, Sofderm

11 E: Soothing Ointments

1. **Zinc Oxide + Calamine + Others**
   T.N. : **Aluderm, Calak, Rashfree, Siloderm**
   Note : Used for contact & irritant dermatitis, protection from skinburn, Protection from skin excoriation in intestinal fistulas or colostomy.

2. **Calamine: Caladryl Lotion**
   With Aloe vera: **Calvera, Calosoft**

3. **Miscellaneous:** Oilatum cream & lotion

11 F: Anti-Acne

1. **Benzoyl Peroxide**
   Dose : Apply after washing the face for 15 minutes, then wash away.
   T.N. : **Pernox Gel, Persol Gel**
   with 5% sulphur: **Persol Forte**
   with Glyceral & acrylates: **Persol-AC**
   Note : Comedolytic + Bacteriostatic. May cause local irritation & allergy. Avoid contact with Eyes.

Topical Antibiotics

2. **Topical Erythromycin:** 2% & 3% lotion/cream
   Dose : Apply 2 times/day
   T.N. : **Acnederm, Acnesol, Acnicin, Erytop**
   with Tretinoin: **Aknemycin Plus**

3. **Clindamycin Topical 1%**
   T.N. : **Acneclin, Clenz, Clincin, Tocan**
   with Adapalene: **Clindapene, Tocan-A, Apalene-C, ADC**
   with Nicotinamide: **Clinka-N, Femcinol-A, Tocan-N, Faceclin Gel**

Retinoids: Comedolytic

4. **Tretinoin** (Retinoic-acid)
   Dose : Apply 1-2 times/day for 6 wks Avoid exposure to direct sun.
   T.N. : **Eudyna, Retino-A, Supretret**

5. **Isotretinoin:** 10 & 20 mg Tab, Topical
   Dose : 20 mg OD
   T.N. : Tab: **Acnex, Isotroin, Sotret, Isoace**
   Gel : **Isotroin Gel**

6. **Adapalene 0.1% Gel**
   Dose : Apply once/day for 6 wks.; Avoid exposure to direct sun.
   T.N. : **Aclene Gel, Acneril, Adaclene, Alene Gel**

7. **Resorcinol** (With Sulphur)
   Dose : Apply for 15 mins in evening, upto 2 hrs.
   T.N. : **Eskamel**

8. **Others:** Acnex, Clarex, Clindac-A, Aziderm (Azelaic acid)

11 G: Anti-Scabies

Note: Treat all family members at the same time. And Boil all clothes on 3rd day.

1. **Benzyl Benzoate** - 25%
   Dose : Apply all over the body except face, After a hot water bath & scrubbing of skin with rough towel, Let it dry on the body. Repeat for 3 days.
   T.N. : **Benzoscab, Scabindon**

2. **Gamma Benzene Hexachloride:**
   Dose : Apply as above for 1 day Repeat after 1 week.
   T.N. : **Emscab, Gab, Gamaric, Gamascab, Scaboma**
   with Cetrimide: **Scabex, Scabimide, Scarab, Ultrascab, Ascabiol**
   Note : For Pediculosis, Massage the scalp with scabex emulsion at night & cover the scalp with a cloth. Wash the hair next morning, protecting the eyes.

3. **Crotamiton 10%**
   Dose : Apply as above for 3 days
   T.N. : **Crotorax**
   Note : Has weak scabicidal action, but is safe in children. It has antipruritic action & is used for nonspecific pruritus also.

4. **Tetmosol Soap** 5% to be used as toilet soap.

5. **Permethrin:** 5% Cream, 1% lotion for scalp
   Dose : Single application, Left on skin for 10 hrs. Repeat after 1 week.
   T.N. : **Permisol, Persure, Uniscab**
   Note : For Scabies, Headlice & Nits.

6. **Malathion 1% lotion:** For Head Lice & Scabies (scalp)
   T.N. : **Oviride**

7. **Ivermectin:** 6 mg Tab
   Dose : 12 mg stat
   T.N. : **Ivermectol**
   Note : For Scabies, Pediculosis, & ante-helminthic.

11 H: Anti Psoriasis

1. **Topical Steroids:** (Ref. Section 11 C)

2. **Coal tar:** 5%
   T.N. : **Salytar ointment & scalp solution, Carel solution**
   with Allantoin: **Alphosyl, Pragmatar**

3. **Anti-Vitiligo Drugs:** (Ref. Section 11-I)

4. **Calcipotriol:** Vitamin D analogue
   T.N. : **Daivonex**
   Note : For chronic stable plaque psoriasis.

5. **Dithranol:** With coal tar and salicylic acid.
   T.N. : **Derobin, Derobin-HC, Psorinal**
   Note : For Chronic stable plaques.

6. **Acitretin: Acetec, Aceret**

7. **Tazarotene: Latez, Lazatop, Lazret**

11 I: Drugs for Vitiligo

1. **Psoralen:** 10 mg Tabs, 1 % Oint. lotion
   Dose : 1-2 tablets at 7-8 am followed by exposure to sunlight or Ultraviolet light after 2 hrs. Exposure time adjusted till lesion is erythe-matous.
   T.N. : **Dsorolen, Manaderm, Neosoralen**
   Note : 1. Over exposure, can cause blisters & sun. Protect with Caladryl or Paraminol lotion. 2. Local application is only for covered areas. Exposure to sun should be few seconds only.

2. **Methoxsalen:** 10 mg Tabs, 1% Solution
   Dose : As above
   T.N. : **Macsoralen, Meladerm, Melanocyl**

3. **Ammoidine:** 10 mg Tabs, 0.75% solution/ ointment
   Dose : As above
   T.N. : **Melanocyl**
   Note : Do not apply on lips, eyelids & glans. Dilute upto 10 times in eau-decologne for local applications.

For Preventing Hyperpigmentation

4. **Sunscreen:** Para-amino benzoic Acid 5%
   T.N. : **Pabalak, Paraminol**
   Note : Apply as a thin film over the surrounding normal skin before exposure to ultraviolet rays.

5. **Hydroquinone**
   Dose : Apply a thin layer before exposure to sunlight, 2 times/day
   T.N. : **Eslite, Melalite Forte, Melanorm** with Steroid & Tretinoin: **Eveglow, Melacut, Melalite, Melanorm-HC**

11 J: Anti- Thrombotic Ointments

1. **Heparin: 200 iu/g**
   Dose : Apply 2-3 times/day over areas of superficial thrombophlebitis, hematomas & sprains.
   T.N. : **Beparine, Thrombophob**

2. **Heparinoid:** 250 iu/g
   T.N. : **Hirudoid**
   Note : Also used to soften hard scars & Keloids.

11 K: Miscellaneous Ointments

1. **Masse Cream:** 2% Allantoin
   Use : For fissures of nipple & massage of inverted nipple.

2. **Benoquin Oint:** 20% Monobenzone
   Use : To reduce hyperpigmentation after skin infections.
   Note : It may cause irregular hypopigmentation. Apply to a small patch & test for allergy before first use.

3. **Podophyllotoxin Solution:** Condyline: 5 mg/ml
   Use : For Genital warts apply 2 times/day for 3 days, then stop for 4 days upto 6 wks. Used after cautery excision of genital warts to prevent recurrence.
   T.N. : **Podowart**

4. **Collagenase:** 250 u in each gm soft paraffin
   T.N. : **Salutyl**
   Use : Enzymatic debriding agent, once daily till slough is cleared.

11 L: Medicated Soaps

Dettol, Neko, Sulphur.

11 M: Mouth Wash

Piodin, Listerin, Prudent, AM-PM, Plakicide.

12. DRUGS FOR HAIR PROBLEMS

12 A: Alopecia

1. **Minoxidil 2% Solution**
   T.N. : **Gromane, Hairex, Hebald, Multigain**
   Note : Dry the scalp & surrounding hair Apply 1 ml to the affected area, 2 times/day. Do not apply more than 2 ml wash the finger immediately Response is seen after 4 to 6 months.

12 B: Dandruff

1. **Selenium Sulfide:** 2.5%
   T.N. : **Seldan, Selsun**
   Note : Wet the hair. Apply 1-2 tsp of shampoo & massage to produce lather. Rinse after 5 minutes with plenty of water. Repeat 2 times per week.

2. **Selenium Disulfide with Clotrimazole:**
   T.N. : **Candid. TV**

3. **Cetrimide 20%**
   T.N. : **Cetavlon-Conc, Cetrilak strong**

4. **Danclin (Herbal)**

5. **Ketoconazole 2 % Shampoo**
   T.N. : **Phytoral Shampoo, Nizoral, Danruf Ketodan** with Zinc Pyrithone 1%: **KTC Shampoo, Nuforce, Scalpe**
   Note : Wet the hair, apply shampoo & massage into scalp. Wait for 5 min. Wash the hair.

12 C: Lice: (Pediculosis)

1. **Gamma Benzene Hexachloride**

2. **Benzyl Benzoate.** (Refer Section-11 G)
   Note : Massage the emulsion into the scalp at night, cover the scalp & hair with cloth. and wash the hair in the morning. Take care to protect the eyes from the drug.

3. **Permethrin:** (Refer Section-11G-5)

12 D: Premature Greying

1. **Calcium Pantothenate:** 100 mg Tabs
   Dose : 1 tab × 2 times/day
   Note : Injection (50 mg/ml) is used for postoperative paralytic ileus, & burning feet syndrome.

13. DRUGS FOR EYE, EAR, NOSE, MOUTH

13 A: Eye Drops

A: *Anti-Bacterial*

1. **Sulphacetamide:** Albucid, Optisol, Steroide
2. **Silver Sulphadiazine:** SSZ Applicaps
3. **Chloramphenicol:** (Drops/oint) Chloromycetin Applicaps, Enteromycetin, Paraxin, Vanmycetin
4. **Oxytetracycline:** Oxytetracycline eye oint, Terramycin-E
5. **Polymyxin B:** Neosporin eye drops, Decol-P, Andresporin, Ocupol, Oriprim-P
6. **Zinc Sulphate + Boric Acid:** Andre eye drops, Zincula, New eye lotion

Aminoglycosides

7. **Gentamycin:** Garamycin, Gentasporin, Genticyn, Lyramycin
8. **Tobramycin 0.3%:** Ibrex, Tobacin, Tobrabact, Tobracad; With Dexamethasone 0.1%: Toba-DM, Tobacin-D
9. **Sisomycin 0.3%: Ensamycin, Sisocin**
10. **Amikacin 0.1%:** Aminogen
11. **Soframycin 0.5%:** Soframycin eye drops

Fluoroquinolones

12. **Ciprofloxacin:** Bekaycin, Cifran eye, Ciplox, Ciprobid HC, Ciprowin, Quintor, Zoxan
13. **Norfloxacin:** Alflox, Norbactin, Norbid, Norflox, Norflox oint, Norquin, Norzen, Zeflox
14. **Ofloxacin:** Zanocin, Oflox, Oiox; With Steroid: Oflo-DM, Oflo-P; With HPMC: Siloflo
15. **Pefloxacin:** Proflox eye
16. **Gatifloxacin 0.3%:** Gatiquin oint, Gaticip drops, Gatsun. With Dexa: Gatsun-DM, Gatilox-DM
17. **Sparfloxacin 0.3%:** Spardrops, Scat, Scat-DM
18. **Levofloxacin 0.5%:** Floquin, Leeflox, Levobact
19. **Moxifloxacin 0.5%:** Eye quin, Milflox, Moxicip, Milflox-DM

B: *Anti-Fungal*

1. **Miconazole 1%:** Micoptic
2. **Natamycin 5%:** Pimafucin, Natadropsw
3. **Ketokonazole 2%:** Phytoral drops
4. **Fluconazole 0.3%:** Flucomet, Syscan

C: *Anti-Viral (Herpes simplex/zoster)*

1. **Acyclovir 0.3%:** Cyclovir oint, Herpex Opticops, Ocuvir opticops, Acivir, Ophthovir
   Dose : 1 cm oint, 5 times/day at 4 hrly interval

2. **Idoxuridine 0.1% -** Ridinox, Toxi-L
   Dose : 1 drop every hr. during day & every 2 hrs. during night.

D: *Anti-inflammatory*

1. **Flurbiprofen 0.03%:** Cadiflur, Flubinex, Flur, Fluriben. Note: Used for postoperative inflammation.
2. **Indomethacin 1%:** Indoflam, Inmecin
3. **Sodium Cromoglycate:** Fintal eye drops, Ifiral, Chromal, Chromyl. Note: for allergic conjunctivitis
4. **Medrysone:** Medrysone 1%
5. **Naphazolin:** Clearine, Mezol
6. **Diclofenac 0.1%:** Profenac, Oxalgin E/E

E: *Steroid Eye Drops (with an Antibiotic)*

1. **Hydrocortisone**
   Allocort, Chlorocort, Cortola-m, Genta-sporin-HC, Genticyn HC, Sulpha-FH
2. **Dexamethasone**
   Chloromixin-D, Decden-N, Dexacol, Dexona, Dexosyn-C/N, Mycidex, Pyricort, Sofracort
3. **Betamethasone**
   Betnor, Betnesol, C: Betnesol-N, CorGen, Garason, Milbeta
4. **Prednisolone**
   Chloramsone, Acelone, Predone, Renisol
5. **5-Fluorometholone 0.1%**
   Flomex, Flocef, FML
   with Tobramycin: Flurisone-T, Toba-F, Tozen-F

F: *Anti-Glaucoma Eye Drops*

Sympathomimetic

1. **Pilocarpine:** Pilocar, Andrecarpine, Bi-miotic 2%, 4% Carpomictic
2. **Dipivefrine:** Propine

Beta-blockers

3. **Timolol 0.25%, 0.5%:** Glaucare, Glucomol, Iotim, Ocupres, Ocobar
4. **Betaxolol 0.5%:** Iobet, Optipress
5. **Levobunolol:** Betagan

Diuretics

6. **Acetazolamide 250 mg Tabs:** Diamox 2 to 4 tabs/day
7. **Dorzolamide drops:** Dortas, Dorzax

Alpha 2 Agonists

8. **Brimonidine 0.1%:** Alphagan, Bromidin, Brimosun-LS
9. **Apraclonidine 0.5%:** Alfadrops

Prostaglandin Analogue

10. **Latanoprost 0.005%:** Loptane, Laprost, 9 PM Eyedrops; With Timolol: Laprost plus, Latim
11. **Bimatoprost 0.03%:** Careprost, Lumigan

G: Mydriatic (Atropine like) Drops

1. **Atropine Sulphate:** Atropine, Bellpine-artin
   Note : Mydriatic + cycloplegic, For Refraction, Uveitis.
2. **Homatropine:** Bell Homatropine
   Note : Faster acting than atropine.
3. **Phenylephrine:** Drosyn, Pupiletto forte, Fenilefrina
   Note : Long acting, for surgery & diagnostic procedures.
4. **Tropicamide:** Tropicacyl, Tropisyn
   Note : Short acting, for diagnostic procedures.
5. **Cyclopentolate 1%:** Cyclate, Cyclogyl, Cyclopent

H: For Dry Eyes, due to Deficient Tear Secretions

a) **Hydroxypropyl Methyl Cellulose:** Erisol, Eyemist, Flogel, Gonosol, Hyprosol, Mo sol
b) **Carbox Methyl Cellulose:** Add Tears, Glytears, Richgel tears, Ultragel
c) **Polyvinyl Alcohol & Povidone:** Aqua tears, Dudrops, Lacrisan, Tearex, PVA tears
d) **Cyclosporin Drops:** Cyclomune, Restasis

I: Miscellaneus

1. **For Cataract:** Carasol, Catalin, Cacobell
2. **For Topical Anesthesia**
   i. Lignocaine
   ii. Benoxinate - Bendzon eye drops

13 B: Ear Drops

1. **For Ear Wax**
   i) Desol, Solfwax, Waxolve, Clearwax, Solvax
   ii) Glycerine sodabicarb drops
2. **For Fungal Infections**
   i) **Hamycin** 2 lac units/ml - Hamycin
   ii) **Clotrimazole 1%** - Candid ear, Surfaz ear, Mycoban, Clotrin
   iii) **Methanol + Salicylic acid** - Methazil
3. **For Bacterial Infections**
   i) **Gentamycin:** Genticyn (-B/HC), Genfree, Gentasporin (-HC), Garamycin, Garasone, Bactigen, Lyramycin
   ii) **Chloromycetin:** Candibiotic, Chloromycetin, Enteromycetin Otina, Paraxin
   iii) **Soframycin:** Sofracort
   iv) **Neomycin + Steroid:** Betabiotic, Betnor, Otek P, Dexona E/E, Decden-N
   v) **Ciprofloxacin:** Conflox E/E, Ciplox, Icip, Ciprobid E/E
4. **For Ear Pain:** Otogesic, Otek-AC

13 C: Nasal Drops

1. **Decongestant Drops**
   i) **Oxymetazolin** 0.05% & 0.025% Pediatric: Nasivion, Otrivin-O, Sinarest, Sudin, Zoamet
   ii) **Xylometazolin** 0.1% & 0.05% Pediatric: Otrivin, Otrivin Pediatric, Clearnoz, Decon, Nasomet, Otrinox. Spray: Recofast
   iii) **Phenylephrine + Naphazoline:** Andre nasal drops, Fenox, Nazalin, Dristan nasal
   iv) **Ephedrine:** Endrine, Endrine mild
   v) **Naphazolin + Hydrocortisone:** Efcorlin nasal
2. **Anti-allergic Sprays & Drops**
   i) **Beclomethasone Spray:** Beclate nasal spray, Beclate Aquanose
   ii) **Betamethasone Drops:** BetnesolN Nasal
   iii) **Budesonide Spray:** Rhinocort nasal spray(MDI)
   iv) **Fluticasone Nasal Spray:** Flomist, Fluticone, Otrivin-C
   v) **Mometasone Spray:** Aquamet, Metaspray
   vi) **Sodium Cromoglycate:** Fintal Nasal spray, Ifiral Nasal Drops
3. **Saline Drops:** Otrivin-saline, Nasivion-S, Nasoclear, Rhine nasal

4. **Azelastine Spray:** Azelast, Azeflo, Nezalast, Duonase

13 D: Mouth Washes

1. **Antiseptic Mouth Washes**
   - i) **Chlorhexidine:** Clohex, Hexide, Oragine, Orahex-Rinse & Gel, Hexidine, Plaklcide, Rexidine
   - ii) **Povidone-Iodine:** Alphadine, Betadine, Pidin, Povidine, Wokadine
   - iii) **Others:** Dettolin, Tantum oral rinse (Benzydamine), AM-PM (Ticlosan)

2. **Medicated Tooth Pastes** - For sensitive teeth
   - i) **Strontium Chloride:** Desent, Senolin, Stolin, Thermoseal, Toss
   - ii) **Tannic acid:** Dentoform, Emoform, Sensoform
   - iii) **Potassium Nitrate:** Senquel (F/K), Astrodent

3. **Mouth Paints:** For Mouth ulcers, teething pains
   - i) **Cholin Salicylate + Benzylkonium:** Dologel, Zytee, Gekora
   - ii) **Tannic Acid:** Sensoform, Stolin, Toss
   - iii) **Clotrimazole:** Candid, Mycoban, Nifugal
   - iv) **Hydrocortisone:** Efcorlin Pellets

14. VACCINES

Childhood Vaccines

1) BCG 2) Polio 3) Triple 4) D.T. (Dual)
5) Measles 6) M.M.R. 7) Hepatitis B
8) Meningococcal

Common Vaccines

11) Tetanus 12) Typhoid 13) Cholera
14) Hepatitis-A 15) Haemophilus B 16) Influenza
17) Rubella 18) Meningococcal 19) Chickenpox 20) Pneumococcal 21) Yellow fever

Specific Vaccines & Sera

31) Rabies 32) A.S.V. 33) Diphtheria
34) Gasgangrene

Immunoglobulins

1) Human Normal Immunoglobulin
2) Histaglobin
3) Anti-D Immunoglobulin
4) Gamma-globulin
5) Hepatitis-B Immunoglobulin
6) Rabies Immunoglobulin
7) Tetanus Immunoglobulin

Childhood Vaccines

1. **B.C.G.**
   Dose : 0.1 ml, intradermal, during first week after birth, over Left deltoid area.

2. **Polio**
   Dose : 0.5 ml (2 drops) orally at 1 month interval, 3 to 5 doses
   T.N. : **Polio Sabin (SKB), Oral Polio (Haffkin, Panacea), OPV**
   Note : Do not give when fever or acute diarrhoea. If one dose is missed, repeat all 3 doses.

3. **Triple Antigen (D.P.T):** Diphtheria 25 Lf +Tetanus 5 Lf + Bordetella Pertussis 20,000 million/0.5 ml
   Dose : 0.5 ml, Intramuscular, at interval of 4 to 6 weeks, 3 doses. during 1st year, Booster at 18 mths & 5 yrs
   T.N. : **Triple antigen.** (Chowgule, Haffkin, Glaxo, S.I.) **Tripvac** (B.E.)
   Note : Contraindicated after 5 yrs age - in older children, use Dual antigen (D.T.).

4. **Dual Antigen:** Diphtheria 25 Lf + Tetanus Toxoid
   Dose : 0.5 ml, IM at interval of 4-6 wks, × 3 doses
   T.N. : **Double Antigen** (Bengal Immunity)

5. **Measles:** Live attenuated 1000 TICD - 50
   Dose : 0.5 ml, one dose, subcut, in upper arm Give immediately on reconstitution.
   T.N. : **M-Vac (Serum Inst), Rimevax (SKB)**
   Note : Expect mild fever & rash bet 5th & 12th day. Contraindi = Fever, 3 months after Blood transfusion, reduced immunity after steroids or cytostatic drugs. Pregnancy, AIDS.

6. **M.M.R.:** Live attenuated vaccine
   Measles 5000 TCID -50, Mumps 5000 TCID-50 & Rubella 4000 TCID 50
   Dose : 0.5 ml, Subcut or IM, single dose between 12 & 15 months of age. If endemic area, give at 9 moths age.
   T.N. : **Tresi-Vac**
   Note : Mild fever & rash may occur bet 5th & 12th day.

7. **Hepatitis-B:** active immunity, surface antigen
   Dose : 1 ml IM × 0, 1 mth & 6 mths (3 doses) Children - 0.5 ml)
   T.N. : **Engerix B** (SKB), **Heppaccine-B** (Bharat Serum), **Biovac-B, Genevac-B, HB Vac, Hepashield, Shanvac-B**
   Note : In developed countries, included in standard regime for infants. In India, Used for High Risk Persons - Medical, Paramedical.

Other Common Vaccines

11. Tetanus

a) Tetanus Toxoid

Dose : 0.5 ml, IM, at interval of 4 to 6 wks. 2 doses
T.N. : **Tetanus Toxoid** (CH, B.E., Glaxo, Haffkin, S.L)
Note : For active immunisation in infants, Pregnant women, Road & agriculture workers and all persons prone to Injuries. Immunity is gained after 2-3 mths and lasts for 5 yrs.

b) Tetanus Antitoxin: 1500, 10,000 iu vials (also 20,000 & 50,000)

Dose : Prophylactic (after contaminated injuries)- 1500 iu single dose, IM. (A.T.D.)
Therapeutic for developed Tetanus- 1,00,000 iu - Half dose IM, + Half IV. (A.T.D.)
T.N. : **Tetanus Antitoxin, Antitet**
Note : Test dose must he given as anaphylaxis may occur. Gives immediate passive immunity lasting for 3 wks. For Badly contaminated crush injuries & wounds, Burns, Road accidents.

c) Tetanus Immunoglobulin: 250 iu, 500 iu

Dose : Prophylactic - 250 to 500 iu, IM, single dose. Therapeutic 3000 10,000 iu, IM and 500 iu intrathecal
T.N. : **Tetaglobulin, T.I.G Human** (Serum Insti) **Tetglobe, Tetagam-P**
Note : No Sensitivity reaction, Better than Tetanus antitoxin, can be given intrathecally.

12. Typhoid

1. Injectible Vaccine: 0.5 ml Injection

Dose : 0.5 ml IM/SC single dose gives protection for 3 years.
T.N. : **Biovac typhoid, Typhim Vi, Vactyph, Shantyph**

2. Oral Vaccine: 3 Capsules

Dose : 1 capsule on day 1, 3 & 5 to be taken one hour before meals, with cold water or milk. (no hot drink) Do not give antibiotics on same day.
T.N. : **Typhoral** (Hoechst)
Note : Protection ensured for 2 wks after the 3rd capsules to 3 years. Do not use for children below 6 yrs and pregnancy.

13. Cholera Vaccine

Note : Has short immunity against cholera, So useful for close contacts, prevention in fairs, melas.

14. Hepatitis A Vaccine: 0.5 & 1 ml

Dose : 1 ml IM, Booster dose 0.5 ml after 6-12 mths
T.N. : **Avaxim-160/80, Biovac-A, Havrix**
Note : For active immunisation for travelers.

15. Haemophilus B Conjugate Vaccine: 0.5 ml & 10 ml vial

Dose : 0.5 ml IM
T.N. : **Act-HIB, HIBest, Hib multipack**
Note : Active immunisation against H. influenza type B, which cause severe infections like Meningitis.

16. Influenza Virus Vaccine: 0.5 ml dose

Dose : > 3 yrs & Adults: 0.5 ml SC; < 3 yrs: 0.25 ml SC, second dose after 4-6 wks
T.N. : **Vaxigrip, Influvac**
Note : For prevention of Influenza in immunocompromised patients.

17. Rubella Vaccine: 0.5 ml single dose vial

T.N. : **R-Vac (Serum Institute)**

18. Meningitis Vaccine: 0.5 ml single dose IM

T.N. : **Mencevax A & C** (SKB), **Meningococcal A & C** (Serum Inst)

19. Chickenpox Vaccine: 0.5 ml vial

Dose : 1-12 yrs – 0.5 ml, single dose. Above 12 yrs - 0.5 ml, second dose after 6-10 wks
T.N. : **Okavax, Varilix, Varivax**
Note : Live attenuated Oka strain of Varicella zoster. Active immunisation. Used for contacts of patieints.

20. Pneumococcal Vaccine: 0.5 ml

Dose : 0.5 ml IM or SC
T.N. : **Pneumo23, Pnuimmune23**
Note : Active immunisation against Streptococcus pneumoniae, after 2 yrs age.

21. Yellow fever Vaccine: 0.5 ml

Dose : 0.5 ml single dose
T.N. : **Stamaril** (Aventis)

Specific Vaccines & Sera

31. Rabies

1. Sheep Brain Vaccine - SPL inactivated A.R.V. (Not available now)

Dose : Inj. ARV 5 ml Subcut daily x 14 days. In children, < 30 kg body wt 2 ml
T.N. : **Anti-Rabies Vaccine**
Note : Available only in Government

Hospitals; cheap but may cause encephalitis & neuroparalysis in 0.1%. Also, Failures may be seen. Effect lasts for 6 mths. Reexposure within 6 mths - Give 2 booster doses 1 wk apart. After 6 mths, full course.

2. **Cell culture Vaccines:** Safer and more potent. Also used prophylactically by Veterinary doctors, forestry workers, workers in Slaughter Houses, Research workers.

i) **Human Diploid Cell Vaccine (H.D.C.V.)** 2.5 iu/ml

Dose : 1 ml - subcut, 6 doses - on day - 0, 3, 7, 14, 28 & 90
Prophylaxis: 0, 7, 21, 365, Then every 3 yrs
T.N. : **Rabies Vaccine - HDC** (Serum Institute), **Merieux** - HDCV

ii) **Purified Chick Embryo Cell Vaccine** 2.5 iu/ml

Dose : 1 ml IM x 6 doses x on days - 0, 3, 7, 14, 30, 90
Prophylaxis: 0,7,21, 1 yr, then every 3 yrs
T.N. : **Rabipur (Hoechst)**

iii) **Vero Cell Culture Vaccine** - 1 ml

Dose : Same as above
T.N. : **Verorab (Alidac)**
Note : Dose is same for children & adults, and irrespective of severity of bite.

3. **Rabies Antibodies:** 152 iu/ml in Human Immunoglobulin

Dose : 20 iu/kg body wt. - Half dose is infiltrated in & around the wound + Half dose is given IM.
T.N. : **Berirab-P, Carig, Equirab, Imogam, Imorab**
Note : Gives immediate passive immunisation for bites by Rabid animals. It must be accompanied by active immunisation.

32. **Anti Snake Venom:** 10 ml vial, In powder form

1. **A.S.V. Polyvalent:** (Cobra, Common Krait, Russels Viper & Saw-scaled viper)

T.N. : 1. **Sii-ASVS (Polyvalent)** - (Serum Institue)
2. **Lyophilised polyvalent Anti snake Venom serum** (Haffkin)

2. **A.S.V. Bivalent:** (russels viper, sawscaled viper)

T.N. : **Sii ASVS (Bivalent): (serum institute)**

Note : Generally Polyvalent ASV is used, Dose depends on quantity of venom injected and varies from 1 to 15 vials.

33. **Diphtheria**

1. **Diphtheria Anti-toxin:** (Anti-Diphtheritic Serum): 10,000 i.u. vial

Dose : 20,000 iu IM for each patch upto 80,000 iu, In severe cases, give half the dose intravenously.
T.N. : **Diphtheria Antitoxin** (Haffkine)
Note : Passive immunisation, when Diphtheria is diagnosed.

2. **Active Immunisations:** DT & D.P.T. vaccines. For children below 6 yrs only. No active immunisation for adults.

34. **Gas Gangrene Antitoxin:** (Haffkin) 4000 iu in 5ml

Dose : Prophylaxis: 1 amp IM. for badly contaminated crush injuries, when muscles are crushed. Therapeutic Dose- 3 amps. I.V. stat and 3 amps every 6 hrly till 75,000 iu.
T.N. : **AGGS**

Immunoglobulins

1. **Human Normal Immunoglobulin 10% - 1** ml amp

Dose : 1 ml IM for prophylaxis of Infective Hepatitis (A) & Measles, during epidemics. 0.4 ml/kg body wt of 10% Ig
T.N. : **Gamafine (Haffkine), Gammaglobin, Bharglob**

2. **Histaglobin:** 2 ml amp (Immunoglobulin + Histamine) Dose: 2 ml IM x every 4-7 days x 3 injections

T.N. : **Allergam, Histaglobulin**
Note : For Allergic rhinitis/bronchitis, Bronchial asthma, skin allergies, Eczema, Urticaria.

3. **Anti-D Immunoglobulin:** 100 mcg, 300 mcg

Dose : 250 to 300 mcg IM, within 72 hrs., after Delivery, Caeserian, Abortion or amniocentesis (25 mcg/ml of fetal erythrocytes)
T.N. : **Anti-D vaccine, Matergan-P, Rhesuman 300 mcg** (Alidac), **Rhiggal 100 mcg & 350 mcg** (Biogenics), **Rhoclone, Vinobulin**
Note : To be given to Rh Negative mothers, if fetus is Rh Positive.

4. **Gammaglobulin:** 0.5, 1, 2.5, & 5 gm
   Dose : 1 gm IV 6 hrly, for GB Syndrome.
   T.N. : **Gamma IV, IV Globulin, Sandoglobulin, Venimmun**
   Note : Congenital agammaglobulinemia, I.T.P., Guillaine-Barre syndrome.

5. **Hepatitis B Immunoglobulin:** 100 i.u. in 0.5 ml
   Dose : 1000-2000 iu IM, 40 iu/kg
   T.N. : **Hepaglob, Hepabig, Revace-B**
   Note : After exposure to Hepatitis B virus.

6. **Rabies Immunoglobulin**

7. **Tetanus Immunoglobulin**

15. MISCELLANEOUS DRUGS

15 A: Drugs used for Enlarged Prostate

1. **Phenoxybenzamine:** 10 mg tabs
   Dose : 10 mg tds × 3-4 wks, then 10 mg OD
   T.N. : **Dibenylin**

2. **Alpha Blockers:**

   a) **Prazocin:** 2 mg Tabs Dose: 2 mg tds
   T.N. : **Prazopress, Prazocip XL, Minipress XL**
   Note : Alpha 1 blocker, Relaxes Bladder Neck Sphincter.

   b) **Terazocin:** 1, 2 & 5 mg Tab Dose: 1 to 10 mg HS
   T.N. : **Hytrin, Teralfa**

   c) **Tamulosin HCl:** 0.2 & 0.4 mg Tabs
   Dose : 0.4 mg, half hour before dinner
   T.N. : **Contiflow-OD, Dynapres, Tamflo, Urimax**
   with Finasteride (0.4+5): **Finast-T, Geriflo, Tamflo-F, Urimax-F**

   d) **Doxazocin:** 1, 2 & 4 mg Tabs
   Dose : 1 mg HS, upto 4 mg HS
   T.N. : **Doxacard, Duracard**

   e) **Alfuzocin:** 10 mg ER Tabs
   Dose : 10 mg OD
   T.N. : **Alfoo, Alfusin, Xelflo**
   with Dutasteride: **Alfusin-D, Afdura, Dutalfa**

3. **Allylestranol:** 25 mg Tabs
   Dose : 25 mg bd. × 4 mths
   T.N. : **Profar**

4. **Finasteride:** 5 mg Tabs
   Dose : 5 mg once daily
   T.N. : **Finast, Fincar**
   Note : For long term treatment of Prostatism. May reduce prostate size.

5. **Dutasteride:** 0.5 mg Cap
   Dose : 0.5 mg OD
   T.N. : **Duprost, Durize, Dutagen, Dutas**
   with Tamsulosin: **Dutas-T, Tamdura**

6. **Ayurvedic Drugs**
   i) Tab Himplasia 1 tds ii) Tab Prostina 2 tds
   iii) K-4 Tablets 2 bd. iv) Tab Bangshil 2 tds

15 B: Drugs Used for Sexual Dysfunctions

I: Drugs for Erectile Dysfunction

1. **Sildenafil Citrate:** 25 mg, 50 mg Tab
   Dose : 25 to 100 mg, 1 hour before sexual activity
   T.N. : **Viagra, Juan, Nyte, Silagra, Androz, Edegra, Enthusia, Luppigra, Vistagra**

2. **Tadalafil:** 10 mg, 20 mg Tab
   Dose : 10 mg, 1 hour before sexual activity
   T.N. : **Tadacip, Erectalis, Popup, Tadil, Tazzle, TD-36, Forzest, Zydalis**

3. **Vardenafil:** 10 mg Tab
   Dose : 1 tab 30-60 min before sexual activity
   T.N. : Not available in India

4. **Avanafil:** 50, 100 & 200 mg Tab
   Dose : 1 Tab 30 min before sexual activity
   T.N. : **Stendra**

5. **Dapoxetine:** 30 & 60 mg Tab
   Dose : 1 Tab, 1-2 hrs before sexual activity for Premature ejaculation
   T.N. : **DaSutra, Sustinex, Xydap**

II. Testosterone Undecaonate: 40 mg Tabs
   Dose : 1 QID × 3-6 mths
   T.N. : **Nuvir**

III. Ayurvedic Drugs

1. Cap Shilajeet 1-2 tds
2. Tab Vigorex 2 bd. with milk
3. Tab Tentex Forte 1-2 tds
4. Tab Sidh Makardhwaj 1-2 tds

Drugs for Premature Ejaculation

1. Tab Confido 1 BD
2. Himcolin Gel Local application
3. Tab Neo 1 TDS for 2-3 mths

15 C: Drugs Used for Obesity

1. **Fenfluramine:** 20 mg Tabs, 40 mg caps
   Dose : 1 bd to 2 tds
   T.N. : **Flabolin, Flabolin-40, Slimerax, Ponderax**
   Note : Avoid if hypertension, Cardiac & liver disease.

2. **Dexfenfluramin:** 15 mg Tabs
   Dose : 1 bd × 3 mths, then taper slowly
   T.N. : **Isomeride**

3. **Gemfibrozil:** 300 mg cap
   Dose : 1 OD
   T.N. : **Lipotrin**

4. **Sibutramine:** 5 & 10 mg Cap
   Dose : 5-15 mg OD
   T.N. : **Obestat, Sibutrex, Slenfig**

5. **Orlistat:** 120 mg Cap
   Dose : 120 mg cap just before fatty meal, 1 cap during & 1 cap 1 hr after meal
   T.N. : **Cobese, Orlica, Reeshape**

6. **Cetilistat:** 60 mg Cap
   Dose : 1 bd
   T.N. : **Kilfat**

7. **Rimonabant:** 20 mg Cap
   Dose : 20 mg OD before Breakfast
   T.N. : **Defat, Rimofit, Rimoslim, Riobant, Slimona**
   Note : For Obesity with Diabetes or Hyperlipidemia.

8. **Glucomannan:** 1 gm sachet of granules
   Dose : 1 sachet, stirred in 200 ml water till Gel is formed. Then take immediately just before meals × 3-4 wks.
   T.N. : **Dietmann**
   Note : Bulking agent - gives satisfaction of full stomach, without calories.

SECTION 8

CLINICAL EXAMINATION IN GENERAL PRACTICE

Chapter

27 CLINICAL EXAMINATION IN GENERAL PRACTICE

In this section we will be studying some typical & common cases, and learn how a good General practitioner would approach the case, and the thinking process in his mind as he examines the case.

We will be concentrating on what to see and examine in such cases, where we do not necessarily go systemwise, but go on ruling out the common causes one by one.

With experience, each doctor develops a set routine of examination for each type of case, and here we see one such routine. With practice, you will develop your own routine, and this will provide you with the basic set of questions and observations that are required.

We will not be considering the detailed differential diagnosis and the rare diseases, as more than 95% of cases seen in General practice are not rare cases. However, we will always perform this set routine of examination, so that even the rarest of rare causes will not be overlooked.

The stepwise process of examination is numbered, and placed in a clockwise fashion around the central figure. It also includes the inferences drawn and what the doctor thinks in his mind alongside. The arrows are self-explanatory.

Below the figure, you will find Keywords for a quick reference and a gross plan of action and the details of the treatment can be found in the relevant section as mentioned in small text in the bottom line.

Guidelines

1. Read in a clockwise direction around the figure. Follow the numbers.
2. **Sentences in Bold letters** = Patient's talk.
3. Sentences in Italics = The thoughts in the mind of the Doctor at that point.

BASIC EXAMINATION (ADULT)

1 Observe the Gait and the facial expressions (esp. anxiety), as the patient walks in and sits on the examination table.

2 "Show the tongue."
Look for pallor. Look for cyanosis, and apthous ulcers.
"Say 'Ah'."
Inspect the throat.

3 "Look down."
Pull up the upper eyelid and look at the sclera for icterus, Bitot's spots.
Pull down the lower eyelid and look for pallor.

4 Inspect the neck region, while the patient is still sitting, and palpate for lymph nodes with both hands.

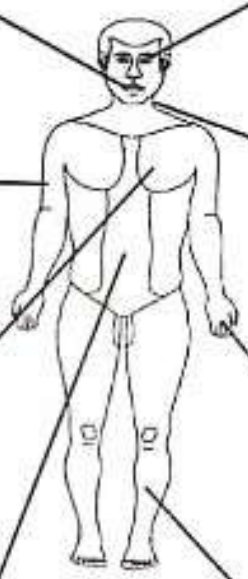
5 Inspect the hands, palms and nails (A glimpse; Details if anything abnormal.)

6 As the patient is lying down from the sitting position,
Inspect the toes, feet and legs.
Look for edema.

7 Now, semiflex the legs, relaxing the abdomen.
Palpate for Liver and Spleen.

8 Auscultate the heart.
– At least the apex, parasternal region and the pulmonary area.
"Take deep breaths"
Auscultate the lungs at both infraclavicular regions, axillae and the basal regions on both sides.

9 Check the Blood pressure.
In every patient above 40 yrs., All diabetics, hypertensives, Obese patients, Patients of headache, giddiness & chest pain.



This is the basic examination, that must be done in every adult patient, irrespective of his/her complaints. It requires less than a minute, and most of it overlaps History taking.

BASIC EXAMINATION (CHILD)



1 Keep your hand firmly and reassuringly over the forehead – checking for the temperature.

Move the hand up to palpate the anterior fontanelle, if it is open.

2 With the right hand, retract the lower and then the upper eyelid, to inspect the eyes for pallor, icterus, Bitot's spots or eye discharge.

3 Take a torch and inspect the tongue and the throat.
In an infant, throat is best seen when it cries.

4 Inspect both ears for discharge and tenderness (over the external ear on pulling the pinna, and over the mastoid).

5 Now, with both hands, palpate the neck for lymph nodes.

Then flex the neck and look for neck stiffness.

6 Inspect the chest for respiratory movements, and Rickety rosary or deformities.

Palpate the apex beat.
Auscultate heart sounds & respiratory sounds.

(If the child is crying, auscultate respiratory sounds during the inspiration that follows the cry)

7 Palpate the abdomen for Liver and spleen. *(Remember that in infants, the liver is normally palpable)*

8 Inspect the limbs for wrist widening, deformities, and nails.

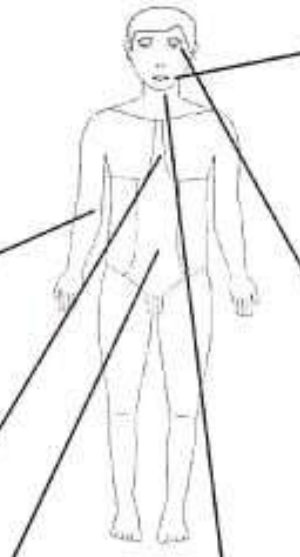
This is the minimum basic examination, that must be done in every child or infant, irrespective of his/her complaints.

1. PATIENT WITH FEVER (NO CHILLS)

20 yr. old male patient

Doctor, I am having fever since 3 days. I am feeling very weak.

Most such fevers are viral. But is it something else?



1 Do you have colds & cough?
"No, doctor" *(The CCF of General Practice = Cold, Cough, Fever)*
Do you have throat pain, pain during swallowing?
"No"

—

Using a powerful torch, Inspect the tongue, tonsils & throat. Look for cervical lymph nodes.

⇩

2 Inspect the sclera for icterus.

—

How is your appetite? How is the urine colour?

⇩

3 Do you have headache?
"Yes"
Do you have vomiting or drowsiness?
"No".
(Headache + Fever = Test for Neck stiffness, to rule out Meningitis. Especially, if there is drowsiness, altered behaviour or vomiting)

⇦

4 Now make the patient lie down and Palpate for Liver & Spleen.

To detect enteric fever (Soft Liver) & Malaria (Spleen).

⇧

5 Auscultate the chest for Rales and murmurs.

⇧

6 Do you have joint pain or swelling?
If yes, Is it fleeting (Rheumatic)?
Auscultate carefully for murmurs & tachycardia.

⇧

7 Do you have dysuria?
"No"
(That rules out UTI)

Key points for Fever without Chills
Throat, Icterus, Neck glands, Neck stiffness, Chest, Liver & Spleen, UTI, Joint pains. HIV, Urine, X-ray chest etc.

Action: Antibiotic, Paracetamol, cold compresses. If no relief, Hb, WBC, PS, Widal,

For Details: Refer Section 1 \ 8. General symptoms \ Fever \ Page 81.

2. PATIENT OF FEVER WITH CHILLS

Doctor, I am having fever with chills since 4 days.

Severe chills? Is it Malaria?

1

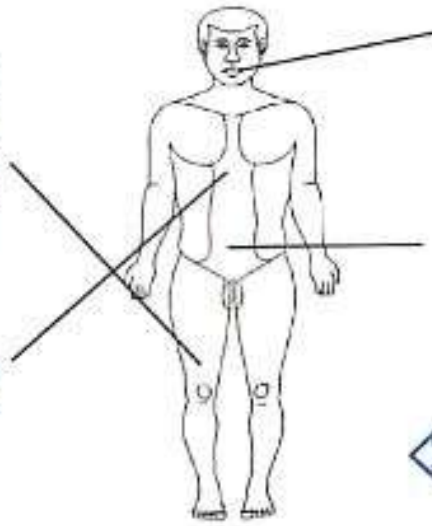
1. Does it come everyday or on alternate days? **"On alternate days."**
2. Does it come at the same time everyday? **"Yes."**
3. Is it associated with headache? **"Yes."**

(This is probably Malaria. But let me rule out UTI, and abscess)

4. Do you get burning micturition? **"No"**
5. Do you have painful swelling anywhere? Over buttocks or loin? **"No"**

2 Look at the sclera, tongue, throat & cervical nodes as usual.

3 Palpate the abdomen carefully, for Spleen and Liver. *(Splenomegaly is strongly in favour of Malaria.)*



4 Auscultate the chest carefully for Pneumonia.

5 Palpate inguinal lymph nodes, and look for edema of legs ***(For filariasis)*** and for any focus of infection & abscess.

Key points for Fever with Chills
Alternate-day fever & headache, splenomegaly, UTI, Filarial edema, Abscess.

Action
1. Give Antimalarials and symptomatic treatment.
2. Investigate: Hb, WBC, Eosinophil count, M.P., & Urine routine.
3. If urine shows pus cells, detailed investigations of renal system, like Ultrasonography, Blood urea, S. Creatinine etc, are needed.

For Details: Refer Section 1 \ 8. General Symptoms \ Fever \ Page 80.

3. PATIENT OF GENERAL WEAKNESS & FATIGUE

30 yr. old male

Doctor, I am feeling very weak & tired since 1 month. I have no fever, no cough, nothing at all, But I feel very tired.

Middle aged patient, complaining of fatigue! Is it Diabetes?

1

1. Do you feel thirsty? Do you pass urine more frequently? **"No."**
2. Is your apetite good? **"No."**

(Well.....there are no symptoms of Diabetes. Is he anemic?)

⇨

2

Look at the tongue, conjunctiva and sclera.
(If severe pallor, that's the cause.
If icterus, that is the cause.)

3. Are you addicted to Gutkha, tobacco or alcohol? **"No."**

⇩

3

Do you feel breathless on walking? Do you have cough, low-grade fever or sweating?
"No"
(So there are no symptoms of Tuberculosis, which may sometimes present with only weakness!)
Auscultate the chest carefully: RS for Tuberculosis and CVS for murmurs.

⇩

4

Palpate the abdomen for Liver, Spleen and Epigastric lump
(Carcinoma of stomach & Liver must be ruled out in elderly patients)

⇦

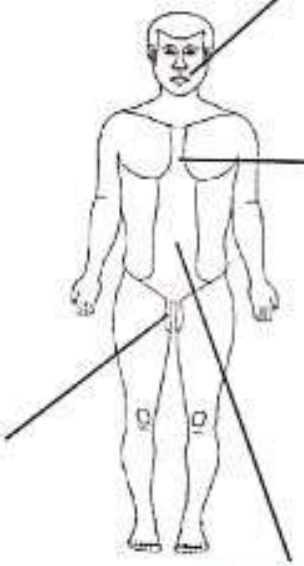
5

Do you have sexual weakness?
"No."
(Ask a direct question, as many patients feel shy to express sexual weakness, and present as general weakness)
Ask for History of Exposure to venereal diseases.
(For HIV)

⇧

6

Look for features of Myxoedema.
Bradycardia, hoarse voice, delayed relaxation of deep reflexes.



Key points for Fatigue

Diabetes, Anaemia, Tuberculosis, HIV, Myxoedema, RHD, Malignancy, Addictions, Sexual weakness.

Action

1. If clinically normal, you must rule out anaemia, diabetes, HIV, Tuberculosis & renal failure.
2. If indicated, S.T3,T4.TSH.
3. If investigations are normal, treat with Tonics, Injections of Bplex & Durabolin, Aerobic Exercises or walking, and SOS Anti-depressants.

For Details: Refer Section 1 \ 8. General symptoms \ Fatigue \ Page 79.

4. PATIENT WITH ANOREXIA

30 yr. old male

Doctor, I have no appetite since last 2 weeks.

1

1. Do you have fever? Did you have fever 2 weeks back? **"No."** *(All fevers are followed by anorexia)*
2. Are you taking any medicines regularly? **"No"**. *(Biguanides, Digitalis, Antibiotics, Antimalarials etc. can cause anorexia)*
3. Are you addicted to Paan-masala, Gutkha, Tobacco or alcohol? **"No"**
4. Do you have cough, expectoration, or low grade fever? **"No"**





2

Look at the sclera for icterus. Examine tongue, for pallor & apthous ulcers.
(Anaemia is a very common cause)
If anemic,
"Do you get limb pains?"
"Do you feel breathless on exertion?"

3

Palpate the abdomen carefully, for Spleen and Liver.

(Hepato/Splenomegaly will suggest systemic illness)

Palpate for epigastric lump to rule out carcinoma of stomach & Liver.

4

Auscultate the chest carefully for Tuberculosis, Effusion etc.

Key points for Anorexia
Pallor, Jaundice, Any fever, Ca-stomach, Tuberculosis, Addictions, Side effects of drugs.

Action
1. If no pathology is detected,
   Give Injection Bcomplex, appetising tonics, Protein rich diets.
2. Anthelmintics, Antacids, Cyproheptadine.
3. IV fluids & 25% glucose if anorexia is severe.
4. Regular exercises

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Anorexia \ Page 3.

5. PATIENT OF INFECTIVE HEPATITIS

25 yr. old male

Doctor, I have fever and severe anorexia since 2 days. I don't even feel like looking at food. I am feeling very weak.

Such severe anorexia? Is it Infective hepatitis?

1

1. Is your urine dark yellow or red? **"Yes, Doctor".**
2. Do you get pain in the right upper abdomen? **"Yes".**
3. Do you get a lot of itching? **"I get mild itching".**

(This is suggestive of Jaundice, Let me see.)

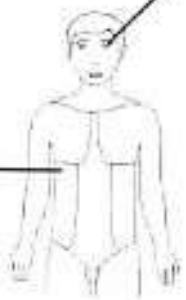
2

Inspect the sclera in direct sunlight for icterus. Take the patient to a window – ask him to look down, lift the upper eyelid & inspect the upper sclera for icterus.

Icterus may be apparent 2-3 days after anorexia and fever. So ask the patient to keep a watch on urine colour & eyes.

3

Ask the patient to lie down, flex the legs and palpate for the Liver.
(Soft, tender Liver is typical of Infective Hepatitis. Even tenderness under the costal margin is suggestive)



4

This is a clearcut case of Infective Hepatitis. Yet ask about other causes of jaundice.

- Had you taken any injections, Blood transfusion? Were you exposed to STD? *(For Hepatitis B)*. Are you immunised against Hepatitis B?
- Did you have colicky pains in the right upper abdomen? *(For Gallstones)*
- Were you taking any drugs? *(For Hepatotoxic drugs like Rifampicin)*

5

If the jaundice is deep, Is the patient drowsy or irritable? Does he have flapping tremors? Beware of impending Hepatic coma. Refer the patient immediately. If jaundice is recurrent or chronic, test blood for Hepatitis-B.

Action

1. Complete Bed Rest.
2. Fat free diet, Oral & IV Glucose.
3. Liver support: Phospholipids/Silymarin, Lornit, Trichodol.
4. Avoid Hepatotoxic drugs & Sedatives.

Ask for: S.Bilirubin, Urine for bile salts, HBsAg, SGOT, SGPT, Ultrasonography for Liver & Gall bladder.

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Jaundice \ Page 11.

6. ALCOHOLIC PATIENT WITH ASCITES

45 yr. old male

Doctor, This fellow is an alcoholic. He is having weakness and tremors since 15 days. He is not eating anything, and see how his abdomen is distended.

1

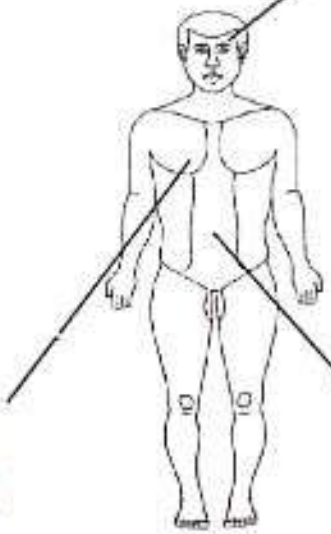
1. Since when has he lost his appetite? **"15 days."**
2. When did you note the abdominal distension? **"10 days back."**

(Alcoholic with ascites is usually a fairly advanced case of Cirrhosis of Liver with Portal Hypertension.)

2

Look at the sclera for icterus.
(Jaundice = Advanced cirrhosis & possibly impending liver failure)

Examine tongue for pallor.
Look for leg Edema.



3

Make the patient lie down.
Look for transversely stretched umbilicus, & fullness of flanks (Ascites)
Palpate carefully for the spleen. *(By dipping method if ascites is large)*
Is there any other lump or tender area?

4

Look for Estrogen signs. i.e. Gynaecomastia, Spider naevi, Palmar erythema, Loss of axillary hair.

Action

1. Stop Alcohol. Salt free, High protein diet,
2. Diuretics (Aldactone + Frusemide), Liver support (Phospholipids, Liv52, Tricholin), & High dose Bcomplex.
3. Tapping - if ascites is tense, causing discomfort/respiratory embarrassment.

Ask for: Hb, WBC, LFT (S.Bilirubin, S.Proteins), HBsAg, USG, Ascitic fluid examination, Liver biopsy.

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Ascites \ Page 13.

7. PATIENT OF DUODENAL ULCER

35 yr. old male

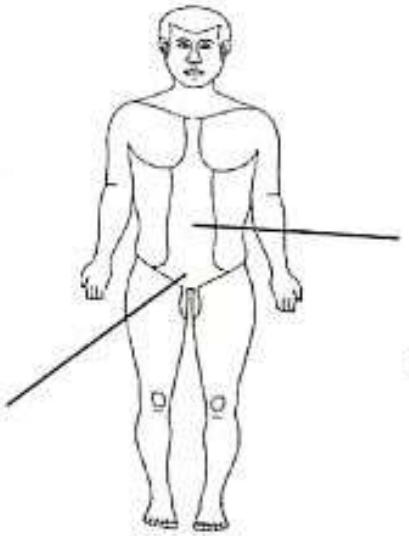
Doctor, I get pain in the upper abdomen after my meals.

1

1. Do you get pain immediately after meals (Gastric ulcer), or you feel better for 2-3 hrs, and then get the pain (Duodenal ulcer)? **"After 2-3 hrs."**
2. Is there retrosternal burning? **"No".** *(So unlikely to be Esophagitis)*
3. Do you get pain early morning around 3-4 AM? **"Yes"**
4. Do you get sour eructations, regurgitation or vomiting? **"Yes"**
5. Did you have a similar episode in the past? Few weeks or months ago? **"Yes doctor. I had similar pain last year."** *(Periodicity typical of DU)*
6. Did you take any medicines before the pain started? NSAIDs or steroids? **"Yes, I had taken Voveran tablets for backache."** *(Precipitating factor)*

3

Palpate for colonic tenderness on both the sides. If tender, ask,
Do you get dysentery off & on?
Is there mucus or blood in the stools?
(Is it Amoebiasis? – a common condition in our country)



2

Ask the patient to lie down with the legs flexed, and abdomen relaxed.

1. Palpate the abdomen gently, for tenderness in epigastrium & right hypochondrium.
2. Press under the right hypochondrium and ask him to take a deep breath – for Gall bladder tenderness. (Murphy's sign)

Action

1. Try Antacids, Ranitidin/Omeprazole, Cisapride. Deworm.
2. If no relief, Ask for Gastroscopy (or Barium meal), Stool examination, and ultrasonography for Gall bladder.

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Duodenal ulcer \ Page 16.

8. PATIENT OF CHRONIC APPENDICITIS

30 yr. old male

Doctor, I am getting pain in the right lower abdomen since 3 days, This is the third time in 6 months.

I have to mainly rule out Appendicitis, amoebic colitis and ureteric colic. Also, Ileo-caecal tuberculosis since it is chronic.

1

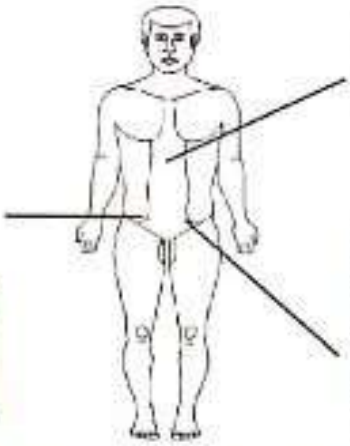
1. Is the pain colicky & intermittent, or continuous? **"Doctor, it is continuous."**
2. Is it associated with fever? Vomiting? **"Yes I had fever."** *(Triad of pain, fever & vomiting in appendicitis).*
3. Was there dysuria or dark colored urine? **"No"** *(Rules out ureteric colic)*
4. Did you have loose motions with mucus? **"No"** *(For Amoebiasis)*
5. How is the appetite? **"Less"** *(In amoebiasis, appetite is good, while in appendicitis, it is reduced)*

⇩

2

Palpate the abdomen. This patient has localised tenderness around the MacBurney's point. There is no renal angle tenderness.

Tenderness almost rules out ureteric colic. It is either appendicitis or amoebic colitis.



3

Mild tenderness in the Epigastrium is not uncommon in appendicitis,

⇩

4

If tenderness is also present on the left side, it is more likely to be amoebic colitis.
Treat with Metronidazole or Tinidazole first. And then reassess,

- If there is fullness or lump in the right iliac fossa, or if there is H/O low grade fever, weight loss, pulmonary Tuberculosis, then think of Ileocaecal tuberculosis.
- In a female patient, Gynaecological examination is a must before coming to any conclusion. Take detailed menstrual history, rule out dysmenorrhoea, P.I.D., Right T-O mass, and if in early pregnancy, ruptured ectopic.

Action

1. If the clinical picture is mixed, give a course of Tinidazole or Metronidazole. If tenderness persists, it is chronic appendicitis.
2. Definitive diagnosis is mainly clinical. Supportive evidence = Barium meal & Ultrasonography. Also ask for Hb, WBC, Stools, Urine, KUB, USG, Barium meal.
3. Once chronic appendicitis is diagnosed, refer to a surgeon for operation. You may give a trial of a full course of Ciplox-TZ 1 BD for 5 days before finally advising surgery,

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Appendicitis \ Page 17.

9. PATIENT OF URETERIC COLIC

30 yr. old male

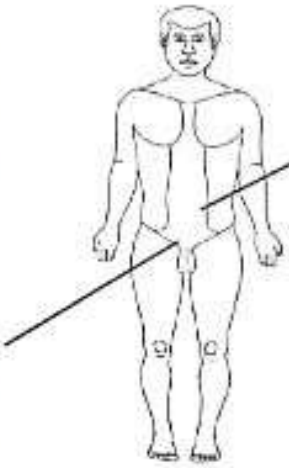
Doctor, I have very severe pain on the left side of abdomen since 6 hours. It started suddenly in the morning.

1

1. Is the pain colicky & intermittent, or continuous? **"Doctor, it is colicky."** *(It could be ureteric colic or large bowel colic. Not appendicular colic as it is on left side).*
2. Does it radiate to the penis or testis? Is there burning at micturition or difficulty? **"Yes, and I have a continuous urge to pass urine."** *(That's a Ureteric colic).*
3. Did you have loose motions, or mucus in stools? **"No"** *(Amoebic or infective colitis can give severe colics or cramps).*
4. Did you have fever? **"No"** *(That rules out UTI).*
5. Did you have vomiting? **"Yes"** *(Vomiting may be severe enough to cause dehydration and need IV fluids).*

⇩

2 Palpate the abdomen gently. There is very mild tenderness in the left iliac fossa & renal angle.



Tenderness is never seen in ureteric colic. If tenderness is significant, think of amoebic colitis or other causes of acute abdomen.

3 Whenever ureteric colic is suspected, test urine for RBCs. Tiny stones or crystals may not be seen on KUB X-ray or Ultra-sonography, But RBCs in urine confirm the diagnosis.

⇧

4 In a female, menstrual history and a PV examination (and USG) is a must to rule out Ectopic pregnancy and twisted ovarian cyst.

Key points for colic in LIF

Left ureteric colic, amoebic colitis, In females – ruptured left ectopic, twisted left ovarian cyst.

Action

1. First make the patient comfortable with Inj. Anafortan (Anti-spasmodic) IM, Inj. Fortwin or Norphin IV, Inj. Diclofenac, And Inj. Atropine.
2. IV Fluids and hydrotherapy to flush down the stone.
3. Urine routine, X-ray KUB, and Ultrasonography.
4. If stone is > 5 mm., or if there is hydronephrosis, refer the patient to urologist.

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Ureteric colic \ Page 18.

10. PATIENT OF DIARRHOEA

35 yr. old male

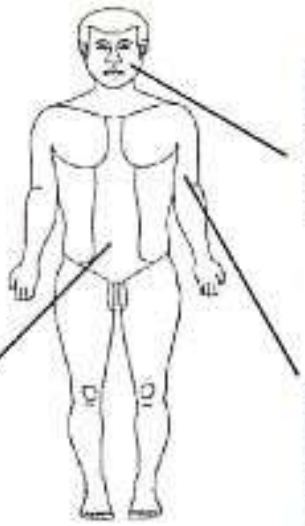
Doctor, I have passed motions since morning, just like water with severe cramps in the abdomen..

Watery motions? That's dangerous. Dehydration can set in very fast.

1

1. Are the motions watery, or with mucus & blood? **"Doctor, it is watery."** *(That's Bacterial diarrhoea, not amoebiasis. This can cause dehydration.)*
2. Have you vomited also? **"Yes, 2-3 times"** *(Vomiting will interfere with oral rehydration. This fellow will need IV fluids.)*
3. Have you passed urine since morning? **"Very little."** *(Oh! Dehydration has already started).*
4. Do you feel thirsty? **"Yes, doctor"** *(A sign of dehydration).*
5. Did you have fever? **"Yes"** *(That's a feature of infection, not amoebiasis).*





2 First see whether he is dehydrated.
1. Sunken eyeballs.
2. Dry tongue.
3. Skin, if pinched takes time to flatten ie. Loss of turgor.

3 **Check the pulse & B.P.** BP should be recorded repeatedly, till the loose motions are controlled, as watery diarrhoeas cause severe dehydration, even during treatment.

4 Look for colonic tenderness and general abdominal tenderness.

Key points for Diarrhoea: Watery or mucus, Degree of dehydration.

Action
1. Admit the patient, since he is showing signs of dehydration.
2. Orolyte and rapid infusion of IV Fluids. (Electrolyte solutions = RL, NS, DNS)
3. Antibiotics: Systemic + Intestinal. Use Ciproflox + Tinidazole if mixed infection.
4. Kaolin, Lomotil, Anti-spasmodics and Anti-emetics.

For Details: Refer Section 1 \ 1. Gastrointestinal symptoms \ Acute watery diarrhoea \ Page 6.

11. PATIENT WITH LEFT CHEST PAIN (NON-CARDIAC)

Doctor, I get pain on the left side of chest off & on. I am worried about my heart...

Yes! I too, am worried whether it is cardiac or non-cardiac. And I can see the anxiety on your face, which may be an important factor in the pain!

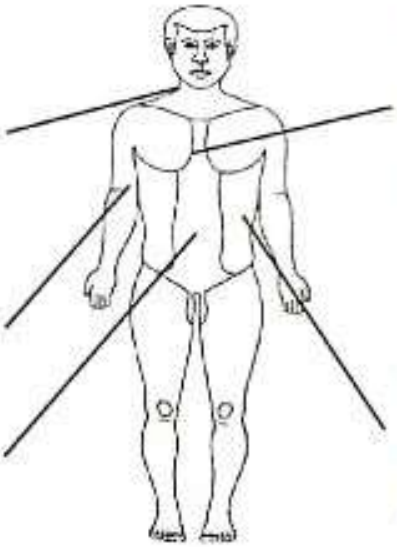
1

1. Show me exactly where it pains. *(Cardiac pain is more retrosternal, than left sided, and constricting type).*
2. Is it a pain or a constricting, choking sensation? **"It is painful."** *(So more likely to be non-cardiac).*
3. Does it radiate to the left arm or lower jaw? **"No"**
4. If you walk fast or climb stairs, does it appear? Does it stop quickly if you rest? **"No, but it is more when I bend forwards or lift something in my hands."** *(This is more like a chest wall pain).*
5. Does it increase on taking a deep breath or coughing? Take a deep breath and tell me, **"No."** *(That rules out pleural pain).*
6. Does it pain when you are swallowing food? **"No".** *(That rules out oesophagitis, which gives Retrosternal pain, more while swallowing).*

6 Examine the neck movements. Pain of cervical spondylitis can radiate to the chest.

5 Check the Blood Pressure.

4 Palpate the abdomen for Liver, Spleen & Epigastric tenderness.



2

- Perform a quick general examination of eyes, tongue, nails & feet.
- Inspect the chest, Look for scars of Herpes zoster
- Palpate firmly over the costochondral junctions on both sides. *(about 1" parasternal)* for tenderness. *(This is the only way to diagnose costochondritis)*

3

- Palpate for intercostal tenderness.
- Auscultate RS for pleural rub or rales.
- And CVS for pericardial rub and murmurs.

Key points for left chest pain: Cardiac or Non-cardiac?, B.P., Costo-chondral tenderness, Intercostal tenderness, Auscultate RS & CVS, Tenderness upper abdomen, cervical spondylitis.

Action

Since everything appears normal, and pain is not suggestive of Angina at all, Give NSAID, Local liniments & Fomentations, Tranquiliser and SOS antibiotic. If relief is not seen, ask for X-ray chest, ECG and refer to a physician. (If the pain was anginal type, administer Sorbitrate and Disprin, and refer immediately to a physician or cardiologist).

For Details: Refer Section 1 \ 3. Respiratory symptoms \ Chest pain \ Page 34.

12. PATIENT WITH PALPITATIONS

35 yr. old female

**Doctor, I get palpitations very often,
If I walk a little, I get palpitation.
If someone talks loudly to me, I get palpitations...**

***Commonest cause
of palpitations is anxiety.
But I must rule out all other causes..***

1

1. Are the Palpitations always there, throughout the day? **"No Doctor."** *(In Left ventricular hypertrophy, or sustained tachyarrhythmias, they will be always present).*
2. Do you get the palpitations only during exertion, or even suddenly during rest? **"Usually only after exertion."** *(If not related to exertion, the palpitations are more likely to be due to arrhythmias).*
3. Are you taking any medications? **"No."** *(Side effect of Salbutamol, vasodilators).*

2 **First feel the pulse** carefully for at least 15 seconds. Count the rate.
If tachycardia: *SVT, Thyrotoxicosis, and Cardiac lesions like RHD. If irregular, Atrial fibrillation or ectopics.*

⇩

3 Look for Pallor.
(Severe Anaemia can cause palpitations)

⇩

4 **Examine the neck** in sitting position & ask her to swallow, and look for Thyroid swelling. If goitre be present, look for thyroid thrill at the upper poles, for the eye signs and for fine tremors of the hands.

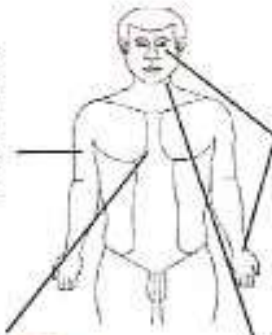
⇦

5 **Examine the CVS in details.** Look for -
- Heaving apex beat of LVH.
- Parasternal heave of RVH
- Murmurs of RHD

⇧

6 **Check the Blood Pressure**, to rule out Hypertension.

Are you a Diabetic? *(Diabetic patient on treatment may be getting hypoglycemic attacks with palpitations).*



Key points for Palpitations: Continuous or intermittent? Pulse (Arrhythmia), Pallor, Thyrotoxicosis, CVS, BP, Diabetes.

Action
1. If clinically all is normal, treat as anxiety – Tranquilisers + Propranolol (Beta-blocker).
2. If Goitre or tachycardia is seen – ask for Serum T3, T4, TSH
3. If Cardiac lesion is detected, ask for ECG, X-ray chest, Echocardiography, and if indicated, Holter monitor test for arrhythmias. Refer to a cardiologist.

For Details: Refer Section 1 \ 2. Cardiovascular symptoms \ Palpitations \ Page 22.

13. PATIENT WITH SUDDEN BREATHLESSNESS

45 yr. old male

Doctor, I am feeling breathless since 1 hour. I was alright in the morning & then it started all of a sudden....

Is it respiratory or cardiac in origin?

1

1. Do you get wheezing sounds while breathing? **"No, Doctor."** *(That almost rules out Asthma).*
2. Did you get such attacks off & on in the past? **"Yes, I had it 2-3 times"**
3. Do you get breathless on walking? Do you get edema of feet? **"Yes."** *(May be, it is CCF).*
4. Do you have fever, cough or expectoration? **"Yes, Doctor."** *(Sign of Infection, which may be the precipitating factor).*
5. Did you have chest pain? Sweating? **"Yes"** *(Whether yes or no, when a middle aged or elderly man complains of sudden breathlessness, I must think of Myocardial Infarct with left ventricular failure).*

⇩

2

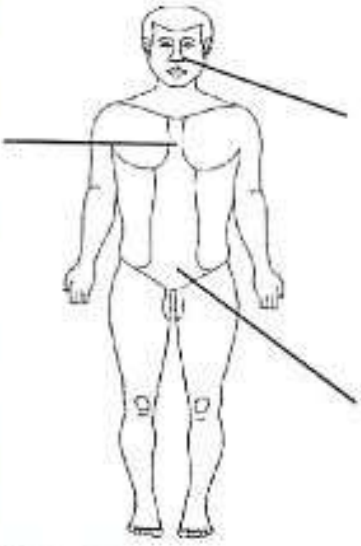
First look for:
1. Cyanosis.
2. Movements of Alae nasi and neck muscles.

So that you know the severity of breathlessness.

⇩

3

A quick General Examination, to look for CCF:
Are there dilated neck veins, edema of legs, and tender soft hepatomegaly?



4

Now auscultate the chest carefully.

a. Absent air entry on one side, suggests sudden pneumothorax, (or effusion).
b. Rhonchii suggest Bronchospasm i.e. Bronchial asthma, or Emphysema.
c. Rhonchii + poor air entry = Emphysema.
d. Murmur = RHD.
e. Fine crepts in the lung bases + Acute LVF =? Myocardial Infarct.

If there are no signs at all in the chest, except tachypnoea, ie. No rhonchii or rales, No murmur, No signs of CCF, then think of **metabolic** cause Eg. Diabetic Ketoacidosis, Acidosis in Uremia (Renal failure). Or **Hysteria**.

Key points for Sudden Breathlessness: Respiratory or cardiac?, Asthma, Acute LVF (Myocardial infarct), CCF, Pneumothorax. If clinically normal, Metabolic, or Hysteria.

Action

1. If CCF: Lanoxin, Frusemide, Tranquiliser, Antibiotic and Oxygen.
2. If LVF, Oxygen, Aminophyllin, Frusemide, Aspirin and immediate referral to ICCU.
3. If Rhonchii (Asthma), Oxygen, IV aminophyllin, Salbutamol inhaler or nebuliser, IV steroids.
4. If Pneumothorax, refer for X-ray and Intercostal drainage.

Ask for: X-ray chest, ECG - If normal, Blood sugar, Electrolytes.

For Details: Refer Section 1 \ 2. CVS symptoms \ Sudden breathlessness \ Page 23, 31, 38, 174.

14. PATIENT WITH HYPERTENSION

40 yr. old male

Doctor, last week I just had a check up in our factory and they told me that my Blood pressure is high. What should I take?

1

1. Do you get headache, giddiness, breathlessness? **"No."**
2. Do you have Diabetes? **"No"**. Do you feel weak or pass urine more frequently? **"No"**. *(Well...there are no symptoms of Diabetes).*
3. Has anybody in your family high Blood Pressure? Father, mother, uncles or brother? **"Yes, my father has high blood pressure."** *(Then this may be Essential Hypertension. In Indians, it does appear early in forties.)*

2

Perform a routine general examination.
Check the present Blood pressure.
Record the weight. Note if he is obese.

⇩

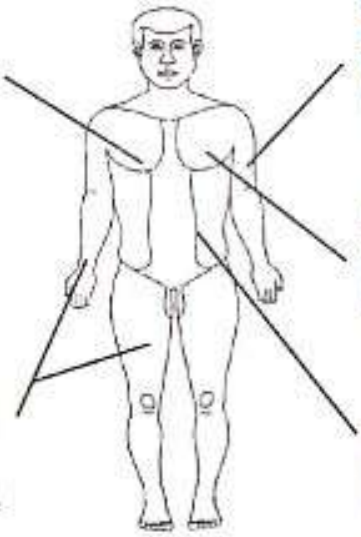
3

Auscultate the heart, especially aortic area for loud A2, Murmur. Look for evidence of Left ventricular hypertrophy.

⇩

4

Palpate for Renal lump. *(Polycystic Kidneys)*



5

Palpate the Radial pulse.
Then palpate the femoral pulse simultaneously.
If there is a Radio-femoral delay, is it Coarctation of Aorta?
Check the BP in lower limb also. If the difference is more than 20 mm, it is coarctation.

⇧

6

Keep the hands gently, over the medial aspect of scapulae, for thrill of intercostal arteries in coarctation.

7

In every Hypertensive patient, check the Blood for Sugar (Diabetes) and Lipid profile (Hyperlipidemias).

Key points for Hypertension
LVH, Murmur, Polycystic kidneys, Coarctation of aorta, Family History.

Action
1. Restrict salt, oil & ghee.
2. Reduce weight, Regular walking exercise.
3. Anti-hypertensive, and if necessary Tranquiliser & diuretic.

For Details: Refer Section 1 \ 2. CVS Symptoms \ Hypertension \ Page 24.

15. PATIENT WITH COMMON COLD & FEVER

30 yr. old female

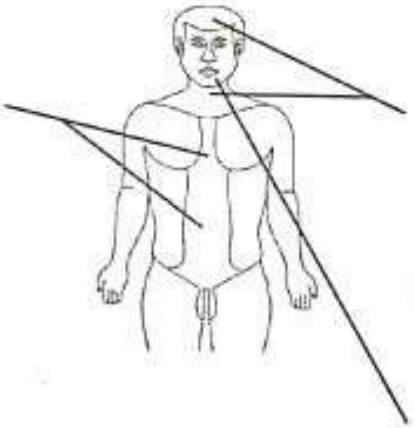
Doctor, I have fever and colds since yesterday...

This should be a viral "cough-cold-fever" episode.

1

1. Do you have cough? **"Slight cough since today, Doctor."**
2. Do you get chills before the fever? **"No."**
3. Do you get lot of sneezing, watering of nose? **"No."** *(That rules out allergic rhinitis).*
4. Do you get throat pain? **"No."** *(I must look for tonsillitis & pharyngitis).*
5. Do you have headache? **"No."** *(For sinusitis, Malaria, even viral fevers).*

5 Make the patient lie down.
Auscultate the chest.
Palpate the abdomen for Liver & spleen.



2 First check the patient's temperature with the back of the fingers, placed firmly on the forehead and the neck of the patient.
Examine the conjunctiva, sclera and tongue.

3 Ask the patient to open the mouth and say 'Ah'. With a good torch, inspect the tonsils and pharynx.

4 Palpate the Neck for Lymph nodes, Particularly the tonsillar nodes.

Key points for cold
Viral infection, Pharyngitis, Tonsillitis, RS, Liver & spleen.

Action
1. Paracetamol, Anti-histaminics, NSAIDs.
2. If indicated, Cough syrup and antibiotics. **(Simple viral fevers do not need antibiotics.)**
3. Generally, no investigations are required.

For Details: Refer Section 1 \ 3. Respiratory symptoms \ Common colds \ Page 37, 92.

16. PATIENT WITH COUGH

30 yr. old female

Doctor, I am having cough since last 5 days...

The duration is short. This should be a simple cough due to pharyngitis or bronchitis. but let me look for other causes.

1

1. Do you have fever? Do you have colds? **"No, Doctor."**
2. Do you get expectoration while coughing? **"Very slight."** *(So it is mainly a dry cough).*
3. Do you get wheezing sounds in the chest while breathing or coughing? **"No."** *(That rules out allergic bronchitis and bronchial asthma).*

⇩

2

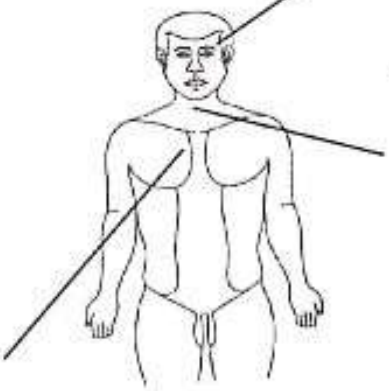
Look for pallor.
Anemic patients are more prone to all sorts of infections.

⇩

3

1. Do you get throat pain or tickling sensation at the back of the throat (Post nasal drip)? **"No."** *(So it is not pharyngitis).*
2. Is there a change in your voice? **"No."** *(So it is not Laryngitis).*

Examine with a good torch & tongue depressor, for inflammation of tonsils and pharynx, For a long uvula, and for mucus discharge over the pharynx.



⇦

4

Do you get wheezing sounds in the chest while breathing or coughing? **"No."** *(That rules out allergic bronchitis or Asthma).*
Auscultate the chest carefully for Rhonchii and Rales.
Ask the patient to take very deep breath and listen for rhonchii.

Key points for Acute Cough: Pharyngitis, Postnasal discharge, Anaemia, Wheezing.

Action

1. Steam inhalations. Salt water gargles if pharyngitis.
2. Cough suppressants and antibiotics. Add Paracetamol, bronchodilators, anti-histaminics if necessary.
3. If there is no relief, ask for X-ray chest and sputum AFB, Hb, WBC, ESR.

For Details: Refer Section 1 \ 3. Respiratory symptoms \ Cough \ Page 29.

17. PATIENT WITH HEADACHE

38 yr. old male

Doctor, I am getting severe headache in the evenings, since last 2 days.

Headaches in the evenings are usually simple tension headaches!

1

1. Show me the exact area of pain.
2. Do you feel better when I press here, over the temporal regions? **"Yes"** *(Patients with tension headaches, feel relieved by pressing over the temporal region).*

2

Do you have colds? Press over the maxillary, ethmoidal & frontal sinuses for tenderness. If there is sinus tenderness, Ask about the symptoms of sinusitis.

i. Does the headache increase on bending forwards?

ii. Do you get foul smell in the nose?

⇩

3

Do you get headache after reading or after seeing a movie? **"Yes"** *(This is suggestive of a refractive error).*

Press over the supraorbital ridges for tenderness.

(Every case of prolonged frontal headache, especially in children and young adults must be refered to an ophthalmologist to check for refractive errors).

⇩

4

Test the Neck movements for pain and look for tenderness of neck muscles. This examination is a must if the headache is occipital.

⇦

5

Do you get fever? **"No"**

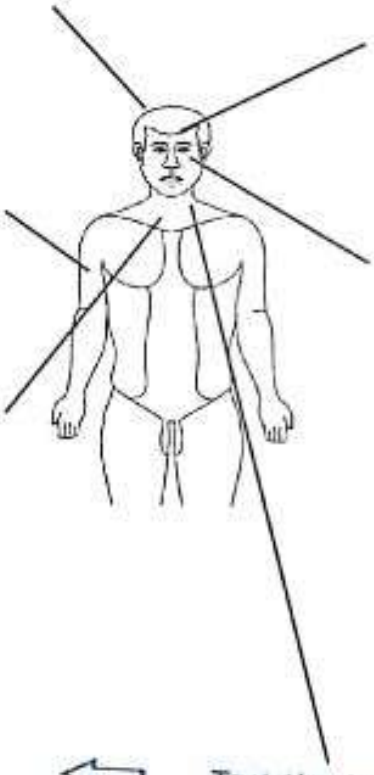
(Headache + Fever = suspect ? Meningitis, ??Malaria).

- Test for Neck stiffness, TB Meningitis may have a slow insidious onset, over several days with headache and low-grade fever.
- If fever is high with chills, palpate for spleen. For Malaria.

⇧

6

Always check the Blood pressure in every patient who complains of head-ache. If it is high, then that is probably the cause.



Key points for Headache: Temporal pressure, Sinus tenderness, ophthalmic check up, Blood pressure. If fever – Neck stiffness, Malaria.

Action

1. Treat with analgesics and Tranquilisers.
2. If Headache is recurrent, check BP, Ophthalmic check up, X-ray PNS, Hb, WBC.
3. If Headache is severe or progressive, ask for CT Scan.

For Details: Refer Section 1 \ 4. CNS Symptoms \ Headache \ Page 44.

18. PATIENT WITH GIDDINESS

38 yr. old male

Doctor, I am feeling giddy since one week. I do not feel confident to walk.

Too young for spondylitis. Is it Meniere's?

1

1. When do you feel Giddy? While getting up (Postural)? Or while looking up (Cervical spondylitis)?, or while walking (Cerebellar), or continuously for 24 hrs. (Meniere's)? **"Doctor, it is almost continuous, even when I am lying down."**
2. Do you feel giddy while turning in bed? **"Yes."** *(That's typical of Meniere's).*
3. Do you have any ear problems, ringing sound or deafness? **"No."** *(Cochlea).*
4. Are you taking any medicines? **"No."** *(Eg. Streptomycin, Drugs causing sedation like Tranquilisers or anti-histaminics, Drugs causing postural hypotension like anti-hypertensives).*

⇩

2 Look for Pallor, Nystagmus *(Severe anaemia may cause giddiness).*

⇩

3 With a good torch, examine both ears and eardrums. Test for Mastoid tenderness.

⇩

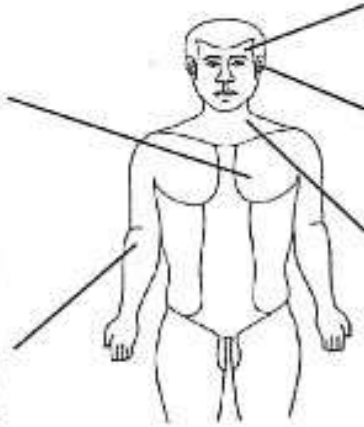
4 Test the Neck movements for pain and look for tenderness of neck muscles. Does the neck extension bring about giddiness? *(Cervical spondylitis can give rise to very severe giddiness).*

⇦

5 Make the patient lie down and check the Blood Pressure. If the patient has giddiness on standing, or if the patient is on anti-hypertensive drugs, then make the patient stand and check the BP again, for postural hypotension.

⇧

6 Auscultate the heart for murmurs. *(Lesions like Aortic stenosis can cause giddiness on exertion).*



Key points for Giddiness: Cervical spondylitis, Mastoid & ear tenderness, Pallor, CVS, BP, Drug induced.

Action

1. Cinnarizine or Prochlorperazine (Stemetil), High dose Bcomplex oral & injectible.
2. Bed rest.
3. Stop any drugs causing sedation.
4. If cervical spondylitis, give cervical collar.

If no relief, ask for Hb, X-ray cervical spine, ENT Check up, Ophthalmic check up.

For Details: Refer Section 1 \ 4. CNS Symptoms \ Giddiness \ Page 48.

19. YOUNG PATIENT WITH TREMORS

30 yr. old male

Doctor, My hands are trembling since one week. I cannot write properly. I even find it difficult to hold a cup of tea steady.

Is he alcoholic? Or is it simple anxiety?

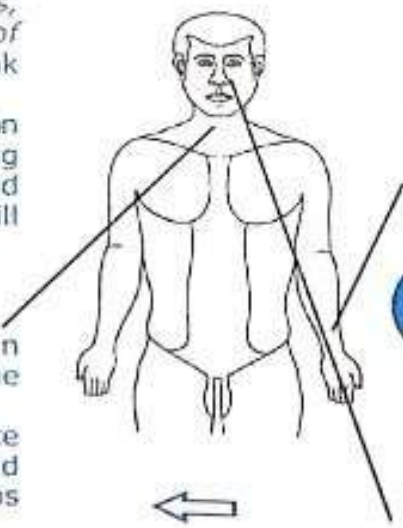
1 Ask the patient to sit and raise the arms horizontally with relaxed fingers. Observe the fingers for tremors.

1. Is it associated with tensions like giving a speech, talking to the boss or competition.? **"Yes, Doctor. It is very much more when I am tense."** *(That suggests anxiety as the cause).*
2. Do you take alcohol? **"Yes, but only occasionally."** *(Occasional drinking does not produce withdrawal tremors. Alcohol induced tremors are seen only after a bout, and breath smell would be obvious.)*
3. Are you taking any drugs? **"No."** *(Salbutamol for asthma, Imipramine as anti-depressant, Reserpine for hypertension are common examples).*

2 First check the pulse rate. If there is tachycardia, it is anxiety or Thyrotoxicosis

The patient has a very tense, or anxious look. It must be anxiety

3 Is there breath smell of alcohol?



4 Examine the neck in sitting position. Ask the patient to swallow
If goitre is seen, palpate for thyroid thrill and look for the eye signs of thyrotoxicosis.

5 If clinical examination findings are normal, and tremors are atypical *(Eg. Tremors involving only one limb, coarse tremors, increasing in front of other people)*, then think of Hysterical tremors.
Divert the patient's attention by talking or engaging her in some test, and hysterical tremors will reduce or disappear.

Key points for Tremors: Anxiety, Alcoholism, Breath smell, Drug induced, Thyrotoxicosis (if tachycardia), Hysteria. In elderly – Senile & Parkinson's.

Action

1. Tab. Propranolol, Tranquiliser, Reassurance.
2. If alcoholic, high dose B-complex, & tranquilisers.
3. If thyrotoxicosis, ask for T3, T4, TSH. Give Neo-mercazole, Propranolol, Tranquiliser.

For Details: Refer Section 1 \ 4. CNS symptoms \ Tremors \ Page 49.

20. PATIENT WITH SUDDEN HEMIPLEGIA

68 yr. old male

Doctor, My father has suddenly become unconscious since 4 hours. He is not talking and he is not moving the right hand and leg.

I have to find out the extent of hemiplegia, its cause and its level.

1

1. First assess whether the patient is critical (Deeply unconscious with Cheyne-Stoke's breathing) or is hemodynamically stable.
2. If the patient is critical, ask for arrangements to shift to a hospital, and then proceed with a quick examination and first aid treatment.
3. Ask the history of onset in details: whether it was gradual, sudden or catastrophic.
4. Was he a known Hypertensive or Diabetic?

⇩

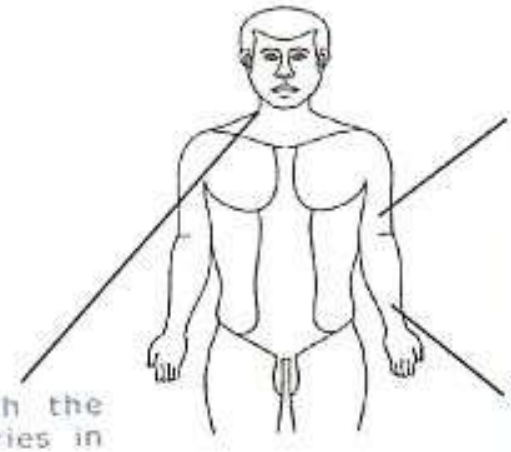
2

First check the Blood pressure.
If it is too high > 200/120 mm Hg, then give 10 mg Nifedipine, from your emergency bag, sublingually immediately.

⇩

3

Ask the patient to lift the limbs.
If he is unconscious, give a painful stimulus over the sternum, to observe the limb movements and then a painful stimulus over the supra-orbital ridge, to observe the facial movements.
Note whether it is total (dense) Hemiplegia, or is it Hemi-paresis?
And is the facial ipsilateral or contralateral.



4

Palpate both the carotid arteries in neck.
If one carotid is weaker, it suggests atherosclerosis or thrombosis.

⇦

Action

1. Control the Blood pressure fast with sublingual Nifedipine.
2. Give IV hydergine or Nootropil and refer the patient to a physician.
3. Wherever possible, CT scan should be done immediately, to know the cause of CVA and the treatment will be directed accordingly.

For Details: Refer Section 1 \ 4. CNS symptoms \ Hemiplegia \ Page 50.

21. PATIENT WITH PAIN IN NECK AND SHOULDERS

50 yr. old male

Doctor, I have severe pain in the right shoulder and neck, right upto the forearm since 4 days...

Is it cervical spondylitis or shoulder periarthritis?

1 Gently lift the arm, at the shoulder, above the head.
- If this is very painful, it is shoulder periarthritis or Frozen shoulder.
- If this is painless, it is cervical spondylitis.

In this patient, it is painless.

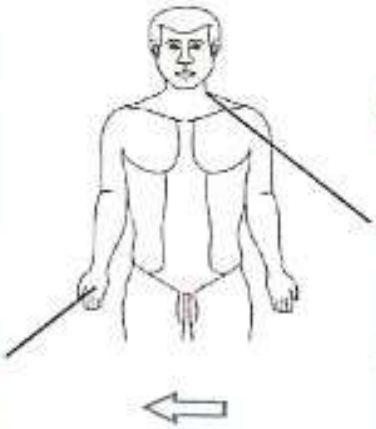
⇨

2 Do you get tingling numbness in the fingers? **"No."**
Does the pain radiate to the fingers? **"Yes"**
Do you get Giddiness on looking upwards? **"No."**

This looks like cervical spondylitis

⇩

3 Palpate the Cervical spine, and paravertebral muscles upto trapezius for tenderness.
Test all the neck movements - flexion, extension, lateral flexion and rotation.
(Pain on extension and lateral flexion confirms the diagnosis of Cervical Spondylitis).



⇦

4 Compare both the palms and look for wasting in Thenar and Hypothenar eminence.
If patient is young, test for cervical rib or thoracic outlet syndrome. (Adson's test).

⇧

5 If pain was radiating to the **left** arm, ask -
Does it increase on walking or activity?
Angina must be ruled out.

6 Ask for history of Epigastric burning or sour eructations in the past *(Peptic ulcer)*, before prescribing any NSAID.
Ask History of asthma. *(For NSAID tolerance).*
Check the BP. *(If a steroid is to be given).*

Action

Local liniments, Injectible & oral NSAIDs, Regular neck muscle exercises.
If pain is severe,

1. Ask for X-ray of Cervical spine AP & Lateral.
2. Cervical traction 5-7 Kg, for 20 minutes, 2 times a day, for 5 days.
3. Cervical collar for constant use.

For Details: Refer Section 1 \ 5. Orthopedic symptoms \ Pain in Neck \ Page 56.

22. PATIENT WITH LOW BACKACHE

40 yr. old male

Doctor, I have backache since last 2 months.

Is it a simple postural backache or sprain, or is there anything serious?

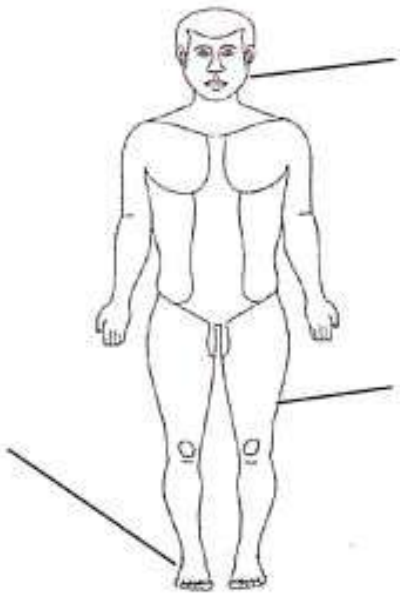
1

1. Did it start suddenly, while lifting weight or bending? **"No, Doctor."** *(That rules out acute PID).*
2. Does it radiate along the legs? **"Yes, it goes down the right leg."** *(That's Sciatica or Disc prolapse).*
3. Is it more in the morning on getting up? **"Yes."** *(That's a feature of Osteo-arthritis).*

5

If pain is severe or chronic,

1. Test deep tendon reflexes: Brisk or exaggerated reflexes indicate pressure on spinal cord.
2. Test the Plantar reflex.



2

First inspect the back and the spine.
Ask the patient to show the exact site of pain.
Look for prominence of spine, and for tenderness by firm palpation and gentle hitting.

3

S.L.R. TEST:
Ask the patient to lie down, and lift each leg straight to 90°. Pain at the back (Lumbar spine) similar to the patient's pain is a positive SLR test.

4

TEST E.H.L.:
Ask the patient to dorsiflex the great toe against resistance. Weakness of dorsiflexion is the earliest sign of neurological deficit in compressive lesions of spine.

6

This should be your reflex to ask the following questions before prescribing NSAIDs.

i. Ask H/o Epigastric burning/Acidity/peptic ulcer in the past.
ii. Ask H/o Bronchial Asthma. *(If yes, sensitivity to NSAIDs?)*
iii. Check Blood pressure. *(If steroid is to be given).*

Key points for Backache
Osteoarthritic or Disc prolapse? Local tenderness, SLR test, EHL weakness, wasting.

Action

1. SWD, Lumbar Belt, Bed rest till acute pain subsides.
2. NSAID, Calcium.
3. If no relief, Refer to Orthopedic surgeon, X-ray of the Lumbo-sacral spine, and SOS Myelography or MRI.
4. If there are neurological signs, refer immediately.

For Details: Refer Section 1 \ 5. Orthopedic symptoms \ Low Backache \ Page 55.

23. PATIENT WITH KNEE PAIN

50 yr. old female

Doctor, My left knee pains very badly, especially while getting up from sitting position...

1

1. How long has it been painful? **"2 years, Doctor."** *(So it is a chronic condition. Is it osteoarthritis? Or Rheumatoid arthritis?)*
2. Does the knee swell? **"Yes."**
3. Do you get fever? "No." *(So it is not an infective condition).*

⇩

2 Compare the two knees for –
- Swelling and
- Quadriceps wasting.

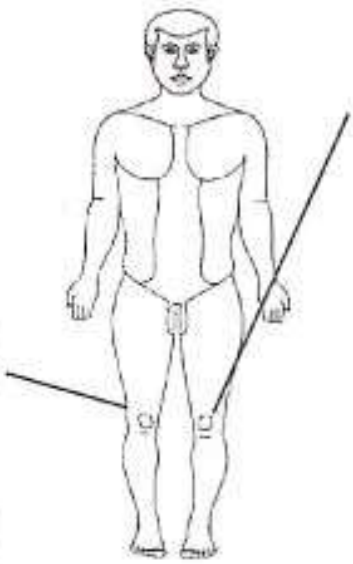
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3 If there is swelling, do the patellar tap test and fluctuation. A positive tap test suggests presence of fluid i.e. Effusion. A small effusion may subside with drugs, but larger effusions need to be aspirated.

⇩

4 Test for tenderness. Joint line tenderness is seen in osteoarthritis. If single, very tender spot is detected, refer for LHC injection.

⇦



5 Flex the knee, keeping your hand over the joint. *(A crepitus is felt in osteoarthritis. Locking of joint suggests a loose body).*

⇧

6 Look on the popliteal aspect of the knee for Baker's cyst.

7 This should be your reflex to ask the following questions before prescribing NSAIDs.
1. Ask H/o Epigastric burning/Acidity/peptic ulcer in the past.
2. Ask H/o Bronchial Asthma.
3. Check Blood pressure. *(If steroid is to be given).*

Key points for Knee Pains: Range of movements, Tender spots, Fluctuation & Patellar tap.

Action
1. NSAID tablets, liniments.
2. If pain is severe, NSAID injection, SWD, LHC.
3. Maintain with NSAID – SR (Slow release) tablets, Knee exercises, Weight reduction and walking stick.

For Details: Refer Section 1 \ 5. Orthopedic symptoms \ Pain in knee \ Page 53.

24. PATIENT WITH EDEMA

40 yr. old male

Doctor, My feet are swollen. The face also looks swollen, since last 3 days.

1 **Have a quick look as to how the edema is distributed.**
More on the face? .....? Renal.
More on the legs?.....? CCF.
More of ascites? .....? Portal Hypertension.

⇩

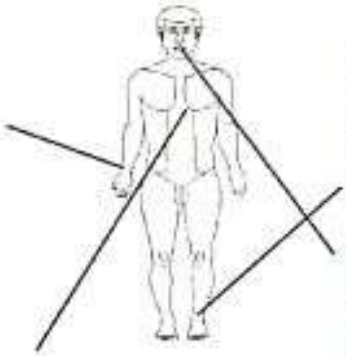
2
1. Is the edema maximum in the mornings? **"Yes, I can't open the eyes fully in the morning."** *(That's typically renal edema).*
2. Is the urine scanty or red colored? **"No."** *(Scanty urine would suggest acute glomerulo-nephritis).*

⇩

3 First examine the Edema.
How severe is it?
Is it pitting?
Are there dilated veins?

⇩

4 Examine the tongue, nails and conjunctiva for pallor. *(Very severe pallor [Hb < 4 gm%] may cause edema).*



5 Ask –
Do you feel breathless on walking? **"Yes".**
Examine the heart in details:
- Auscultate for murmurs.
- Look for raised JVP.
- Palpate for soft, tender liver.

⇦

6 Count the pulse.
If there is bradycardia, look for other features of Myxoedema – Goitre, Delayed relaxation of tendon jerks, coarse skin & Hoarse voice.

⇧

7
- Ask – Are you taking steroids? *(Is the edema steroid induced?)*
- If face edema is of sudden onset, or is more over the lips, or is associated with hoarse voice and difficulty in breathing, it may be angioneurotic edema. Ask H/o Drug ingestion and allergy.

Key points for Face Edema: Renal, Myxoedema, CCF, Anaemia, Steroid face, Angioneurotic edema.

Action
1. Examine the urine.
2. Give salt free diet, and Diuretic. Most of the cases will respond.
3. If not refer to a physician.

For Details: Refer Section 1 \ 6. Renal symptoms \ Edema \ Page 62.

25. PATIENT WITH DYSURIA

48 yr. old male

Doctor, I am passing urine very frequently, and get severe burning sensation while passing urine since the last 3 days....

Is it UTI Or a Bladder stone? Or is it prostate?

1

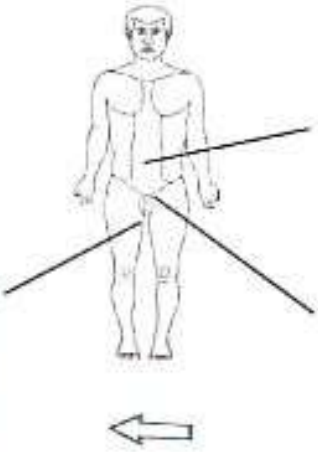
1. Do you get fever with chills? **"Yes, Doctor."** *(That is very suggestive of UTI).*
2. Is the urine stream good & forceful or weak and drop-by-drop? **"The stream is good with normal force."** *(Then it is unlikely to be urethral stone and prostate enlargement).*
3. Do you get severe pain at the end of micturition? **"Yes."** *(So it is Cystitis or Bladder stone. But Bladder stone wouldn't give fever!)*
4. Do you see purulent discharge from the urethra? **"No."** *(To rule out Gonococcal infection).*

⇩

2 First palpate the suprapubic region for bladder.
If bladder is distended, then it is retention with overflow.

⇩

3 Retract the prepuce and examine the urethral meatus.
Look for Phimosis, Meatal stricture, meatal inflammation & urethral discharge in Gonococcal infection.



4 Since the patient is above 45, Do a Per Rectal Examination and palpate the Prostate for enlargement (BEP) and tenderness (Prostatitis). *(UTI may be secondary to an enlarged prostate).*

⇩

5 If there is only frequency, no burning micturition, then think of Diabetes, Tuberculosis of bladder, and BEP or Bladder neck hypertrophy.

Key points for Dysuria: Urine flow, Bladder stone, distended bladder, meatal stenosis, Palpable stricture or stone, Prostate – BEP or Prostatitis (PR).

Action

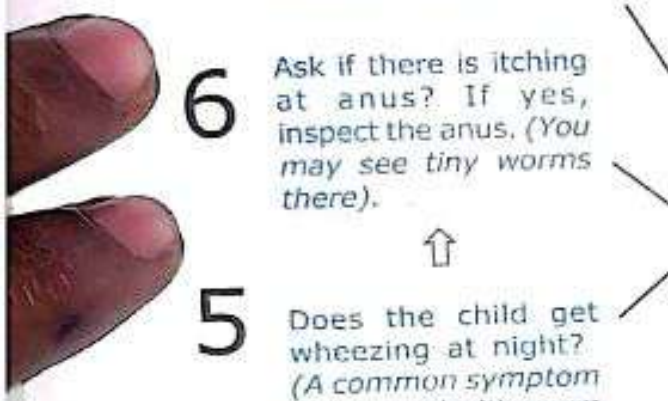
1. Check urine and treat the urinary infection with Norfloxacin, Cital, and Pyridium.
2. Ask the patient of drink plenty of water and fluids.
3. If there is no relief, ask for Urine culture, X-ray KUB, Cystoscopy as needed.

For Details: Refer Section 1 \ 6. Renal symptoms \ Dysuria \ Page 63.

26. CHILD WITH WORMS AND ANAEMIA

Doctor, My child is complaining of pain in the abdomen after meals and at night.

Deworming is a must.



1 Ask the child to show where exactly it pains.
"Child pointing to the umbilicus has worms inside."
Does the child eat mud? **"Yes"**

2 Look at the sclera in bright Sunlight for icterus.
"Is the anorexia due to jaundice?"

3 Inspect the tongue for pallor.
(Anaemia is both cause and effect of anorexia and must be treated first).

4 Make the child lie down, and palpate the abdomen gently all over.
- Mild tenderness around the umbilicus is due to pain from small intestine, usually due to worms.
- If there is tenderness over the colon, it may be amoebiasis.
- Palpate carefully for Liver.

5 Does the child get wheezing at night?
(A common symptom associated with worm infestation).
Auscultate the chest for rhonchii, and murmur.
Anemic patients have a flow murmur = Ejection systolic murmur in pulmonary area.

6 Ask if there is itching at anus? If yes, inspect the anus. *(You may see tiny worms there).*

Action
1. Deworm weekly for one month. Treat anaemia.
2. Deworm everyone at home, all children, and also servants.
3. If anaemia is severe or resistant, ask for Hb, WBC, PS, Stools, KUB.

For Details: Refer section 1 \ 1. Gastrointestinal symptoms \ worm infestations \ Page 15.

27. CHILD WITH TONSILLITIS

6 yr. old female child

Doctor, My child is having fever and severe throat pain. She is unable to eat food for last 2 days.

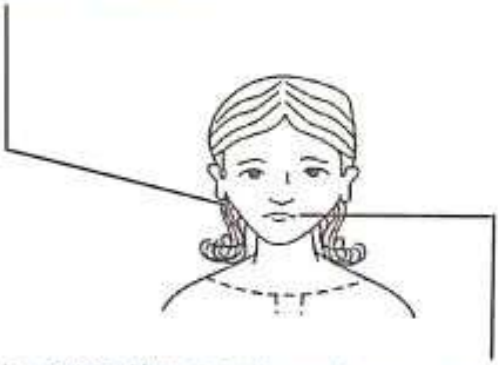
1

1. Did she have a similar attack in the past? **"Yes, 2 months back."** *(This could be recurrent acute tonsillitis).*
2. Does she have cough? **"No."**

Touch the forehead and neck with the back of the fingers to look for fever.

2

1. Where does it pain? Show me the exact site. *(In tonsillitis, the child points to just below the angle of mandible on both the sides).*
2. Gently palpate below the mandibular angles, to feel for the tonsillar lymph nodes, and whether they are tender. *(Tender tonsillar nodes is also a sign of tonsillitis).*



3

Ask the child to open the mouth and say 'Ah'. Using a tongue depressor and a bright torch, inspect the tonsils and pharynx.
Swollen, mildly red tonsils = Chronic tonsillitis.
Angry red mucosa and swollen tonsils = Acute tonsillitis.
Only one tonsil is swollen, redness extends beyond the tonsil = suspect tonsillar abscess.
If there is a white patch, suspect Diphtheria and refer the patient to a hospital.

4

Auscultate the chest – CVS & RS. Look for crepts and rhonchii.

Key points for Throat Pain: Tonsillitis, tonsillar lymph nodes, pharyngitis, Diphtheria, RS, CVS.

Action

1. Use **Penicillin or Erythromycin** routinely for throat infections. (as a preventive measure against Rheumatic fever)
2. Salt water gargles, steam inhalations.
3. Antipyretics and NSAIDs – Syrup or injection.
4. If attacks are recurrent, then refer to an ENT surgeon for Tonsillectomy.

For Details: Refer Section 1 \ 10. ENT and eye symptoms \ Acute tonsillitis \ Page 91.

28. CHILD WITH PAIN IN THE EAR

6 yr. old male child

Doctor, My child is complaining of pain in the right ear since 3 days.

Is it an ear infection? or is it a referred pain?

1

1. Does he have fever? **"Yes, Doctor."** *(That suggests infective process).*
2. Is there ear discharge? **"No, Never."** *(Good, That means eardrum is not perforated).*

⇩

2

Inspect the external ear with a good torch, pulling the ear upwards and backwards.
Look for:

- Brown-black colored wax.
- White (Fungal) flakes.
- Boil in external ear.

⇩

3

If pulling on the pinna is painful, the pain is due to external ear boil or infection.

If external ear looks normal, it is very likely to be Otitis media. Inspect the eardrum for bulging or shininess.

⇦

4

Press firmly over the mastoid process and look for Mastoid tenderness.

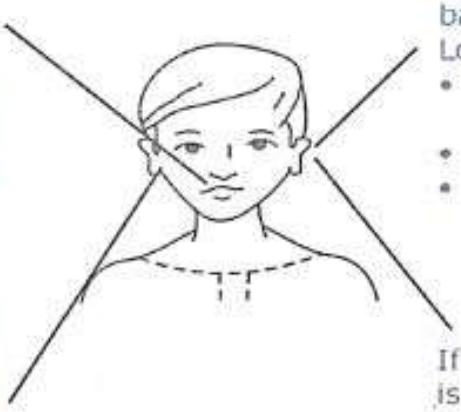
(Mastoiditis is a serious complication of Otitis Media and if mastoid tenderness is present, the child should be referred to ENT surgeon immediately).

⇧

5

Ask:
Do you get pain in the throat, or teeth?

Inspect the Tonsils, Throat, and Teeth.
(A painful lesion here like Tonsillitis, Caries in upper teeth can produce referred pain in the ear).



Key points for Ear Pain: External ear infection, ear drum, mastoid tenderness, throat infection.

Action

1. WAX: Soliwax drops for 3 days, then clean with earbud or earwash.
2. FUNGAL FLAKES: Clean the ear with earbuds and use Clotrimazole drops.
3. OTITIS MEDIA: Higher antibiotics, Anti-inflammatory drugs & Nasal decongestant drops in nose (Otrivin) to keep the Eustachian tubes patent.

For Details: Refer Section 1 \ 10. ENT and eye symptoms \ Pain in ears \ Page 94.

29. CHILD WITH ACUTE GASTROENTERITIS

1½ yr. old male child

Doctor, My child is passing watery motions since morning and has vomited 3 times. He is crying almost continuously.

1 **Have a look at the baby.**
Does it look dehydrated with sunken eyeballs?
Is it toxic?
(My main worry is whether it is dehydrated and needs urgent & rapid fluid replacement).

2 Has the child passed urine? Was it scanty or in sufficient quantity? **"No, Doctor, it is passing very small amounts of urine."** *(That's Grade II dehydration).*

⇩

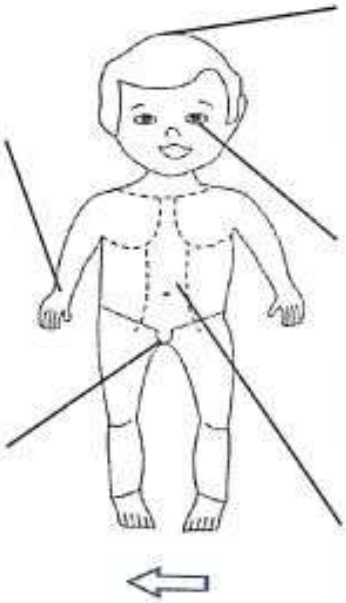
3 Palpate the anterior fontanelle, if it is open.
(Depressed fontanelle = dehydration > Grade I).

⇩

4 Examine the eyeballs.
Are they sunken?
Is the tongue dry?
(If eyeballs are sunken, tongue is dry, it is Grade II dehydration).

⇩

5 Pinch the skin over the abdomen and release it. *(If the fold flattens very slowly, it is > Grade II dehydration).*



⇦

6 Inspect the perianal area for redness and skin excoriation.

Instruct the mother to dry the perianal area after each motion and apply Siloderm (ZnO) paste.

⇧

7 Feel the pulse.
Feeble pulse = Grade III i.e. Severe dehydration.

Other signs of severe dehydration = deep sighing respiration, semi-consciousness, anuria.

Key points for Gastroenteritis: Degree of dehydration – Skin turgor, dry tongue, sunken fontanelle, sunken eyeballs, scanty urine, weak pulse.

Action

1. Orolyte.
2. Anti-diarrhoeals, anti-spasmodics, anti-emetics, antibiotics.
3. Clean the nipples before feeding/Boil milk bottle or cup before use.
4. IV Fluids- since the dehydration is grade II. Give first Ringer's lactate, then Isolyte-P as per formula.

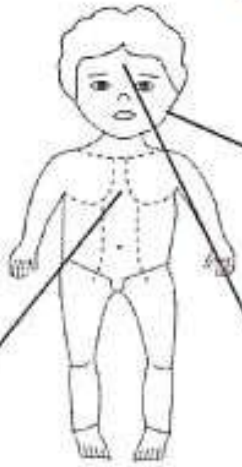
For Details: Refer Section 1 \ 12. Pediatric symptoms \ Gastroenteritis \ Page 105.

30. CHILD WITH ACUTE BRONCHIOLITIS

1 yr. old female child

Doctor, my child has cough since 2 days. Today, it is too breathless & sounds are coming from its chest...

Has the child developed bronchiolitis? Or is it a simple cough?



1
- Observe the face. – Does the child look dehydrated and toxic?
- Observe the degree of breathlessness and cough.
- Look at the tongue & nails for cyanosis.

⇩

2 Touch the forehead and neck with the back of your fingers to assess the degree of fever.

⇦

3 Auscultate the chest carefully for Rales and Rhonchii.

4 If the child is breathless and toxic, or cyanosed,
And if the chest is full of crepitations,
It is acute bronchiolitis. Refer the patient immediately to a Pediatrician.

Key points for Severe Cough (Infants): Fever, dyspnoea, cyanosis, rales & rhonchii, Toxic look.

Action
1. Oxygen, and Salbutamol nebuliser immediately.
2. Higher Antibiotics.
3. Inj. Deriphyllin, Bronchodilators, Steroids.

For Details: Refer Section 1 \ 12. Pediatric symptoms \ Acute bronchiolitis \ Page 112.

31. INFANT WITH EXCESSIVE CRYING

6 month old male child

Doctor, My child is crying continuously since last 4 hours.

1 FIRST OBSERVE FOR THE COMMON CAUSES –
Is it hungry?
Is it constipated?
Is it taking its hand repeatedly to any spot *(Ear/ Abdomen/Limbs)?*

⇩

2 Palpate the anterior fontanelle.
(Bulging fontanelle = ?Meningitis).

⇩

3 Test for Neck stiffness.
(Neck stiffness = ?Meningitis, ?Tetanus).

⇩

4 With a good torch, inspect both eardrums carefully.

If the eardrum is bulging or inflamed:
Put nasal drops of Xylometazolin in nose,
Give antibiotic injection,
and refer to a Pediatrician.

⇦

5 Palpate all the limbs, chest and back – for signs of injury, swelling or deformity.
Look for marks of insect bite.

⇧

6 Examine the Genitalia for Phimosis and infection.



Key points for Crying Infant: Hunger, Constipation, Infection/injury/pain anywhere, Eardrums, Bulging fontanelles, neck stiffness.

Action
1. Feed the baby, if it is hungry.
2. Give soap stick to empty the rectum.
3. Give Carmicide and spasmindon drops.
4. If any pathology is suspected, refer accordingly.

For Details: Refer Section 1 \ 12. Pediatric symptoms \ Excessive crying \ Page 103.

32. CHILD WITH RHEUMATIC ARTHRITIS & FEVER

6 yr. old male child

Doctor, My child has fever since 1 week and has pains in the knee & ankle.

Fever and joint pains in a child? Is it Rheumatic fever?

1

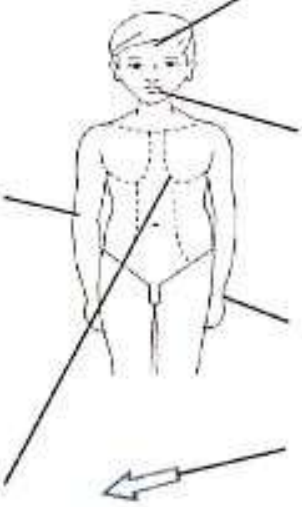
1. Which joints are painful? **"Doctor, It started with right knee. Now left knee and ankle are paining."** *(Fleeting joint pains is very typical of Rheumatic arthritis).*
2. Do you get chest pain or breathlessness? **"No."** *(That's to rule out Rheumatic carditis).*
3. Did you have throat pain or Tonsillitis recently? **"Yes, he had throat pain & fever 1 month back."** *(Rheumatic fever usually follows a Group A Streptococcal infection of the throat, which was not treated with Penicillin).*

2 With the back of the fingers, test the temperature over the forehead and neck.

Look for pallor & icterus.

3 With a good torch and tongue depressor, inspect the tonsils and throat.

4 Feel the radial pulse and count the rate. *(If tachycardia [> 100/min.], suspect Rheumatic Carditis).*



5 Auscultate carefully for murmurs.
Murmurs & Tachycardia = Active Rheumatic carditis.

6 Move your hand over the elbows, dorsum of hands & shins for Rheumatic nodules. Also, look for Erythema marginatum, a macular eruption with rounded borders over the chest, abdomen & back.

7 Examine the affected joints for swelling, and tenderness. *(In Rheumatic arthritis, joints are swollen, not just painful. And the affection is fleeting type, while one joint is affected new, previous one has subsided).*

Key points for Fever with Joint Pains: H/o tonsillitis, Fleeting joint pains, tachycardia/ murmur, rheumatic nodules, Erythema marginatum.

Action

1. Ask for ASLO titer, and throat culture for Group A streptococci, if throat infection be present.
2. Give Inj. Penicillin, Aspirin, Prednisolone and complete Bed rest.
3. Let the child be under a Pediatrician's care.

For Details: Refer Section 1 \ 12. Pediatric Symptoms \ Rheumatic fever \ Page 110.

33. UNCONSCIOUS DIABETIC

50 yr. old male

Doctor, My husband is a diabetic. He has suddenly become unconscious half an hour back.

1 The first aim is to decide whether it is a Hypoglycemic coma, or hyperglycemic coma?

Suspect Hypoglycemia: If the patient has taken his tablets or insulin, but missed his meals, or had severe exertion. Onset of hypoglycemia is sudden.

Suspect Hyperglycemia: If the patient is irregular in taking his medicines, or has an infection, cough or fever, and when the onset is insiduous.

⇩

2 Keep your hand on the pulse, and watch the breathing

Hypo = Slow, bounding, good volume pulse with quiet breathing.

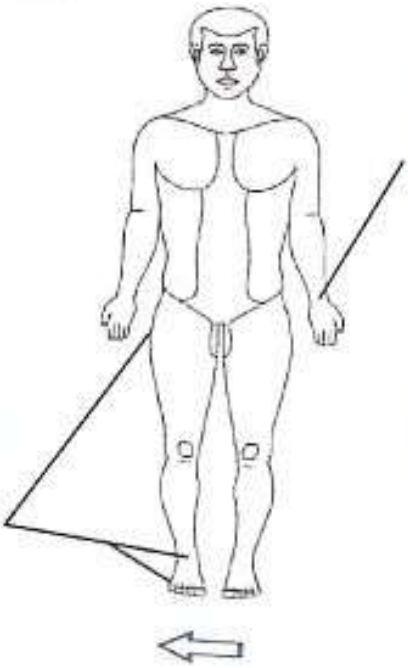
Hyper = Rapid, thready pulse, Low Blood pressure, tachypnoea, and sweet (acidotic) smell to the breath.

⇩

3

Hypoglycemia = Overall, the patient looks healthy, as if he is quietly sleeping.

Hyperglycemia = Patient would look toxic, ill, febrile.



4 Look for evidence of infection

Auscultate the chest for Rales.

Examine the limbs, buttocks, & feet for cellulitis or abscess.

Action

1. Take out the blood sugar strip from your Emergency bag & check the sugar before commencing treatment.
2. If hypo, or if in doubt – IV 25% 3-4 ampules. If the patient wakes up, give more 25% Glucose, and continue with 10% Dextrose drip.
3. If Hyperglycemia – Push 2-3 N.Saline fast.
   2nd IV line – NS + 20 units Plain Insulin slow.
   Sodabicarb 100 ml slow IV, Higher antibiotics.
   Hospitalise the patient.

For Details: Refer Section 1 \ 19. Emergencies \ Unconscious Diabetic \ Page 170.

34. UNCONSCIOUS PATIENT

60 yr. old male

Doctor, My father is not talking or responding since today afternoon. He had his lunch as usual, and then we found him lying on the ground in the bathroom.

1 **First ensure that the airway is clear, and patient is not in shock.**
In which case, resuscitative measures should start first.

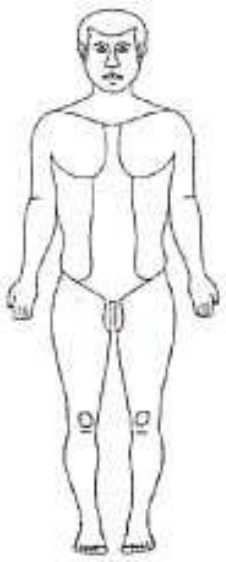
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2 Ask H/o Onset – sudden or gradual, H/o Head injury, H/o convulsions, H/o High fever before coma, H/o Diabetes, H/o Alcohol or poison ingestion.

⇩

3 **General Examination**

- First note the temperature.
- Palpate the pulse: Slow, Fast or irregular.
- Check the blood pressure.
- Note respiration: Slow/ Rapid & deep/irregular/ Cheyne Stokes.
- Note the breath smell: Poison, Alcohol, ammonia, Acidotic, Fetor hepaticus.
- Note the posture – at rest and after giving a painful stimulus: Flaccid/ Decerebrate/Decorticate.
- Severe sweating: Hypoglycemia.



4 **Examine from head to toe**

1. Palpate the skull for bogginess or fracture.
2. Examine the ear for discharge, blood or CSF.
3. Eyes: Pupils, Deviation, Doll's eye movements.
4. Tongue: Dryness, bite marks.
5. Neck rigidity.
6. Chest & Abdomen.
7. Give a painful stimulus. Note the response. Note for weakness of limbs or facial nerve.

SECTION 9
SOME COMMON PROBLEMS

Chapter

28 WHICH DRUG SHOULD I USE

1. CHOICE OF ANTIBIOTICS

This is a dilemma, which every doctor faces, while prescribing for various infections, expecting a quick control of the infection and a quick relief.

Frankly speaking, the judgement comes with experience, as the best antibiotics for common illnesses differ in different localities, as the infecting organisms differ.

With newer antibiotics coming to the market every day, and resistant strains of organisms increasing, this chart is only a basic guideline to antibiotic choice.

Remember

- For routine cases, use one of the antibiotics in the first column, for mild cases, first or second column, and reserve the stronger drugs in the third column for severe infections.
- Always give a full 5 to 7 day course of antibiotic to avoid development of resistance.
- If adequate response is not seen, it is always better to do a culture & antibiotic sensitivity test, and use a specific antibiotic, than blindly go to a higher antibiotic.
- Always prescribe higher antibiotics at an earlier stage in infants, Diabetics, Malnourished & anemic patients and in Ischemic limbs.

SITE OF INFECTION	DRUGS FOR ROUTINE USE	SECOND CHOICE DRUGS	DRUGS FOR SEVERE OR RESISTANT CASES
1. **Skin & Soft tissues** Boils, Cellulitis	• Ampi, Amoxy, Cloxa • Peflox, Ciproflox • Penicillin, Genta • Cephalexins	• Tetracycline • Chloromycetin • Clotrimazole	• Penicillin • Cephalosporins • Sparflox, Lomeflox
2. **U.R.T.I.** Tonsillitis, Pharyngitis, Sinusitis	• Ampi + Cloxa • Amoxy + Cloxa • Erythromycin • Tetracyclins • Peflox, Ciproflox	• Clotrimazole • Genta • Cephalosporins	• Penicillin • Azithro, Roxithro • Lomeflox, Sparflox

SITE OF INFECTION	DRUGS FOR ROUTINE USE	SECOND CHOICE DRUGS	DRUGS FOR SEVERE OR RESISTANT CASES
3. L.R.T.I. Bronchitis Pneumonia	• Ampi/Amoxy + Cloxa • Amoxy + Bromhexein • Amoxy + Clav • Azithro, Roxithro • Cephalexin • Penicillin	• Erythro • Genta • Ciproflox, Peflox	• Higher Cephalosporins • Carbenicillin • Sparflox, Lomeflox • Meropenem • Pipercilin + Tazobactum
4. U.T.I. Cystitis, Catheter infection	• Norfloxacin • Ciproflox, Lomeflox • Chloromycetin • Nalidixic Acid	• Clotrimazole • Cephalexin • Nitrofurantoin • Mandelamine	• Sparflox, Lomeflox • Genta • Carbenicillin • Amoxy + Clav
5. Gastroenteritis	• Cipro + Tinidazole • Norflox + Tinidazole • Sulfaguanidine	• Neomycin • Nalidixic acid	
6. Bones & Joints Osteomyelitis	• Cephalexin • Ampi + Cloxa • Amoxy + Cloxa	• Ciproflox • Oflox	• Higher Cephalosporins (see below)
7. Meningitis	• Penicillin (high dose) • Gentamycin • Ceftazidime • Ceftriaxone. • Cefoperazone	• Ampi + Chloro • Cefotaxime	• Cefuroxime • Meropenem
8. Typhoid	• Chloromycetin • Ciproflox • Oflox, Lomefloxacin	• Cotrimazole	• Ceftriaxone
9. E.N.T. Otitis Media	• Ampi + Cloxa • Amoxy + Cloxa • Erythro • Azithro, Roxithro	• Penicillin • Genta • Clotrimazole	• Cefixime • Higher Cephalosporins
10. Gall Bladder Cholecystitis Cholangitis	• Cephalexin • Ampi + Cloxa • Amoxy + Cloxa • Ciproflox	• Chloromycetin	• Higher Cephalosporins • Lomeflox, Sparflox
11. Pelvic Infections	• Cefazolin • Cefatoxime • Penicillin + Genta • Ciproflox, Oflox	• Ampi + Cloxa • Amoxy + Cloxa	• Higher cephalosporins • Meropenem

2. CHOICE OF NSAID IN CHRONIC PAINS

Before prescribing an NSAID, always ask 3 questions:

1. Does the patient have peptic symptoms? Like epigastric burning, retrosternal/epigastric pain, regurgitation etc.
2. Is he asthmatic?, and
3. Is there a known allergy to NSAID in the past? Because many patients are sensitive to specific NSAIDs like Ibuprofen or Diclofenac, and they usually know it.

If, in addition, you need to combine a steroid,

1. The patient must have no peptic symptoms.
2. Check BP. There should be no Hypertension.
3. Rule out Diabetes.

WHICH "NSAID" SHOULD I PRESCRIBE?

The choice is very wide, and depends not only on your individual preference, but also on patient's individual response.

Some patients respond to Piroxicam, some find it totally ineffective.

Some respond to Diclofenac while some don't get relief with it.

So, if patient does not respond to one drug, try another.

For acute pain: The commonly used drugs are - Nimesulide, Diclofenac, aceclofenac,and Ibuprofen. Drugs available in injectible form are – Diclofenac, Piroxicam & Ketoprofen.

For chronic pain: Prefer slow release preparations of Diclofenac, Piroxicam, Nimesulide, Ibuprofen.

The next choice is Naproxen, Flurbiprofen, Indomethacin, Mephenamic acid etc.

CLINICAL PROBLEMS

I. If the patient has peptic symptoms

- Choose the NSAID, which is least gastric irritant, yet effective to the patient. Here is a list of NSAIDs, in order of least gastric irritation:
- Nimesulide, Meloxicam, Nabumetone. Valdecoxib, Celecoxib. (COX-2 inhibitors)
- Piroxicam, Tenoxicam.
- Diclofenac, Aceclofenac
- Ketoprofen, Flurbiprofen, Indomethacin, Mefenamic acid.
- Ibuprofen.
- Phenylbutazone, Oxyphenbutazone. (To be avoided)

2. Never combine 2 NSAIDs, or an NSAID and a steroid.
3. Combine a smaller dose of NSAID, with a larger dose of plain analgesics (which do not irritate the gastric mucosa.) e.g. Paracetamol, Dextro-propoxyphene, Tramadol, Ketorolac etc. The addiction forming analgesics, like Pentazocin (Fortwin), butenorphine, Pethidine etc. should be strictly avoided in chronic painful conditions.
4. Give strict instructions
   - Drugs must be taken after food or milk. Never on empty stomach.
   - Stop the drugs immediately, if epigastric pain, burning or vomiting.
   - Always co-prescribe antacid and Ranitidine or Omeprazole.
5. Prefer more dose of local application. E.g. Voveran emugel, Pirox gel, Brufen gel etc. or Rhofenid skin patch. (Ketoprofen).

6. Prefer injectible drugs (Especially in acute phase) to avoid gastric irritation. But remember that Gastritis or ulcer perforation can occur even when NSAID is given in injectible form. Diclofenac, Piroxicam, and Ketoprofen can be given in injectible form.

II. If the patient has Asthma

Avoid: Aspirin, Ibuprofen, Diclofenac, Mefenamic acid, Piroxicam. (If necessary, these drugs may be given with caution, under observation, as bronchospasm is induced in only 10% of asthmatics, not all. 90% can take these drugs).

Give : Nimesulide, Meloxicam, Valdecoxib, Celecoxib (Selective COX-2 inhibitors)

Analgesics like Ketorolac, Dextropropoxyphene, or Tramadol.

III. If the patient is pregnant

Avoid all NSAIDs in early pregnancy. Give only aspirin or paracetamol.

IV. If the patient has significant hepatic impairment

Avoid all NSAIDs. Give only aspirin or paracetamol.

3. CHOICE OF ANTIHYPERTENSIVES

There is a very wide range of Anti-Hypertensive drugs available today and the choice will depend on:

1. The tolerance of the patient to the drug i.e. How the patient responds, and the side effects.
2. The individual choice of the Doctor, and
3. The cost of the therapy – what the patient can afford.

In a middle aged Hypertensive patient, Beta-blockers are the first line drugs, unless specific indication exists for other drugs.

Starting with a Beta-blocker -

Tab Aten (Atenolol) 25 mg per day upto → 100 mg bd.

Tab Lopressor (Metoprolol) 50 mg per day upto → 100 mg bd.

Tab Cardivas (Carvedilol) 6.25 mg bd upto → 25 mg bd. (Preferred in young patients)

Beta-blockers are drug of choice in Hypertensives with Angina and Tachycardia or tachyarrhythmias. These are time tested drugs that reduce cardiac mortality especially IHD and sudden deaths due to arrhythmias.

Problem No. 1

But some patients do not tolerate Beta-blockers well and experience either frank bronchospasm with wheezing & rhonchii OR complain of low-grade dry cough. In either case, an alternative drug has to prescribed, preferably a Calcium channel blocker.

If Beta-blocker is essential, due to IHD, then give Tab Deriphyllin 1-3 tabs per day to control the bronchospasm. But if it is not controlled then Beta-blocker has to be stopped and Calcium channel blocker and other coronary vasodilators should be prescribed.

Problem No. 2

Hypertension is severe, and it may not be controlled with the highest dose of the drug. It is not advisable to prescribe the highest recommended dose.

- Rather, combine it with another drug, either a Calcium channel blocker or an ACE inhibitor.
- If there is edema, or obesity, combine with Hydrochlorothiazide. E.g. Dibeta, Hypres-D.
- Or just change the drug.

Problem No. 3

Beta-blockers may increase intermittent claudications in PVD.

In diabetics, the dose of oral drugs may have to be adjusted.

In an elderly patient

If there is evidence of Ventricular Hypertrophy, or CCF, then start with an ACE inhibitor. Then add a thiazide diuretic, then a Beta blocker or Alfa blocker.

If patient is a Diabetic, then start with an ACE inhibitor. (They improve glucose metabolism & prevent nephropathy). If not controlled add a thiazide diuretic, then an Alfa-blocker or Calcium channel blocker.

If he has anginal symptoms, then start with a Beta-blocker (or Calcium channel blocker).

If patient has cough, asthma or emphysema, then a Calcium channel blocker would be the best drug to start with.

If urine shows albumin i.e. Evidence of Renal dysfunction, ACE inhibitor is the drug of choice.

If patient has Prostatic symptoms, then drug of choice is an Alpha blocker.

Starting with an ACE inhibitor

Tab. Envas (Enalapril) 2.5 mg OD, upto → 10 mg bd.

Tab. Ramace (Ramipril) 1.25 mg OD upto → 10 mg OD.

Tab. Listril (Lisinopril) 2.5 mg OD upto → 20 mg OD.

Problem No. 1

Many patients experience dry cough with ACE inhibitors.

- Change to Calcium channel blocker or Alpha blocker would be ideal.
- You may try a selective Angiotensin II blocker, which shows a much less incidence of cough. Eg. Tab Losagard (Losartan) 25 mg OD upto → 50 mg 2 OD.

Problem No. 2

The BP is not controlled. Then add a Beta-blocker or a Calcium channel blocker.
Or change to another drug.

Problem No. 3

Patient is well controlled on another drug, but has CCF or LVH.

Then add a small dose of ACE inhibitor i.e. Tab. Envas (Enalapril) 2.5 mg OD or Tab Ramace (Ramipril) 1.25 mg OD or Tab. Listril (Lisinopril) 2.5 mg OD.

If patient is Asthmatic

Then a Calcium channel blocker will be the drug of choice to start with.

Starting with a Calcium channel blocker

Tab Depin (Nifedipine) 5 mg OD → TDS, upto → 20 mg bd. A retard tablet will be better tolerated.

Tab Amlogard (Amlodipine) 5 mg OD upto → 10 mg OD.

Tab Felogard (Felodipine) 5 mg OD upto → 20 mg OD.

Problem No. 1:

The BP is not controlled. Then add a diuretic. If necessary add alpha blocker. In non-asthmatics, any other drug may be added.

Problem No. 2:

Some patients experience severe headache or giddiness with calcium channel blockers. In such a case the drug has to be changed.

Starting with Losartan:

Tab Losar 25 mg OD (morning) 50 mg OD → Tab Losar-H OD → Add Tab Losar 50 mg HS → Add Amlodipine 5 mg OR Metoprolol 50 mg OD to BD

Some clinical problems

If on routine check up you find a BP above 220 systolic or 120 diastolic?

- The patient should be put to immediate bed rest.
- Puncture a capsule of Nifedipine 10 mg (From your emergency bag) and squeeze its contents under the patient's tongue.
- Give Inj. Calmpose 10 mg IM stat (or orally Diazepam or Alprazolam)
- Check BP every 10 mins. And repeat Sublingual Nifedipine SOS after 10-15 mins. Till BP comes to an acceptable range i.e. Below 180/110.
- Refer the patient at the earliest to a physician for further advice.

BP fluctuates and dose cannot be fixed

Is it a Pheochromocytoma? Does the patient have attacks of headache, palpitations sweating? Ask for Ultrasonography of adrenal glands, Urinary catecholamine studies, Refer to a physician.

If Hypertension is detected in a young patient

If the patient is around 30-35 yrs., ask whether his father, uncle or brothers have Hypertension. Because Essential Hypertension appears early in Indian population.

But if there is no Family history or the patient is younger than that, definitely refer him to a physician to rule out Secondary Hypertension.

If only Systolic BP is high

Treat first with a diuretic. If not controlled, add a Beta-blocker, or Calcium antagonist. Eg.

1. Tab Biduret 1 OD in morning.
2. Tab Aten 50 mg OD
   OR Tab Depin 10 mg OD.

If the patient has a long standing Hypertension for more than 10 yrs, then what would you look for?

This patient is a high-risk patient and must be properly investigated and treated.

1. Check Lipid profile, and if it is abnormal i.e. High cholesterol, LDL, or Triglycerides OR low HDL, then treat accordingly.
2. If the patient has anginal symptoms, suggest a stress test and if necessary coronary angiography.
3. Check urine for microalbuminuria.
4. Get ECG and Echocardiography.
5. For detailed discussion, refer to the chapter — "Bypassing the Bypass".

If the patient has abnormal lipid profile

Beta-blockers have adverse effect on lipid metabolism. ACE inhibitors or alfa-blockers are the drugs of choice.

Tab Cardace 2.5-5 mg bd (Ramipril = 6AD) OR
Tab Hytrin 1-5 mg OD (Terazocin = 6AE).

Drugs used commonly for Uncomplicated Hypertension:

1. Telmisartan 20 - 40mg OD
2. Losartan 25 – 50 mg OD
3. Metoprolol 25 – 50 mg OD/ BD
4. Amlodipine 5 – 10 mg OD/ BD
5. Atenolol 25 – 50 mg OD/ BD
6. Dytor Plus OD (Diuretic)



Chapter

29 AM I MISSING A HEART ATTACK?

Missing Heart attack symptom or angina is one of the worst blames to receive for a General Practitioner, and can sometimes prove fatal to the patients, due to atypical presentations of angina & myocardial infarct. The typical left sided chest pain radiating to the left arm & jaw, is seen in less than half the patients and these patients will themselves suspect a heart problem and tell you! It is the other half that we will now discuss.

1. In a majority of the patients, the pain is not on left side, but "retrosternally." And very often, it is not a sharp pain, but a sense of constriction in the chest-as if a very heavy weight is placed over the chest. So 'Retrosternal constricting Pain' is very suggestive.
2. Some patients get pain in the left lower jaw only, and get a molar extracted. If a toothache in a left lower molar persists even after tooth removal, suspect angina. Give a trial with sublingual sorbitrate.
3. A case of cervical spondylitis may exactly mimic the cardiac pain by radiating to left arm and chest. So, if a patient is a "Known" case of cervical spondylitis, when he gets a real heart attack, pain is attributed to spondylitis, and the diagnosis is missed.
4. Diabetics usually get silent i.e. painless infarcts. so a very high degree of suspicion must be kept in Diabetics, if they get -
   i) Retrosternal Chest pain, even slight.
   ii) Generalised sweating & sudden weakness.
   iii) Sudden unexplained hypotension or breathlessness.
5. In any middle aged or elderly person, suspect and rule out myocardial infarct, if there is -
   i) Sudden breathlessness without wheezing.
   ii) Sudden hypotension without a visible cause.

Remember

Atypical presentations of Myocardial Infarct will be detected in time, only if you have a high degree of suspicion in the above-mentioned situations.

In every case of pain in sternal area, left chest, left lower jaw and left arm, Ask routinely and very specifically 'Whether it is exercise related?' And if it is, then give a trial with sublingual sorbitrate, whenever there is pain.

If sorbitrate relieves the pain, angina is confirmed. Refer the patient to a cardiologist for Stress test.

Chapter

30 TREATMENT OF MALARIA

India is an endemic area for Malaria and we have two species of Malarial parasites seen commonly - The ubiquitous Pl. Vivax, and the recently increased Pl. Falciparum. Pl. Ovale is less common and its treatment is similar to Pl. Vivax.

I. Vivax Malaria

Pl. Vivax is benign, and only causes fever with chills. It responds quickly to Chloroquine. There is no Chloroquine resistance, but it has a hepatic dormant stage, which is not affected by Chloroquine. So after a few days it recurs. Hence, for complete cure, tissue schizonticide i.e. Primaquine should be given.

Treatment

1. Tab Resochin 300 mg × 4 Stat (after food)
   Then 2 tabs after 6 hrs
   Then 2 tabs daily × 2 days (**Chloroquin** = 7F-1)
   [To be given with Antacids (1A) and Anti-emetics (**Emeset or Perinorm** = 1D)]
2. Tab Primaquine 7.5 mg 1 bd × 14 days (7F-3)

If oral treatment is not tolerated

- Inj. Resochin 5 ml IM × 6 hrly × 7 doses. (Total dose of 25 mg/kg)

In severe cases

- Inj. Resochin 15 ml in N Saline × slow IV over 8 hrs, then 20 ml Resochin Slow IV over next 24 hrs.

II. Falciparum Malaria

This is a dangerous form of Malaria affecting different organs, mainly the brain, causing Cerebral Malaria which can be fatal.

The second problem, which is of recent origin, is of Chloroquine Resistance - necessitating the use of other drugs.

Standard Treatment

1. Tab Resochin 300 mg 4 stat (after food & antacids)
   Then 2 tabs after 6 hrs
   Then 2 tabs daily × 2 days (**Chloroquine** = 7F-1)
2. Tab Amlar 3 tabs stat - single dose. (**Sulfadoxime + Pyrimetha-mine** = 7F-6)

If Falciparum Malaria is Chloroquine resistant

i.e. Fever does not reduce within 2-3 days of above treatment or if the area is endemic for chloroquine resistant malaria, then add Two of the following drugs-

1. Tab Falcigo 50 mg 2 bd × 1, then 1 OD × 4 (**Artesunate** = 7F-9) OR

Cap. Larither 40 mg 1 bd × 1, then 1 OD × 4 (**Artemether** = 7F-10)

2. Tab Quinarsol 300 mg × 2 tabs × tds × 7 (**Quinine** = 7F-4)
3. Tab Amlar 3 tabs stat-single dose (7F-6)
4. Cap Doxy-1 100 mg 2 times/day × 7 (**Doxycycline** = 7A-4D)

In Cerebral Malaria

MP + ve for P. Falciparum, Very high fever, altered sensorium & behaviour, Convulsions, Sudden Unconsciousness, Neck stiffness.

Anti-Malarial Drugs:

1. Inj. Quininga 300 mg/ml x 4 ml in 5% Dextrose drip x slow IV over 4 hrs x 8 hrly (Quinine = 7E-4)
2. Inj. Falcigo (60 mg vial) x 2 vials IM or IV stat (Artesunate)

   Then 60 mg IM/IV after 6 hrs

   Then 60 mg IM/IV daily x 4 days (7F-9)

   OR Inj. Paluther 80 mg IM 12 hrly x 3 days (Artemether = 7F-10)

   OR Inj. Mosether 150 mg IM OD x 3 days (Arteether = 7F)

Other Treatment in ICU:

3. Inj. Mannitol 100 ml IV 8 hrly (To reduce cerebral edema)
4. If Deeply unconscious, Nursing care, R.T. Aspiration. ET & Mechanical ventilation SOS.
5. If High Fever,
   a. Fepanil infusion 1000 mg in 100 ml IV
   b. Cold sponging
6. If Convulsions –
   a. Inj. Calmpose 2 cc IV stat & SOS
   b. Ventilator with Muscle relaxant if repeated convulsions
7. If Hypoglycemia,
   a. Inj. 25% Glucose 50 ml stat, and 10% Dextrose drip
8. If Tachypnoea, Pneumonia or ARDS,
   a. Mechanical ventilation with PEEP
   b. Meropenem 1 gm IV x 8 hrly (Higher antibiotic)
   c. Efcorlin, Lasix & Deriphyllin
9. If Acidosis, Inj. Sodabicarb up to 50 ml IV.
10. Dialysis if Acute Renal Failure.
11. Exchange Transfusion, if Parasitemia > 30%, Anemia, Acidosis.

III. Prophylaxis for Travellers to Endemic Area

Not recommended for Residents of the endemic areas.

A. For all types of Malaria

1. T. Resochin 300 mg once every wk, continued for 8 wks. after leaving the endemic area (7F-1).
2. T. Primaquine 7.5 mg bd × 14 days in last 2 wks of chloroquine prophylaxis.

B. For Falciparum Malaria

- Tab. Laveran 100 mg 1 tab daily (**Proguanil** = 7F-7) From 1 wk before travel, to 4 wks after leaving the endemic area.

  OR Tab Mefloquin 250 mg × 1 tab every wk (7F-5) × from 1 week prior, to 2 wks after.

  If stay is prolonged, after 1 mth give ½ tab every week.

Chapter

31 FOLLOW UP IN TUBERCULOSIS

(Continued from 'Tuberculosis' in Chapter 3)



The patient on Anti-TB Treatment, needs close observation throughout the period of treatment which may vary from 6 mths. to a year or more. The follow up should include the following four points-

1. Confirm symptomwise improvement.
2. Look for side-effects of the drugs.
3. Investigate to study the progress of the disease.
4. Motivate the patient to complete the full course of treatment.

What will you see in the followup

1. Is there symptomwise improvement?
   - i) Has the cough, fever, expectoration & breathlessness reduced?
   - ii) Has the appetite improved?
   - iii) Is there a gain in weight?
   - iv) If there was hemoptysis, has the bleeding stopped?
2. Are there any side-effects of drugs? i.e. Giddiness, hepatomegaly, jaundice, & visual disturbances.
   - i) If the patient is on Streptomycin, ask if he has Giddiness. If yes, stop Streptomycin injections immediately & give Bcomplex (2H-5) and Stemetil or Stugeron (4H).
   - ii) Always palpate for liver on every visit and look for jaundice, as most anti-TB drugs are hepatotoxic.

     If Jaundiced, stop all drugs till jaundice reduces, Then start again without Rifampicin.
   - iii) Acne-like skin rashes over face, chest, abdomen & back may occur with Isoniazid. They persist as long as INH is given. i.e. till end of treatment.
   - iv) If visual disturbances, stop Ethambutol and refer to an Ophthalmologist.
3. Investigations
   - i) X-ray chest every 2 to 3 mths should show progressive improvement.
   - ii) If sputum AFB is Positive, repeat it every month.

     It should turn negative in 1-2 mths.
   - iii) If ESR was high, it should reduce to normal.
4. Motivation

   On every visit, assure the patient that he is improving, tell him how much he has improved, stress the importance of continuing the treatment, remind how long he has to take the treatment still, and make sure that he will take the drugs.

   If there is a financial problem, guide him to collect free drugs from the nearest Government TB center, under 'DOTS' scheme.

   If symptomwise & Radiological improvement is not seen, check the following -

1. Is the patient taking all the drugs regularly? If yes, are the drugs of good quality from reputed Pharmaceutical company? If no, insist on good quality drugs. Add one bactericidal drug.
2. Is he very pale? If yes, arrange for Blood Transfusion and correct the anemia fast.
3. Is he Diabetic? Check urine & Blood sugar. If yes, control Diabetes on Insulin, till TB is cured.
4. Is he H.I.V. Positive? Ask for Blood test.
5. Is he taking adequate Rest? Advise complete Bed Rest till improvement is seen.
6. If all the above factors are checked & found normal, Then is he 'Drug Resistant?

   Ask for AFB culture and sensitivity test and Ask for a specialist's opinion.

Sample Prescriptions

Case No. 1

Age = 20 yrs. Wt. = 30 kg
Fresh, early lesion
Plan = 2 RHZ + 4RH

Rx

- Tab Rifater 3 daily × 2 mths (7F-6b-ii)

  OR Tab Rinizid 2 daily × 2 mths (7F-6b-iv)

Then (after 2mths),

1. Cap. Rcin 300 mg daily × 4 mths (7F-3)
2. Tab Isokin 300 mg daily × 4mths (7F-2)

Case No. 2

Age = 1½ yrs. Wt. = 5 Kg
Primary Complex
Plan = 6 RH.

Rx

1. Syr. Rcin ½ tsp (50 mg) daily × 6 mths (7F-3)
2. Syr. Isokin ½ tsp (50 mg) daily × 6 mths (7F-2)

Case No. 3

Age = 5 yrs. Wt. = 10 Kg
Primary Complex + Mediastinal Nodes
Plan = 2 RHZ + 4 RH

Rx

Rifacept-3 Kid Tab × 1 daily × 2 mths (7F-6b-iv)
Then, (after 2 mths)
Rcinex KT × 1 daily × 4 mths (7F-3)

Case No. 4

Age = 45 yrs. Wt. = 50 Kg
Relapse, Bilateral infiltration
Plan = 3 SRHEZ + 5 RHE

Rx

1. Inj. Ambistryn 1 gm IM × daily × 90 (7F-1)
2. AKT-4 × 1 kit daily × 3 mths (7F-6c)

Then (after 3 mths),

1. AKT-3 × 1 kit daily × 5 mths (7F-6a)

OR

1. Inj. Ambistryn 1 gm IM × daily × 90 (7F-1)
2. Tab Pyzina 750 mg × 2 daily × 3 mths (7F-5)
3. Cap Rimactane 450 mg × 1 daily × early morning on empty stomach × 8 mths (7F-3)
4. Tab Isokin 300 mg 1 daily × 8 mths (7F-2)
5. Tab Myambutol 800 mg × 1 at bed time × 8 mths (7F-4)

MDR TUBERCULOSIS

The treatment of MDR Tuberculosis should always be supervised by a chest physician because –

1. The choice drugs is difficult to decide.
2. The drugs are very costly, treatment is prolonged, and the total cost may be around Rs. 2 lakhs.

3. The effect of drugs is unpredictable and results are not guaranteed.

However, it is the family physician, who will take care of the patient everyday, so the main principles and drugs used must be known to him.

The drugs used for MDR Tuberculosis

MDR Tuberculosis organisms are usually resistant to Isoniazid, Rifampicin and Streptomycin and sometimes to Ethambutol.

The drugs available are:

Drugs with High Bactericidal activity:

1. Aminoglycosides – Kanamycin (15 mg/kg/day) or Amikacin or Capreomycin
2. Thioamides – Ethionamide (10-20 mg/kg/day) or Prothiamide
3. Pyrazinamide (20-30 mg/kg/day)

Drugs with Low Bactericidal activity:

4. Fluoroquinolones – Ciprofloxacin (7.5-15 mg/kg) or Ofloxacin

Drugs with Bacteriostatic activity:

5. Cycloserin (10-12 mg/kg/day)
6. P.A.S. (10-12 gm/day)
7. Ethambutol (If organisms are sensitive to it – 15-30 mg/kg/day)
8. Clofazine 100 mg – 2 tablets daily

How to prescribe?

Usually, 5 drugs are given for first 6 months, and then 3 drugs for 18 months.

Intensive phase: 5 to 6 drugs for 6 months

1. Inj. Kancin 0.75-1 gm IM daily – 6 days a week or Amikacin
2. Tab Ethionamide 250 mg – 1 tds - bd
3. Tab PZA 750 mg – 2 tabs every day (1500 mg)
4. Tab Ofloxacin 200 mg 1-2 bd or Tab Ciplox 750 mg bd or Tab L-cin 750 mg OD
5. Tab Cycloserine 250 mg tds
6. PAS granules 10 gms daily. Mycopas Or Tab. Ethambutol 800 mg HS (if sensitive)

Continuation phase: 3 drugs for 18 months

1. Tab Ethionamide 250 mg tds
2. Tab Cycloserine 250 mg tds (or PAS)
3. Tab Ofloxacin 200 mg 2 bd

DOTS PLUS:

Presently, The Best option is to register with PHC for 'DOTS Plus' scheme. Sputum Culture will be done in the State's central laboratory. Then free drugs will be provided by the Government regularly for full course of two years, with monthly culture tests till sputum negative, and regular assessment.

When to suspect MDR-TB?

When a patient has received anti-TB drugs in the past and has now come with recurrence of symptoms, Think of MDR-TB, Particularly if the previous treatment was taken in an irregular, incomplete manner.

Suspect MDR-TB, if, after 2-3 months of treatment with first line of drugs,

- There is no Clinical improvement – fever & cough persist, there is no weight gain, or new lymph nodes appear.
- Patient remains sputum positive.
- X-ray shows increased lesion.

Prevention of MDR-TB

1. Do not give only 2 or 3 drugs in the initial phase of a fresh case. 4-drug therapy is a must.

2. Give correct dose as per body weight. Remember that, if patient weighs > 65 kg, standard 4-drug combipacks do not give sufficient dose.
3. Prescribe drugs for the correct duration. It is safer to give for longer duration, but never less.
4. If patient does not respond, do not add 'one more drug'. You have to start full second line treatment.

TB and HIV:

Start Regular Anti-Tuberculosis Treatment (AKT).

Start ART with Nucleoside reverse transcriptase inhibitors like Zidovudine, Didanosine, Stavudine, Lamivudine or Abacavir. (= 7G-D)

Other drugs should not be combined with AKT.

After completing AKT, start full ART.



Chapter

32 BYPASSING THE BYPASS

A fairly large number of elderly patients suffer from Ischemic Heart Disease (IHD). The IHD manifests in many ways ranging from totally symptomless or occasional chest pain, to a Myocardial infarct. And these patients will follow up with you for many long years.

Some of these patients may undergo coronary angiography and a definitive procedure like Angioplasty or Bypass surgery. But a large number will remain under Medical treatment for various reasons:

No. 1 : The patient may not afford the Surgery.

No. 2 : The patient may refuse invasive procedure. Especially in the elder age group, and specially after an infarct has occurred.

No. 3 : The patient may be unfit for the Surgery.

Some of these patients do meet an early death. But, most patients will do very well with Medical treatment and change of lifestyle, And under the guidance of a cardiologist, you should be able to take good care of these patients.

This also holds true for the patients undergoing angioplasty or Bypass surgery, as they have to follow the same treatment, to prevent reocclusion of the grafts and vessels.

It is scientifically proved by Dr. Dean Ornish, that in many instances, you may be able to reverse the atherosclerotic blocks or develop good collateral circulation. This means that the medical treatment can be not just preventive but also curative!

The treatment is a **five-step approach** to the disease:

1. Exercise.
2. Stress management.
3. Low fat diet.
4. Elimination of known risk factors.
5. Drugs.

Now we will discuss each in details.

1. Exercise

a) **Brisk walking for 45 minutes every day, at least 5 days a week.** Walking is the best aerobic exercise for IHD.

b) Yogasanaas, to relax and stretch various muscles. These should be learnt under the guidance of an expert, and also after discussing with the physician as to which exercises and asanaas are permitted to their specific heart condition.

c) Pranayama: The breath control exercise should be learnt under expert guidance. In its simplest

form, i.e. Deep breathing: Sit comfortably. Take slow inspiration over 4-5 seconds. Then release the air slowly over 6-10 seconds. Concentrate only on the sound of breathing and practice for 10 minutes.

d) In severe heart disease, isometric exercises like pull ups, Bullworker, weight lifting and complicated Asanaas are contraindicated. So also, strenuous aerobic exercises like jogging, swimming, mountain climbing may not be advisable.

If you don't have an expert guidance, walking remains the best and safest exercise.

2. Stress Management

Meditation for 15 minutes everyday. The aim is to blank the mind from the tensions of daily life, think positively about your own health, and think positively about your own life.

One of the ways is to think about the God. Another way is to imagine blank white curtain before the eyes and visualise the blocked vessels getting cleared. One may take help of a suitable guide or course for learning the techniques of stress management.

It is also important to understand that at this age, small matters and disagreements in family life should not be taken so seriously as to affect your own health. One must learn to live with a relaxed mind.

3. Low fat diet

The aim is to keep

Serum Cholesterol below 200 mg%

HDL above 45 mg%

LDL below 130 mg%

(See Table below)

1. Less than 10% of the day's calorie intake should be from fats. (That too from unsaturated fats)
2. Absolute **"NO"** to cholesterol rich food items. i.e.

   In Vegetarian diet - Butter, ghee, cheese, unskimmed milk, Saturated oils (Dalda, Vanaspati oil, Coconut oil), Oil seed nuts, deep fried foods (Poories, Bhujees, Potato chips etc.).

   In Non-vegetarian diet - Yellow of the egg or whole egg, Red meat, Marbled beef, Duck, Goose, Regular Hamburger & sausages, deep-fried fish.
3. Avoid alcohol, which increases Triglyceride levels.

   Avoid caffeine.

   Avoid Tobacco.

	Risky Levels	Healthy Levels	For High Risk Patients
S. Cholesterol	> 240 mg%	< 200 mg%	< 150 mg%
HDL	< 35 mg%	> 45 mg%	> 45 mg%
LDL	> 160 mg%	< 130 mg%	< 70 - 100 mg%
S. Triglycerides	> 200 mg%	150-200 mg%	< 150 mg%

4. What to take?
   - ☑ More of soups (Tomato, Vegetable, Corn), but without butter.
   - ☑ Plenty of Salads of uncooked or boiled vegetables like Leafy vegetables, Cabbage, Cauliflower, Tomato, Cucumber, Carrot etc.
   - ☑ Sprouted Pulses (raw). These should form a major part of the meal and should provide the bulk that gives satiety of a meal.
   - ☑ More of Bhajis prepared with minimum or no oil, from vegetables like Lady's finger, Brinjal, Tomato, Cabbage, Cauliflower, Green leafy vegetables (like spinach), Radish, Pumpkin, Tondle, Dodka, etc.
   - ☑ Roti or Phulka without oil
   - ☑ Daals – Pulses & Legumes,
   - ☑ Skimmed milk upto 1 cup per day,
   - ☑ Margarine (limited) instead of butter,
   - ☑ Fruits,
   - ☑ *Items that actually help to reduce cholesterol* - Onion, Garlic (Lasoon), Soya bean, Curds of skimmed milk, Apple.
   - ☑ Tea or coffee should be taken plain, without milk (as milk destroys the flavonoids in them.)

     In Non-vegetarian food, flesh food should be limited to less than 100 g/day.
   - ☑ Fish, Turkey, White of the egg.
   - ☑ Limited quantities of lean meat, Chicken, Lamb or Pork after all visible fat is trimmed.

5. Limited use of monoun-saturated oils - Olive oil, Groundnut oil, Mohari oil, Canola oil. Limited use of Polyunsaturated oils – Sunflower oil, Corn oil, Karadai oil. Do not take saturated oils – Coconut oil, Dalda, Butter, Ghee.

   Remember that even the unsaturated oils do contain a certain percentage of saturated oils. So overall, the intake of oils should be restricted to 2 tsp per day.

   Secondly, never heat oil twice. Twice heated oil is rich in free radicals. This is the problem in road-side eateries and hotels.

6. Increase the fiber intake, as fibers reduce the cholesterol absorption from the gut and give early satiety. Eat more vegetables & fruits. Fruits with edible covers should be eaten with the covers.

4. Elimination of known risk factors

i) **Smoking** is single most important risk factor for IHD, which must be stopped altogether. Passive smoking (sitting near a smoker) has an equal risk as smoking.

ii) **Obesity**

Weight reduction to ideal weight as per Body mass index i.e. Weight (in kg) divided by (Height in meters)^2 should be between 18.5 and 25.

The presence of IHD is a signal that you are overweight, and except in a thin patient, the body weight must be reduced by at least 10% within a span of 2-3 months and maintained so.

For example, if the patient's weight is 65 Kg. at the time of Infarct or detection of IHD, let it come down to 58 kg. If it is 75 kg., let it come down to 65 kg.

If patient is grossly overweight, then calculate the body mass index as given above. (For details, refer chapter 33 on Obesity.)

iii) **Diabetes:** should be strictly controlled.

iv) **Avoid mental strains**, through relaxation,.....and if possible, change of job.

5. Drugs

i) *Tab Aspirin 150 mg.* Once a day, after meals (Anti-platelet).

ii) *Tab Atorvastatin 10 mg.* Once a day after night meal. (Statin: controls hyperlipidemia and is supposed to stabilise the atherosclerotic plaques, preventing plaque rupture which is the cause of Infarct.)

iii) *Tab Ramipril 1.25 mg.* Once a day. (ACE inhibitor and also supposed to stabilise atherosclerotic plaques)

iv) *Tab Antoxid 1 daily.* (**Anti-oxidant** = Vitamin E 400 iu/day, Vitamins C & A, Trace elements – Zinc & Selenium, Beta-carotene, Omega-3 fatty acids)

The above drugs are of preventive importance in IHD and should be prescribed whenever the patient can afford them. If not, then prescribe only Aspirin 150 mg. per day. That's enough!

v) *Coronary vasodilators* should be used when patient is symptomatic -

- Tab Ismo 20 mg. 1-1-0
- Tab Isordil 10 mg or Tab Angised to be taken sub-lingually if there is anginal pain.

Keep the vasodilator tablets at hand – in the bedroom, in the bathroom, at the office, in travel kits etc. It is also very important that the relatives know where the tablets will always be found in case of emergency.

In case of emergency, i.e. Severe chest pain, or suspected heart attack, take 1-2 tablets of Sorbitrate (or nitroglycerine) sublingually, and one tablet of Aspirin (Soluble tablet) sublingually.



Chapter

33 OBESITY

Never call a patient "Obese". Label him/her as overweight!

The secret of losing weight is to burn off more calories than you consume.

So the patient must learn to calculate the calories consumed as well as the calories burnt, and maintain the balance everyday. .

Calculating the calories

1. Consumption

The calories consumed can be calculated by referring to the table provided on the next page. Remember the calorie content of every food serving that you eat and add it up mentally as you eat. Calculate the present consumption of calories, and set a target.

There are two important factors to understand while reducing weight.

Firstly, compare the amount of exercise required to consume a food article eaten. Eg, Two Jilebis or a Sada Dosa give 200 calories, which require 45 minutes of walking to consume them. *Your day's exercise may be nulled and overcome in a few seconds, by a small calorie-rich snack.*

Secondly, there is a limit to how much one can exercise everyday. An average (Non-athlete) person cannot run or exercise vigorously for more than 30 minutes i.e. You cannot burn more than 300 calories through exercise everyday! So it is extremely important to control the tongue, alongwith whatever exercise you do.

2. Burning the calories

½ hour of walking	=	130 calories
½ hour of jogging or running	=	300-350 calories
½ hour of light activity like writing, driving	=	50 calories
½ hr of swimming	=	250 calories
½ hour of cycling	=	150 calories
½ hour of aerobic exercises	=	250 calories
1 hr of no exercise or sleep	=	60 calories

Average Consumption	Adult Male (60 Kg)	Adult Female (50 Kg)
Light work (Sedentary)	1600	1400
Moderate	2000	1600
Heavy work (Laborer)	2600	2200

i.e. If you don't exercise you consume about 1600-2000 calories per day. To this you add some exercise to consume more calories, and keep your calorie consumption below 1600 per day, and you will be losing weight.

Make the exercise entertaining. A 45 minute daily walk in the morning is the best and most recommended exercise. A stationary bike may be placed in front of the TV so that you do not feel bored.

Tips on Eating

As a first step let us learn about the choice of food available. Starvation is not the right way to lose weight. **Take the right type of diet and eat heartily.**

What not to eat?

- ☒ Avoid butter, ghee, cheese, cream.
- ☒ Oils should be reduced to minimum, Avoid deep fried foods like Puries, Bhujees, Potato chips, etc.
- ☒ Avoid potatoes, sweet potatoes, beet, nuts, yam.
- ☒ Avoid fruits with sweet pulp like Bananas, Mango, Chickoos, and Grapes.
- ☒ Avoid chocolates, cakes, pastries, ice-creams, jams.
- ☒ Avoid processed and tinned foods. Opt for fresh foods.

What to eat?

- ☑ Start the meal with a large bowl of thin soup, followed by a good volume of salads prepared with green vegetables (Cabbage, cauliflower, lettuce, cucumber, sprouted pulses etc.). This will prevent you from taking extra servings of the meals. Drink plenty of water, and diluted buttermilk
- ☑ Avoid rice (Don't exceed half a wati). Take rotis or phulkas, without oil or ghee. The quantity should be about ¾th of the usual meal of that person, but not exceeding 2 roties.
- ☑ The Bhaji servings should be prepared from Green leafy vegetables, onions, cauliflower, lady's finger, radish, turnips, mushrooms, sprouted pulses. The preparations should be made in minimum or no oil. Oil may be substituted by gravy of tomato, onion, garlic & ginger, in the curry or bhaji for taste.
- ☑ For morning & evening snacks, take recommended fruits, vegetables, and low fat (skimmed) milk. Black tea without sugar has negligible calories. Use Sugarfree (Aspartame) instead of sugar - in tea, coffee or milk.

Develop healthy eating habits

1. Do not eat only 2 large meals a day. It leads to overeating due to hunger. Take snacks in between. It is advisable to eat a good breakfast, and light lunch & dinner. At the same time avoid eating in between.
2. Keep a quiet and pleasant atmosphere in the dining hall. Watching TV while eating, talking, arguments, angry discussions all lead to overeating.
3. Eat slowly, chewing each bite thoroughly, This gives a feeling of satiation.
4. Do not be tempted to finish up the leftovers. The garbage bin is a better place for these.
5. Use nonstick cooking ware for cooking with no or minimum amount of oil.

CALORIE CHART

Intake Food	Cal.
BREAKFAST	
SNACKS	
1. Upma 1 wati (120 gms)	200
2. Seera 1 wati (120 gms)	350
3. Pohe (in oil) – 1 wati (100 gms)	275
4. Puri-Bhaji 1 plate	250
5. Idli 2 pieces	130
6. Udid Wada – one	80
7. Sambar – 1 small wati	75
8. Sada Dosa – 1	200
9. Masala Dosa	400
10. Bread – 2 slices (20 gms each)	100
11. Bread – 2 slices with Butter	150
12. Corn Flakes– 1 cup (25 gms)	95
13. Egg (Fried or Scrambled, Omlet)	120
14. Egg – Boiled.	75
DRINKS	
1. Tea or Coffee (With Sugar and milk 2 tsp each)	60
2. Tea/Coffee without Sugar	20
3. Milk 1 cup: Buffalo	200
4. Milk 1 cup: Cow	160
5. Milk 1 cup: Skimmed	70
6. 2 tsp Horlicks/ Bournvita	40
7. Soft Drinks/ Coke – 200 ml	85
8. Lemon Juice 1 glass	70
9. Fruit Juice (Orange)	100
10. Coconut Water – 200 ml	50
11. Beer – 1 glass	100
12. Brandy – 30 ml	75

Intake Food	Cal.
BREAKFAST	
SNACKS	
1. Potato Wada/Samosa – 1 piece	100
2. Kachori	200
3. Dhokla – 2 pieces (30 gms)	120
4. Bhel Puri	180
5. Chat	450
6. Potato Chips – 20 gms	100
7. Baked Corn	80
8. Ground Nuts 6-8 (20 gms)	50
9. Cashew Nuts (8-10) 10 gms	90
10. Glucose/Milk Biscuits (each)	30
11. Salted Biscuits (each)	15
12. Marie, Cream Crackers (each)	24
13. Cake – 1 slice, 40 gms	150
14. McDonald Burger	250
15. Big Mac	480
16. Pizza 6"	600
17. Pizza 12"	1920
18. Garlic Bread Serving	400
FRUITS	
1. Banana – 1	130
2. Mango – 1	120
3. Apple – 1	60
4. Orange – 1	70
5. Papaya – 1/3	30
6. Pineapple – 1 thick slice	45
7. Pear	80
8. Chickoo – 1 small	40
9. Grapes – 20	70
10. Watermelon – Half small	30
11. Dates – 2 (15 gms)	280

Intake Food	Cal.
MEALS	
THE STAPLE FOOD	
1. Chapati – Phulka	40
2. Chapati – thick with oil	100
3. Roti – Jowar/ Bajra	100
4. Paratha – 60 gms Atta	170
5. Alu Paratha	300
6. Poori – 1 piece	70
7. Rice – 150 gms	250
BHAJI – 1 SERVING	
1. Cooked Pulses	100
2. Vegetables cooked in medium oil	40-60
3. Pulses with Vegetables	80
4. Daal (Amti) – Thick/Medium	145/90
5. Rasam	15
SALAD	
1. Cabbage ½ Wati	12
2. Cucumber – 1	12
3. Carrot – 1	45
4. Tomato – 1	20
5. Boiled Potato – 1	80
6. Vegetable/ Tomato Soup – 150 ml	65
SWEETS	
1. Ladu – 1 (40 gms)	175
2. Jilebi – 1 (18 gms)	100
3. Karanji – 1	100
4. Kheer ½ Cup – 100 ml	200-300
5. Gulab Jamun – 1 piece (40 gms)	100+Syr
6. Rasgolla – 1 large (40 gms)	150+Syr
7. Rasmalai– 1 piece (40 gms)	250+Syr
8. Rabdi/ Basundi (½ cup) 100 ml	500
9. Barfi – 30 gms	200

Intake Food	Cal.
MEALS	
NON-VEG	
1. Chicken – 1 serving	190
2. Tandoori Chicken – 2 pieces	300
3. Mutton (Leg) – 1 serving	220
4. Mutton – uncooked – 100 gms	195
5. Beef/ Pork – 100 gms	115
6. Kidney (Fried) – 50 gms	100
7. Liver (Fried) 8-10 pieces – 50 gms	142
8. Seek Kabab – 2 pieces	300
9. Prawns (fried) – 100 gms	105
10. Pomphret – 1 serving	205
ADD-ONs	
1. 1 tsp Ghee or Butter or Oil	45
2. 1 tsp Cream	50
3. 1 tsp Sugar	20
4. 1 tsp Honey or Jaggery	60
5. Papad 3½", Grilled/ Fried	25/43
DESSERTS	
1. Fruit Salad	80
2. Custard	200
3. Jelly	60
4. Ice-cream (Small Cup)	200
5. Milk Chocolate: 1 small square	80

* This calorie chart is based on average serving quantity in Indian homes and hotels, which is easier to follow, than the charts based on exact weight i.e. Calories per 100 gms. However, you must give due consideration to the fact that the size of articles like Roti, or Ladu or Fruits is variable, and this chart refers to average size.

SAMPLE DIET FOR OBESITY (900 CALORIES)

Early morning	Light Tea – 1 cup. (2 tsp Milk, no Sugar)
Breakfast	Milk (Skimmed or Toned) ¾ glass – 150 ml without Sugar Bread 2 slices
10 a.m.	One fruit serving – Apple, Papaya, Orange, Watermelon, etc.
Lunch	1. One large bowl of thin Vegetable Soup, without Butter 2. One wati salad – Cabbage, Cucumber, Onion, Carrot, Tomato etc. 3. One Roti or Chapati, or 3 Phulkas (without oil) and ½ bowl Rice Or 1 bowl Rice and 1 Phulka or ½ Roti or Paratha 4. One wati cooked Vegetables 5. 1 wati thin Dal 6. 1 wati thin Buttermilk
4 p.m.	Light Tea – without Sugar – 1 cup Bread 1 slice or one Idli or a Fruit
Dinner	1. Thin Soup and fresh Salad or boiled Vegetables 2. 2 thin Phulkas 3. 1 wati Vegetable 4. 1 wati thin Dal or Pulses 5. Thin Buttermilk
Bedtime	Skimmed Milk – ½ glass

Simplified concept of losing weight

Each kg body weight carries 7700 calories i.e. when you create a deficit of 7700 cal, the person loses 1 kg, e.g. to lose 6 kg in 3 months, a deficit of 7700 × 6 = 46,200 cal over 3 months is needed, which is about 500 cal/day.

To build this deficit,

1. Adjust the diet to 1200 cal/day = deficit of about 400 cal/day for person with sedentary job. Avoid diets below 1000 cal/day, which can cause dietary deficiencies.
2. Moderate daily exercise like a 45 min walk will burn about 150 cal/day. Healty, young persons can exercise more and burn calories faster, but regularity is very essential.

The aim should be at losing 1½ ro 2 kg per month, till ideal weight is reached. So create a calorie deficiency of 500 cal per day.

Chapter

34 ALCOHOL DEADDICTION

First discuss with the patient, the bad effects of alcohol, and convince him to stop alcohol with your and family's help, to lead a normal, healthy, productive life.

1. **Abstinence from Alcohol**, under supervision of relatives or as indoor patient during the first month. List of residential de-addiction centres in your area can be searched on internet.

For withdrawal Symptoms:

2. Tab Nitravet 10 mg BD x 15 days (**Nitrazepam** = 4D-5)
3. Cap Becozinc 1 OD x 30 days (**B-complex** = 2H-6)

If there is underlying Depression:

4. Cap Loftil 20 mg OD x 30 days (**Fluoxetine** = 4F-3)

If patient is violent, aggressive:

5. Tab Serenase 5 mg BD (**Haloperidol** = 4E-3)

For Deaddiction:

6. Tab Antabuse/Esperal 250 mg ½ Tab after Lunch x 1 month
   Then 1 Tab daily x 1 year (**Disulfiram**)
7. Psychotherapy sessions with psychiatrist
8. Join Alcoholic Annonymous group for motivation.

Treatment of associated Liver disease:

Give Liver support – Phospholipids, Silymarin, Lornit (1D)

Treat ascitis, Jaundice, Edema and Portal hypertension

Disulfiram should be given with the consent of the patient. But in unco-operative patients, it can be given mixed in food, with close relative's consent.

If patient on Disulfiram treatment takes alcohol, he may get Skin congestion & warmth, Vomiting, Giddiness, and Tremors.

- If Vomiting, Inj. and Tab Emeset, Digene.
- If Hypotension, Admit- IV Fluids, Dopamin drip.

Note: A large bout of alcohol by a patient on Disulfiram can be fatal.

Newer drugs: Naltrexone, Acamprosate (Anti-craving drugs) not widely available in India.

This is a major Health and social problem in our country, affecting not only the person's health, but destroying the whole family – psychologically, financially, and socially. The Family doctor should give advice, encouragement and mental support to the best of his ability.

Chapter

35 THE TRAVELLING PATIENT

FOR THE PATIENT ON TRAVEL

When your patient is going on a long travel like a pilgrimage or say a South India Tour, he may come to you seeking advice about the care to be taken during traveling and about what medications he should carry for minor problems during the travel.
You should advise them about –

- Precautions to take – in general, and depending upon the destination, care to be taken in extreme hot or extreme cold weathers, and at high altitudes.
- You should give them commonly required medications to carry, as contacting a doctor is difficult during the tight schedules of traveling.
- Travels to some areas may require preventive vaccines to be given.

Vaccines

Typhoid and Cholera vaccines should be given a week before the travel. They are a must, if traveling to unhealthy places like Kumbhamela, where thousands or lakhs of people gather.

If traveling to Bihar, Assam, Kala-azar vaccine is recommended.

List of Drugs to carry

1. *For Fever:* Crocin (Paracetamol)
2. *For Limb pains, Backache/ Bodyache:* Combiflam/ Voveran/ Nimegesic
3. *For Travel Sickness:* Domstal (Domperidone)
4. *For Cold:* Dristan
5. *For Cough:* Alex cough drops
6. *For Acidity:* Digene/Gelusil Tablets, Rantac/ Omez/ Rabeprazole
7. *For Loose motions:* Lomotil/Lomofen, Fasigyn/ Secnil/ Ciplox-TZ, Electral
8. *For Giddiness:* Stugeron/ Stugil
9. *For Injuries:* Band-aids, Soframycin ointment, Voveran Thermagel.
10. *For Allergies:* Cetzin
11. *Antibiotic:* For fever/ minor infections: Ciprofloxacin/ Sparfloxacin, For Respiratory infections: Odoxil/ Roxithromycin

If the person is taking regular medicines, for Hypertension, Diabetes, Angina etc.

1. Take sufficient stocks to last the duration of travel, because all medicines may not available at every place + carry prescription.
2. Carry essential medicines in hand bag, in case luggage is lost.
3. Carry in your pocket, i) a note of Brand name & Generic name of your medicines with dosage and ii) a note of Allergy to drugs if any, Diabetes and IHD if present.

For Children

Syr. Ultragin for fever, Syr. Wikoryl

for colds, Syr. Tixylix for cough, Syr. Dependal-M for loose motions, Electral Powder, Wymox-kidtabs (one antibiotic).

Vomiting due to Motion Sickness

These instructions are for those who suffer from Motion sickness, i.e. vomiting induced by traveling.

1. Advise not to have food for 2 hrs before starting travel. Have light food before that.
2. 30 minutes to 1 hour before travel, take one of the following tablets:
   - Tab Dramamine 50 mg 1-2 tabs (**Dimenhydrinate** = 1K-B3)
   - OR Tab Pregnidoxin 25 mg (**Meclazine** = 1K-A8)
   - OR Tab Stugeron 25 mg (**Cinnarizine** = 4H-1)
   - OR Tab Stugil (**Cinnarizine + Domperidone** = 4H-1)
   - OR Tab Avomine 25 mg (**Promethazine** = 1K-A3)
3. In case of long travel like sea travel, repeat the dose after 6 hrs as needed. Scopolamine skin patch effective for 3 days is not yet available in India.
4. Keep a barf bag (Plastic bag) ready at hand always.
5. *In a car* – Sit facing forwards, preferably on the front seat, and watch distant horizon. Roll down the window for fresh air. If discomfort or nausea is felt, stop the car and walk around a bit.

   In a Bus – Take front seat behind the front door and look ahead. Do not look at the trees passing by from side window.

   In a Boat – Take a low level cabin, in the middle portion, which rocks the least. If symptomatic, go to the top deck and look at the horizon.

   In a Plane – Choose a window seat near the wings and look out often.
6. Do not read while traveling.

Travelling to High Altitude (Himalayas)

Patients with compromised cardio-vascular or Respiratory functions should be advised to avoid traveling to high altitudes above 2000 meters.

A. Care for High Altitude (Low Oxygen saturation):
   - Carry Camphor pieces tied in a cloth, to breath in the smell, when there is dyspnoea at high altitude.
   - Hypoxia can cause brain edema with disorientation, palpitation and vertigo. To prevent this, always prescribe Tab Dimox (Acetazo-lamide) 125 mg 1 bd for the duration of stay at heights above 3000 meters (9,000 feet) eg Kedarnath, Badrinath.
   - Mountain water may cause abdominal cramps – Tab. Anafortan/cyclopam SOS.
   - Tab. Deriphyllin SOS for breathless-ness.
   - Portable Oxygen Cylinders, which are available at these places on Hire, should be carried, if patient has mild exertional dyspnoea.
   - **Acute Mountain sickness:** If there is uncontrolled headache, severe nausea & vomiting, insomnia, becomes confused or irrational, the person should **immediately** descend down (preferably lifted down to avoid exertion) by 1000 meters or to a height where he was asymptomatic. Start Oxygen when available, Tab Dimox 250 mg 8 hrly, Inj/Tab Decadron 4 mg 8 hrly, and if there is pulmonary edema, Nifedipine 10 mg sublingually.
   - Those who travel to high altitude suddenly in Helicopter or plane, have more acute

and severe problems, which require emergency treatment in Hyperbaric Oxygen chamber and transport back to lower altitude.

- Trekker's rule above 3000 meters (9000 feet) – 'Not more than 300 meters ascent in a day, and spend 2 nights in the same place every 1000 meters'.

B. Care for Cold Weather:

- Proper protective Warm Clothing as demanded by the place and presence of snow.
- Cotton swabs to keep external ear canals closed.

C. Care for Sunburns and Snow Blindness:

- Sunscreen lotion, and Lip guard: to protect from Solar dermatitis & Sunburns. Apply Sunscreen half hour before going in the Sun, and repeat application after 4-5 hrs.
- Protective Dark Sunglasses (which should filter Ultraviolet rays): A must for looking at snow shining in the Sun. Patients with Diabetes/ atherosclerosis are prone to get Retinal artery spasm and loss of vision.

Traveling to Hot Regions (Eg. Rajasthan)

Instructions to patient

- Always keep head, neck and back well covered from direct Sun.
- Avoid travel in Sun during afternoon hours.
- Always use Hat/Cap & Umbrella.
- Drink plenty of water and fluids to avoid dehydration. Drink Electral solution in sufficient quantities.
- Take cold water bath and sit under a fan - if you feel uneasy, giddiness, headache.

If Sunstroke with high temperature, sudden unconsciousness,convulsions:

- Keep under a fan and sprinkle the skin with water for evaporation
- Ice packs
- Ice water enema
- Massage the extremities to stimulate circulation
- IV Normal saline to correct dehydration

Traveling Abroad

Take sufficient stocks for all the above listed medicines, as consulting a Doctor and buying Medicines is extremely costly and not practicable in foreign countries.

When the stay is long, for 3-6 months or even longer, take a full stock of regular medications for Hypertension, IHD, Diabetes etc.

In addition, take a stock of Supplementary medicines like Vitamin B-complex, Iron and Calcium.

Before traveling abroad, certain vaccinations are necessary as listed below.

- African & South American Countries: Yellow Fever Vaccine (>2 weeks before travel)
- General: Typhoid & Cholera Vaccine.
- Saudi Arabia (Hajj yatra at Mecca): Meningococcal vaccine.



Chapter

36 HEALTH CHECKUP CAMPS

HEALTH CHECKUP CAMPS

As a Medical Practitioners, you will often be involved in various Health check ups or invited by social organizations like Lions or Rotarians for Health check up camps. You must take initiative and participate in such camps and show your social commitment. This chapter deals with the general routines followed in such check ups.

1. School Health checkup
2. Swimming Pool Health checkup
3. Driving License Health checkup
4. Elderly Health checkup
5. Checkup for Health Insurance

School Health Checkup

1. Overall built and weight – Note if grossly abnormal height or obesity, gross deformity of limbs or rib cage. Ask the child to walk in to note limping or waddling in gait.
2. Look at the tongue, conjunctiva & nails for anemia. Note the nail margin for nail eating habit.
3. With a torch, inspect oral cavity, tonsils, look carefully for caries – refer to dentist if carious teeth.
4. Examine the skin for skin diseases. Especially scabies in finger webs and ringworm over lower abdomen and groin.
5. Palpate the abdomen for Liver and spleen.
6. Auscultate the heart for murmurs.
7. Note if there is stammering while talking.

If any health problem is seen, note it down for informing the parents who are expected to take the further action.

Swimming Pool Health Checkup

1. Look mainly for contagious skin diseases – Ringworm in groins or elsewhere, and scabies over hands between the digits. Acute conjunctivitis makes one temporarily unfit till cured.
2. Ask for H/o Epilepsy.
3. Auscultate to rule out gross heart disease where vigorous exercise (Swimming) would be contra-indicated. Ask H/o Breathlessness on exertion and angina.

Driving License Health Checkup

1. Test Acuity of vision. If candidate cannot count fingers from a 20 feet distance, refer him to ophthalmologist for correction glasses before giving fitness.
2. You must rule out colour blindness. You should buy Ishihara charts (set of 24 charts), or get them from any Ophthalmology Textbook or websites (www.toledo-bend.com/colourblind/ishihara.html). If the candidate has Red-Green colour blindness, do not give fitness certificate.

If you do not have Ishihara charts, buy three identical colour pencils - red, green and blue, and ask the patient to identify the colours while shuffling them.

3. Ask for H/o Epilepsy. If yes, candidate is unfit for driving.
4. A general Health checkup for Diabetes, Hypertension, and in elderly – for IHD.

Elderly Health Checkup

1. Check weight – If Obese, instruct on Diet and Exercises.
2. Check Blood Pressure for Hypertension.
3. Inspect tongue and conjunctiva for Anemia.
4. Examine oral cavity for Teeth condition, Ulcers or growth, Leukoplakia.
5. Look for Lymph nodes in neck, axilla and groins.
6. Look for Leg edema.
7. Examine CVS and RS.
8. Examine abdomen for Liver, Spleen, Any lump or Hernia.
9. Inspect eyes for cataract. Whisper and check for diminished hearing.

Recommended investigations in camps (as permitted by feasibility and funds):

- Hemoglobin
- Urine - Routine
- Blood sugar

If indicated –

- Chest X-ray
- ECG
- S. Cholesterol, Lipid profile.

Checkup for Health Insurance (eg. L.I.C.)

If you wish to be appointed as L.I.C.'s Medical Examiner, you have to apply in the prescribed form, to the Division office, with the Branch Manager's recommendation. You should be an established practitioner with at least 5 yrs experience.

The History and checkup are carried out in a fixed routine format as per the forms supplied by the LIC of India.

The first part of the form records basic information including name, age, sex, Identification marks, Height in cms, Weight in Kgs, Abdominal girth at umbilicus, Chest girth at nipple level in males (just below axilla in females), Pulse rate and Blood pressure.

The second part involves –

- A detailed History of past illnesses/ Surgeries/accidents and injuries/past major investigations/Bad Habits.
- General Examination of Eye, ENT, Teeth, Lymph nodes.
- Systemic Examination of CVS, RS, CNS, and Abdomen – in particular, Hepatomegaly, splenomegaly and Hernia.
- Scars of previous surgery or accident.
- In females: Pregnancy, Diseases of utcrus or breast.
- Doctor's opinion - Is the overall appearance Healthy or not?

If any serious illness is detected, the person should be referred to specialists recognized by the company.

Note: Other insurance companies' forms may differ in minor details.

A word for Charity

Monetary gains apart, Medical practice is and will always be a very noble profession. Nobody can expect a doctor to work without pay or fees. He also has to live in this world, where everyone has

to struggle for his livelihood, and then maintain his status in the society with a decent living and provide for his family and future. But at the same time we should not forget the weaker sections of our society, who cannot afford even basic healthcare.

When we practice in a decent area, we don't even get to see this section. They do not dare to come to us and we conveniently feel that there is no such thing as a poor man, or that if they are, they should go to the government hospital and get treated. But our turning a blind eye does not make them non-existent. If we look at them with empathy and spend a small part of our time for them, they will be immensely benefited and we will get tremendous satisfaction & goodwill, and that is the reward.

How can we do this? Here is some loud thinking -

1. Are there any charitable trusts working in your city or vicinity or near by village, where your free services would be wanted?
2. If an organisation is already functioning, can you offer your services one day in a week, or one session in a week, or one day in a month, or one hour every afternoon?
3. If it is not your nature to work in an organisation, then can you arrange a part time charitable clinic yourself?
4. Can you attach yourself to an organisation doing medical related work – for example organisation of blood donation camps? You could be the motivator, or the organiser depending on your likings.
5. Do you have oratory skills? Can you give lectures to school or college students to create health awareness, or to discuss problems of adolescent children? Can you teach first aid to groups of college students or teachers? Can you give lectures about antenatal health and infant care to members of women organisations? Can you participate in awareness drives for AIDS, Tuberculosis, Diabetes etc. Or may be you could invite other orators and arrange such programmes?
6. You can utilize the sample medicines received, for the poor amongst your regular patients, and arrange for significant samples from pharmaceutical companies for camps or charitable dispensaries.
7. Can you offer free consultation to Associations for Handicapped, Schools for Blind, Old age homes, Orphanages etc?
8. Can you give free services if there is a natural disaster near by such as flood, earthquake etc?

If you persistently think about and look for such opportunities, one day you will definitely find an outlet to do something constructive. Spend a few hours of every month working for a charity, without ego, without expecting any returns, without mixing it with your regular practice, and then at end of a few years, when you will look back and assess your life, you will have a smile of satisfaction on your face.



Chapter

37 COCKTAILS FOR HEALTH

WHAT THEY NEED, EVEN IN HEALTH

This is a generalised list of drugs that are needed to satisfy the needs of certain age groups, which may not be fulfilled by their normal diet.

This is a supplementary prescription to improve and sustain the health of an individual. It is not essential or mandatory for life. So use your own discretion to decide who needs what, and who affords what!

A. Senior Citizens: Elderly age group

1. Vitamin Bcomplex: Daily or at least 3 times a week alternated with multivitamin tab
   Cap. Becosules 1 OD on alternate days, with
   Cap Becadexamin 1 OD on other days
2. Calcium with Vit. D3: Daily or at least 3 times/week
   Tab Calcimax forte 1 OD
3. Anti-oxidant daily
   Cap Revital or Ovista 1 OD
4. Aspirin to reduce the risk of atherosclerosis:
   Tab Ecosprin 75 mg OD with Lunch

B. Growing Children: School going age

1. Calcium with Vit. D3: Daily
   Syr Ostocalcium 1-2 tsp OD, or
   Tab Sandocal chew 1 OD
2. Multivitamins and Iron:
   Syr Vitcofol 1 tsp OD
3. Protein preparation:
   Bournvita or Complan or B-Protein in Milk BD + Balanced Diet
4. Tab Zentel 400 mg 1 tab to be chewed, once in 6 mths

C. Infants: Below 2 yrs

1. Multivitamin Drops:
   ABDEC Drops 5 drops daily or
   Vimagna Drops 5 drops daily
2. To help Digestion
   Carmicide ½ tsp tds or
   Gripe water 1 tsp tds

D. Pregnant Female

1. Iron every day
   Cap Autrin 1 OD or
   Tab Orofer 100 mg OD
2. Calcium with Vitamin D3
   Tab Macalvit 500 mg 1 OD
3. Folic acid: compulsory in first trimester
   Tab Folvite 1 OD

E. Post Menopausal Female

1. Calcium with Vit. D3: Daily or at least 3 times/week
   Tab Calcimax forte 1 OD
2. Vitamin Bcomplex and Iron: Daily or alternately

Cap Becosules 1 OD
Tab Ferium 1 OD

3. If Post-menopausal symptoms:
   Isoflavones, B_6, Vit E
   Tab Calciflavone 1 OD x 6 mths
   Tab B-long 1 OD
   Tab Evion 400 mg 1 OD

F. Diabetic Person

1. Vitamin B-complex with Zinc:
   Cap Becozinc 1 OD
2. One Anti-oxidant:
   Cap Bio-E 400 mg OD or
   Cap Ovista 1 OD

   If Diabetes is long standing or severe, to prevent microvascular changes.
3. Omega-3 Fatty acids:
   Tab GLA-120 1 OD
4. Mecobalamin: to prevent peripheral neuropathy
   Tab Meconerv 1 OD
5. Chromium Picolinate: micronutrient
   Cap CP 200 mcg OD
   Or Cap ME Plus/ Trinerve (combined 3+4+5)

G. Persons with High Risk for IHD

1. Anti-thrombotic drug: Aspirin or Clopidogrel
   Tab Ecosprin 75 mg OD
   Tab Clopitab 75 mg OD – if aspirin is not tolerated
2. Statin, preferably Atorvastatin/ Rosuvastatin
   Tab Atorva 10 mg HS
3. ACE inhibitor: preferably Ramipril
   Tab Cardace 1.25 mg OD
4. Anti-oxidant:
   Cap Ovista 1 OD

H. Persons on Vegetarian Diet

1. Vitamin B12:
   Cap Becosules 1 x alt days (at least once a week)
2. Calcium:
   Tab Shelcal-HD 1 x alt days (at least once a week)
3. Iron:
   Tab Orofer /Autrin once a week
4. Omega-3 Fatty acids:
   Tab GLA-120 once a week
5. Vitamin D3:
   Tab Micro D3 60000 iu once a month
6. Vitamin C:
   Tab Limcee 500mg once a week, for those who don't eat fresh fruits

To summarise:
Once a week – B12, C, Calcium, Iron & O3FA
Once a month – Vitamin D3



Chapter

38 IMPORTANT DATES

IMPORTANT MEDICAL DATES TO REMEMBER

January Last Sunday: World Leprosy Day

February 4 : World Cancer Day

March Second Thursday : World Kidney Day
March 6 : **Dentist's Day**
March 12 : World Glaucoma Day
March 15 : World Disabled Day
March 21 : World Downs Syndrome Day
March 24 : World Tuberculosis Day

April 2 : World Autism Awareness Day
April 7 : **World Health Day (W.H.O.)**
April 17 : World Haemophilia Day
April 25 : World Malaria Day

May 1 : World Laughter Day
May First Tuesday: World Asthma Day
May 8 : World Red Cross Day
May 12 : **International Nurses Day** (Florence Nightingale Day)
May 19 : World Hepatitis Day
May 31 : World No Tobacco Day

June 8 : World Brain Tumour Day
June 14 : World Blood Donor Day
June 21 : National Epilepsy Day
June 26 : World Anti-Drug Abuse Day

July 1 : **Doctor's Day**
July 11 : World Population Day

September 7 : **International Physiotherapy Day**
September 11 : World First Aid Day
September 12 : World Oral Health Day
September 21 : World Alzeimer's Day
September 26 : World Retina Day
September 28 : World Rabies Day
September Last Sunday: World Heart Day

October 1 : International Day for Elderly
October 1 : National Voluntary Blood Donation Day
October 10 : World Sight Day,
October 10 : World Mental Health Day
October 12 : World Arthritis Day
October 15 : World White cane Safety Day
October 15 : Global Hand Washing Day
October 16 : World Anaesthesia Day
October 17 : World Spine Day
October 17 : World Trauma Day
October 20 : World Osteoporosis Day
October 24 : World Polio Day
October 24 : World Obesity Day
October 27 : **International Occupational Therapy Day**

November 14 : World Diabetes Day
November 20 : World Epilepsy Day

December 1 : World AIDS Day
December 3 : World Diasbled Day
December 9 : World Patient Safety Day

Chapter

39 MY NOTES

1. Iron sucrose complex: This Iron can be injected without the fear of anaphylactic reactions. Iron sucrose complex (Venofer) injections for intravenous use (100 mg in 5 ml amp) are given IV 3 times a week or as a drip – 5 ampules in 500 ml N. Saline once a week, till total dose is administered.

   Total dose = Body weight in Kg × Hb deficit in gm% × 0.24 + 500 mg for iron depot (15 mg/kg body wt.)

2. To treat anorexia, stimulate appetite and weight gain, apart from Cyproheptadine, you have a choice of Buclizine HCl (Longifene 25 mg tabs & syrup) 1-2 tabs ½ hr before meals, or in children 1-2 tablespoonful ½ hr before meals, 2 times/day.

3. For patients with peptic ulcer, prescribing any NSAID involves a risk of bleeding or perforation. For affording patients, prescribe Ketotifen 30 mg patch (Ketopatch) – a skin patch to be applied over or near the site of pain, once a day. It is nearly as effective as orally administered NSAID.

4. Fluconazol – a costly but effective antifungal. Note the doses:

   For Taenia cruris (Groin) – 150 mg tab, once a week × 4 weeks.

   For Taenia versicolor – 200 mg tab, 2 stat. Single dose.

   For onychomycosis (nails) – 150 mg tab, once a week × 6-12 months.

   For oral candidiasis – 50 mg tab, OD × 1-2 weeks.

   For Vaginal candidiasis – 150 mg one tab stat, single dose.

5. Hyperlipidemia in Indian population: Raised Triglyceride levels are more common in Indian population, for which statin, the commonly prescribed drug is less effective. Prescribe Fenofibrate (Lipicard) 200 mg OD or Gemfibrozil (Lopid, Lipigem) 300 mg BD ½ hr before meals.

6. For dressing difficult, non-healing wounds, some newer techniques are now available.
   - If slough covers the ulcer, apply Solutyl (Collagenase) ointment once daily, till the slough disappears. This is chemical debridement agent.
   - To stimulate granulations, apply Oxoferrin (Tetrachlor-decaoxide) liquid, 2 times/day.
   - Non-healing wounds and larger areas like burns should be covered by Collagen sheets (Kollgen) and kept open. The sheet is changed once a week, till the wound heals or is ready for skin grafting, if too large.

7. Alendronate: The wonder drug for Post-menopausal osteoporosis. It prevents bone resorption by osteoclasts and increases the bone

mineral density. The 10 mg tablet must be taken first thing in the morning with a glass of water. The patient should not lie down (should sit or stand erect) and eat no food for ½ hour. Of course, this is in addition to Calcium, Vitamin D3, and Premarin therapy.

8. Glucosamine sulphate, 500 mg tablet: In chronic knee pains due to osteoarthritis, where cartilage is destroyed, prescribe Cartilamine 500 mg TDS for 3 months, and then OD for 3-6 months. It rebuilds and restores the cartilage and improves the pain and joint flexibility. Of course, a costly drug.
9. For muscle sprains and spasms, whether due to inflammation or trauma, prescribe the specific skeletal muscle relaxant – Tizanidine (Sirdalud) 2 mg tab TDS × 5-7 days. It also has an analgesic action, so additional NSAID may or may not be prescribed. It may cause mild sedation.
10. "Free radicals": They are blamed for everything, and the anti-oxidant preparations containing Beta-carotene, Vitamins A, C & E, and trace elements Selenium, Zinc, Copper & Magnesium have become a must for many indications –
    - Prevention of atherosclerosis & Coronary artery disease.
    - For Diabetics, Hypertensives, chronic smokers.
    - Delaying cataract and macular degeneration.
    - Delaying skin ageing.
    - For chronic skin problems like dermatitis or psoriasis.
11. Keep a patch of Nitroglycerine (Nitroderm TTS) in your emergency bag. Whenever you suspect Myocardial infarct or unstable angina, in addition to the sublingual Isordil & Aspirin, apply a Transdermal Nitroglycerine patch, for a continuous coronary vasodilator action.
12. What can you give for Hyper-pigmented asymptomatic patches over the skin?
    - Elovera ointment (Aloe extract + Vit E) 2-3 times/day.
    - Esolyte ointment (Sunscreen).

Some Practical Tips

- If an apparently healthy patient complains of a sense of suffocation on lying down, (specially after a meal), has to get up and sit for comfort, then think of a serious cardiac problem: LVF & MI. The inability to sleep horizontal, and not insomnia, can be recognized only by careful history taking.
- Whenever you write an NSAID or Steroid in your prescription, always ask History of acidity, sour eructations or ulcer-like symptoms ... reflexly.
- If a Diabetic patient is taking a Beta-blocker (for IHD or Hyper-tension), keep in mind that the signs of Hypoglycemia are masked. When hypoglycemic, patient may complain of vague misguiding symptoms like uneasiness in abdomen or chest, heaviness in head,.. or may suddenly become unconscious without any indication.
- If a patient has seen several doctors before you, but is still not relieved, do not get influenced by the previous diagnosis. Start with a doubt – is the previous diagnosis wrong? Is anything missed? And examine the patient with a fresh mind, preferably before seeing the old reports.
- The converse also holds true. Never be dogmatic, specially about the first impression (spot diagnosis). Anyone could be wrong – including intelligent doctors like you and me.

So let the mind always think – Can it be anything else?

- Whenever a patient complains of difficulty in opening the mouth, without any painful lesion or swelling, think of tetanus.
- When a patient presents with fever, check the temperature with a thermometer, and record the temperature. Your assistant can do it in the waiting room in advance. The patient already knows that he has fever, he wants to know how much it is.
- Every teenage girl, before marriage should take rubella vaccine. It will drastically reduce the incidence of congenital heart diseases. If taken after marriage, allow no pregnancy for 3 months after vaccination.
- Patients of Hyperlipidemia, taking Statins for a long time, often complain of severe muscle pains, heaviness and sensation of weakness in the thighs and knees. It is exaggerated by Long walk and climbing stairs. This is Statin related Myopathy. Reduce the dose, or give on alternate days, monitoring the LDL levels. Change to Rosuvastatin or Fluvastatin, which cause lesser myalgia.

Medical sites on the internet

It is not practical to give a list of medical sites on the web, which seem endless. It is upto you to give a specific search word for a disease, or a symptom/sign, or a drug, to a search engine like Google, and then look for the information that you want. Give specific words and questions, to get more accurate answers. A lot of material on the net is for the patients – not very useful to us doctors. Keep a note of the sites, which yield scientific information, and then visit those sites more frequently.

1. http://**ghanashyamvaidya.webs**.com: *(For information of Author's works).*
2. www.**mims**.com: *(For Online Drug index).*
3. www.**pubmed**.gov: *(For searching Medical papers and topics. Fill Registration form online, and sign in as a member).*
4. www.**medscape**.com
5. www.**fb4d**.com: *(Free Books For Doctors)*
6. www.**healthlibrary**.com: *(For Online Books).*
7. www.**medicalstudent**.com: *(For Textbooks & other Books).*
8. www.**globalmednet**.com/colorblind/ishihara/asp: *(For Ishihara charts).*



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