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FIFTH EDITION

Pharmacological
**Classification
of Drugs**
with Doses and Preparations

KD Tripathi

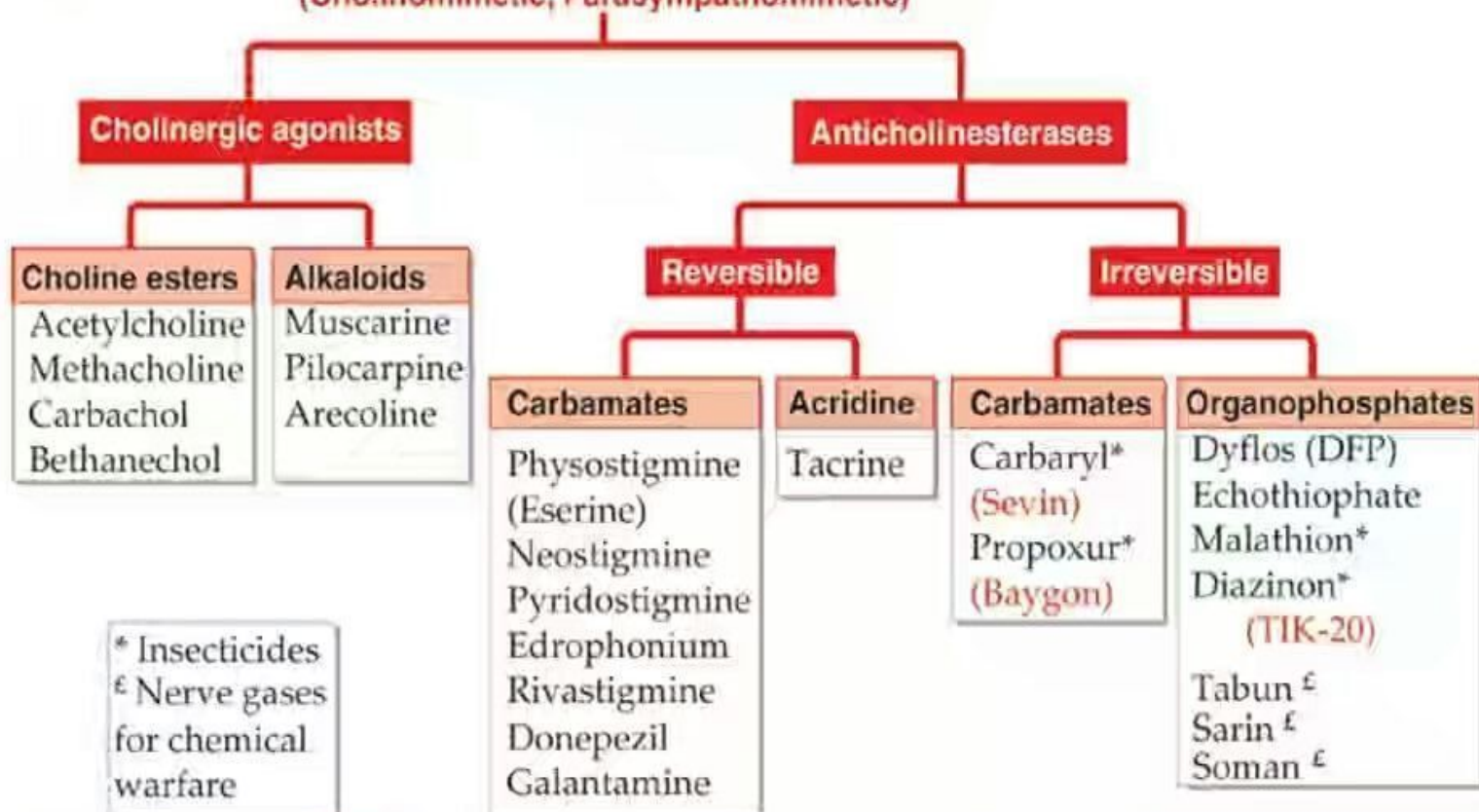


Classification of Drugs

www.ghahibrary.com

Drug Acting on Autonomic Nervous system

CHOLINERGIC DRUGS (Cholinomimetic, Parasympathomimetic)

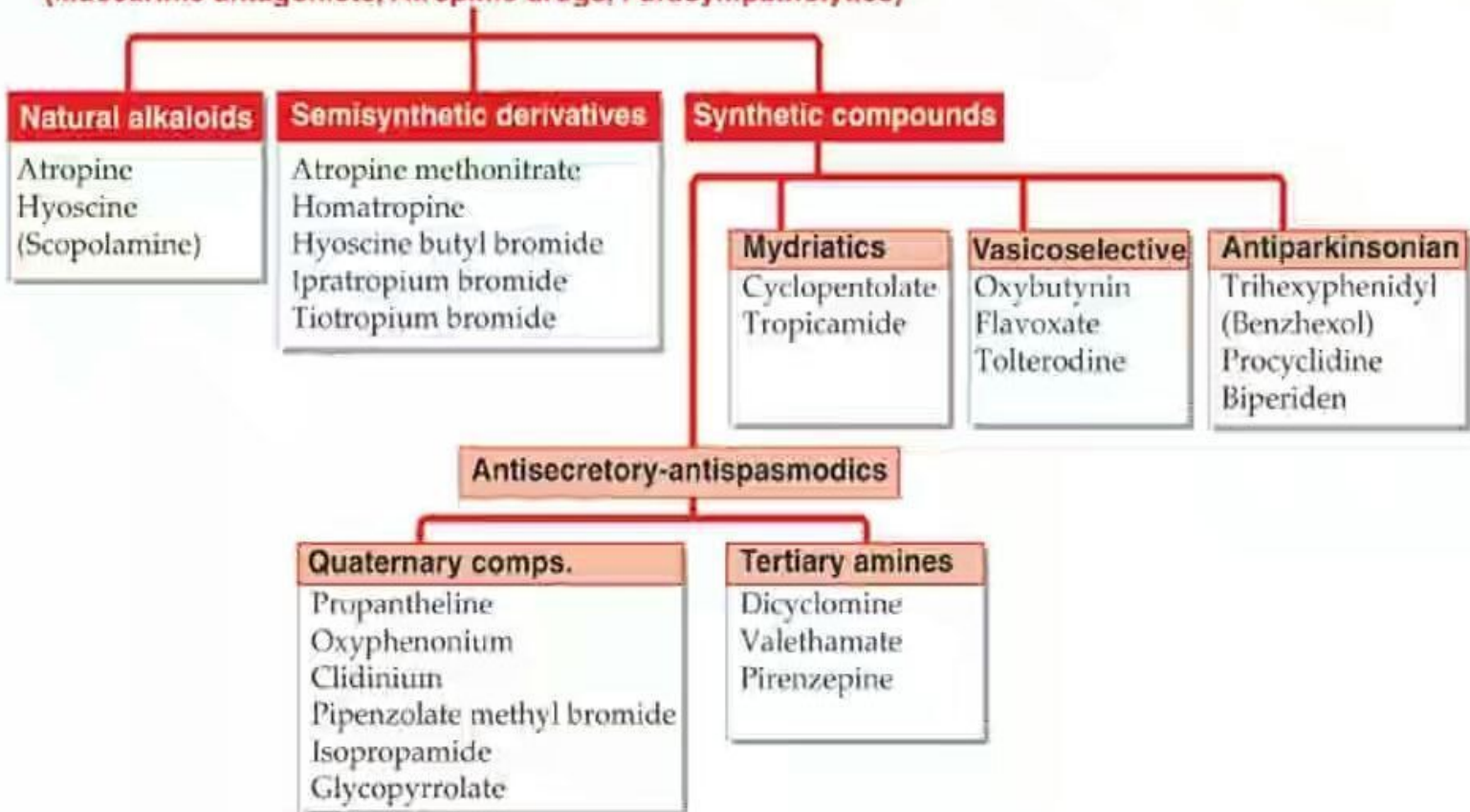


www.cambridgeinmed.com

Anticholinergic Drugs

ANTICHOLINERGIC DRUGS

(Muscarinic antagonists, Atropinic drugs, Parasympatholytics)



www.stuvia.com/doc/1000000/anticholinergic-drugs

Ganglionic Stimulants and Block Agents

GANGLIONIC STIMULANTS

Selective nicotinic agonists

Nicotine (small dose)
Lobeline
Dimethyl phenyl piperazinium (DMPP)
Tetramethyl ammonium (TMA)
Varenicline

Nonselective/muscarinic agonists

Acetylcholine
Carbachol
Pilocarpine
Anticholinesterases
MCN 343-A

GANGLIONIC BLOCKING AGENTS

Competitive blockers

Persistent depolarizing blockers

Nicotine (large dose)
Anticholinesterases (large dose)

Quaternary ammonium comps.

Hexamethonium
Pentolinium

Amines

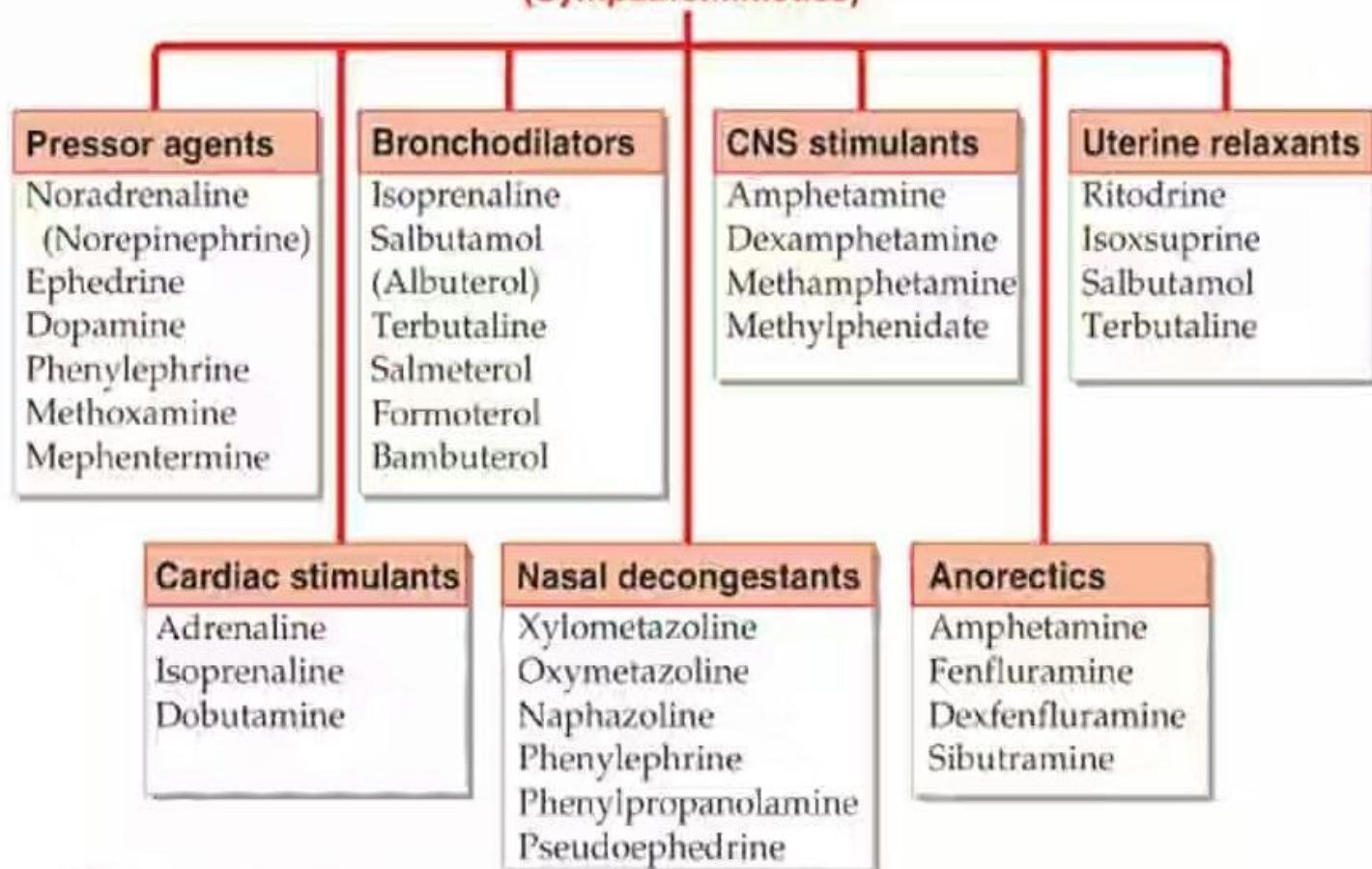
Mecamylamine
Pempidine

Monosulfonium comp.

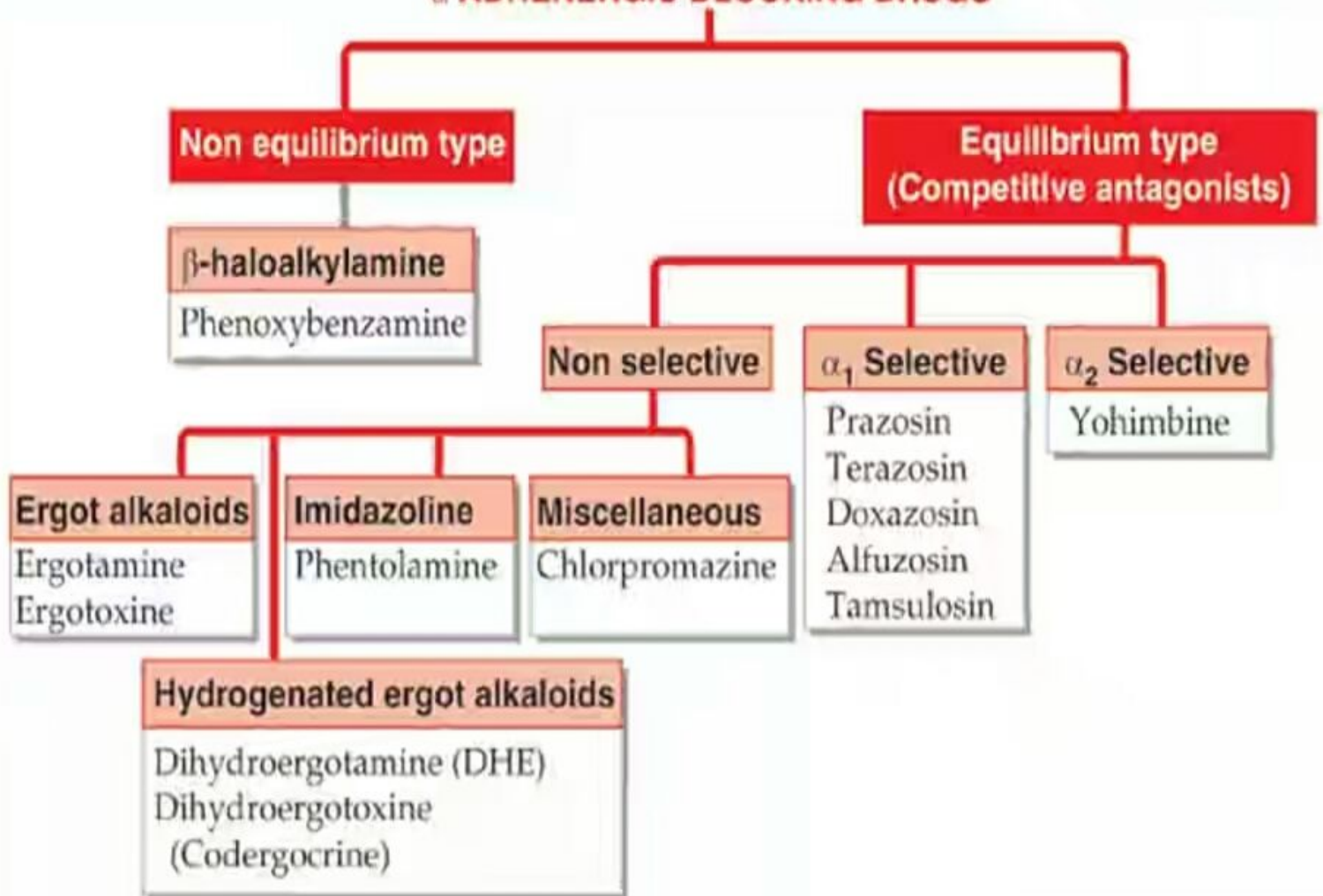
Trimethaphan-camforsulfonate

Adrenergic Drugs

ADRENERGIC DRUGS (Sympathomimetics)

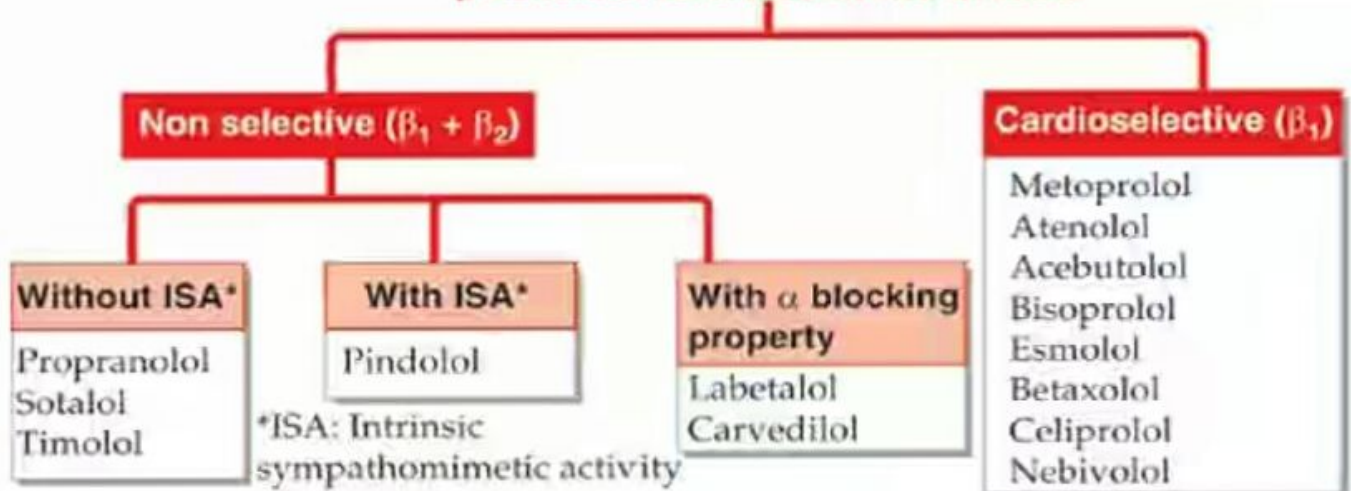


α ADRENERGIC BLOCKING DRUGS



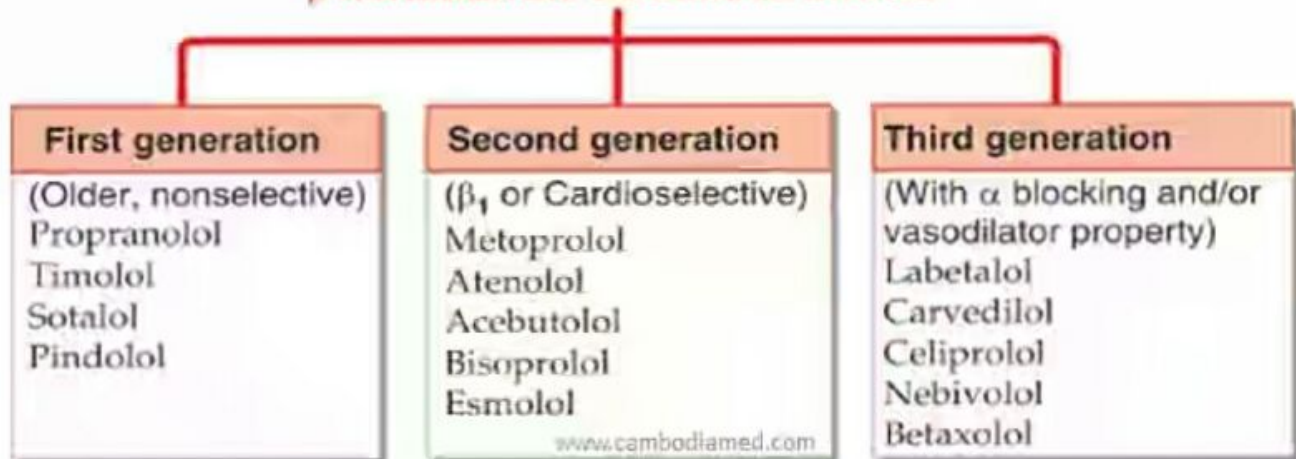
www.cambodfamed.com

β ADRENERGIC BLOCKING DRUGS

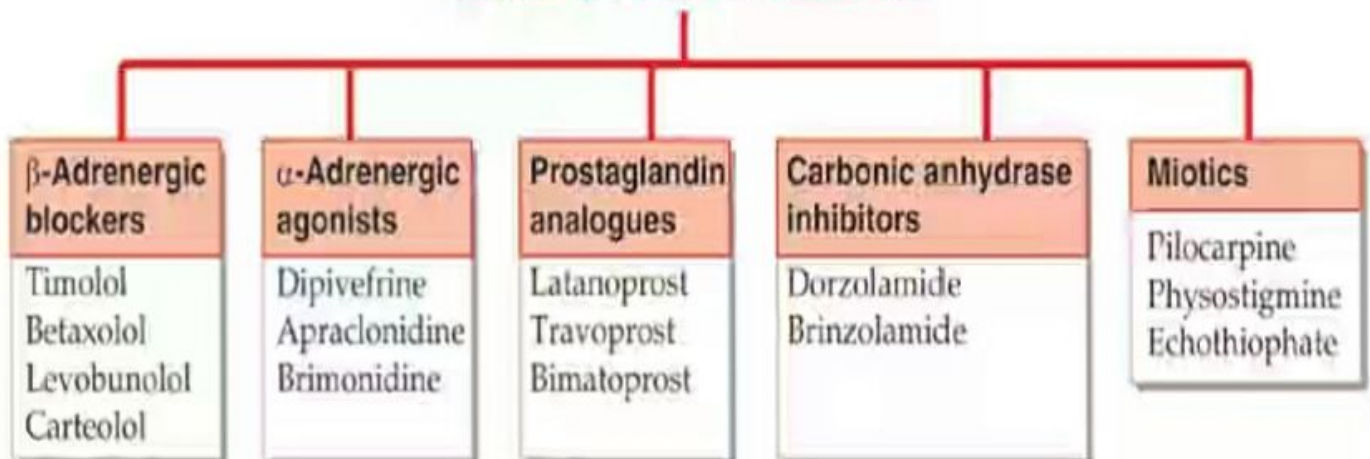


GENERATIONWISE CLASSIFICATION

β ADRENERGIC BLOCKING DRUGS



TOPICAL DRUGS FOR GLAUCOMA



Preparations

1. Timolol: Start with 0.25% eye drops BD, change to 0.5% drops in case of inadequate response. 0.5% OD as gel forming solution. **GLUCOMOL, OCUPRES, IOTIM, LOPRES 0.25% and 0.5% eye drops, TIMOLAST 0.5% gel forming eye drops (long acting).**
Timolol 0.5% + Latanoprost 0.005%: **LAPROST PLUS, LATOCHEK-T eye drops.**
2. Betaxolol: 0.5% topically in eye BD; **OPTIPRES, IOBET, OCUBETA 0.5% eye drops.**
3. Levobunolol: 0.5% topically in eye OD; **BETAGAN 0.5% ophthalmic solution.**
4. Dipivefrine: 0.1% topically in eye BD; **PROPINE 0.1% eye drops.**
5. Apraclonidine: 0.5-1.0% topically in eye; **ALFADROPS-DS 1% eye drops.**
6. Brimonidine: 0.2% topically in eye TDS;
ALPHAGAN-P, BRIMODIN-P 0.15% eye drops, IOBRIM 0.2% eye drops.

Autacoid and Related Drugs

HISTAMINERGIC AGONISTS

Nonselective agonists (H₁ + H₂ + H₃)

Histamine
Betahistine

Selective H₁ agonists

2-Methyl histamine
2-Pyridyl ethylamine
2-Thizolyl ethylamine

Selective H₂ agonists

Dimaprit
Impromidine

Selective H₃ agonists

(R) α -Methylhistamine
Imetit

H₁ ANTAGONISTS

(Conventional antihistaminics)

Highly sedative

Diphenhydramine
Dimenhydrinate
Promethazine
Hydroxyzine

Moderately sedative

Pheniramine
Cyproheptadine
Meclozine
Cinnarizine

Mildly sedative

Chlorpheniramine
Dexchlorpheniramine
Triprolidine
Clemastine

Second generation (nonsedating) anti- histaminics

Fexofenadine
Loratadine
Desloratadine
Cetirizine
Levocetirizine
Azelastine
Mizolastine
Ebastine

5-HYDROXY TRYPTAMINE (5-HT) ANTAGONISTS

Nonselective antagonists & partial agonists/antagonists

Ergotamine
Lysergic acid diethyl
amide (LSD)
2-Bromo LSD
Methysergide
Cyproheptadine
Cinnarizine

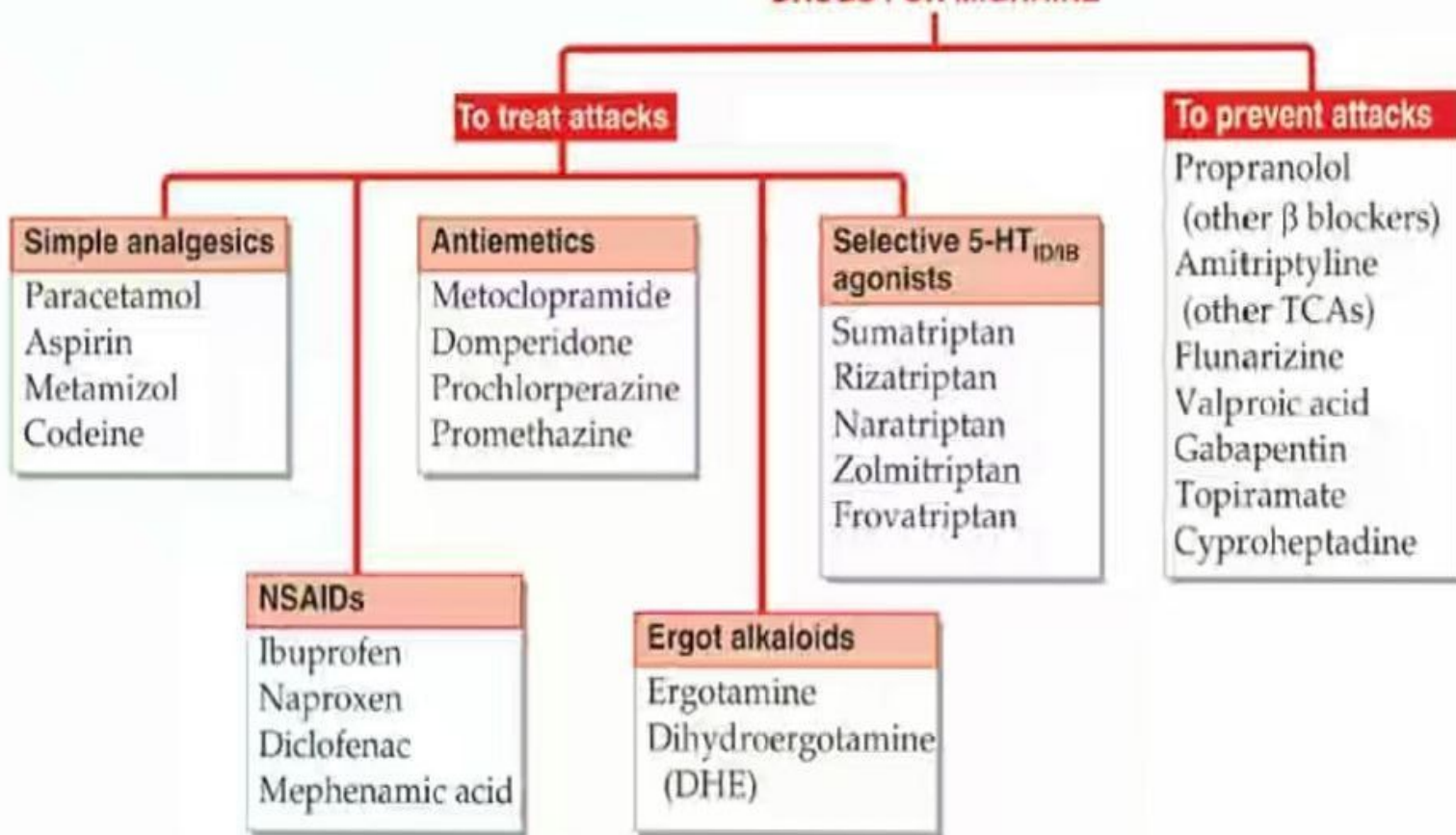
5-HT₂ Antagonists

Ketanserin
Ritanserin
Clozapine
Risperidone

5-HT₃ Antagonists

Ondansetron
Granisetron
Tropisetron
Palonosetron
Ramosetron

DRUGS FOR MIGRAINE



PROSTAGLANDINS (PGs)

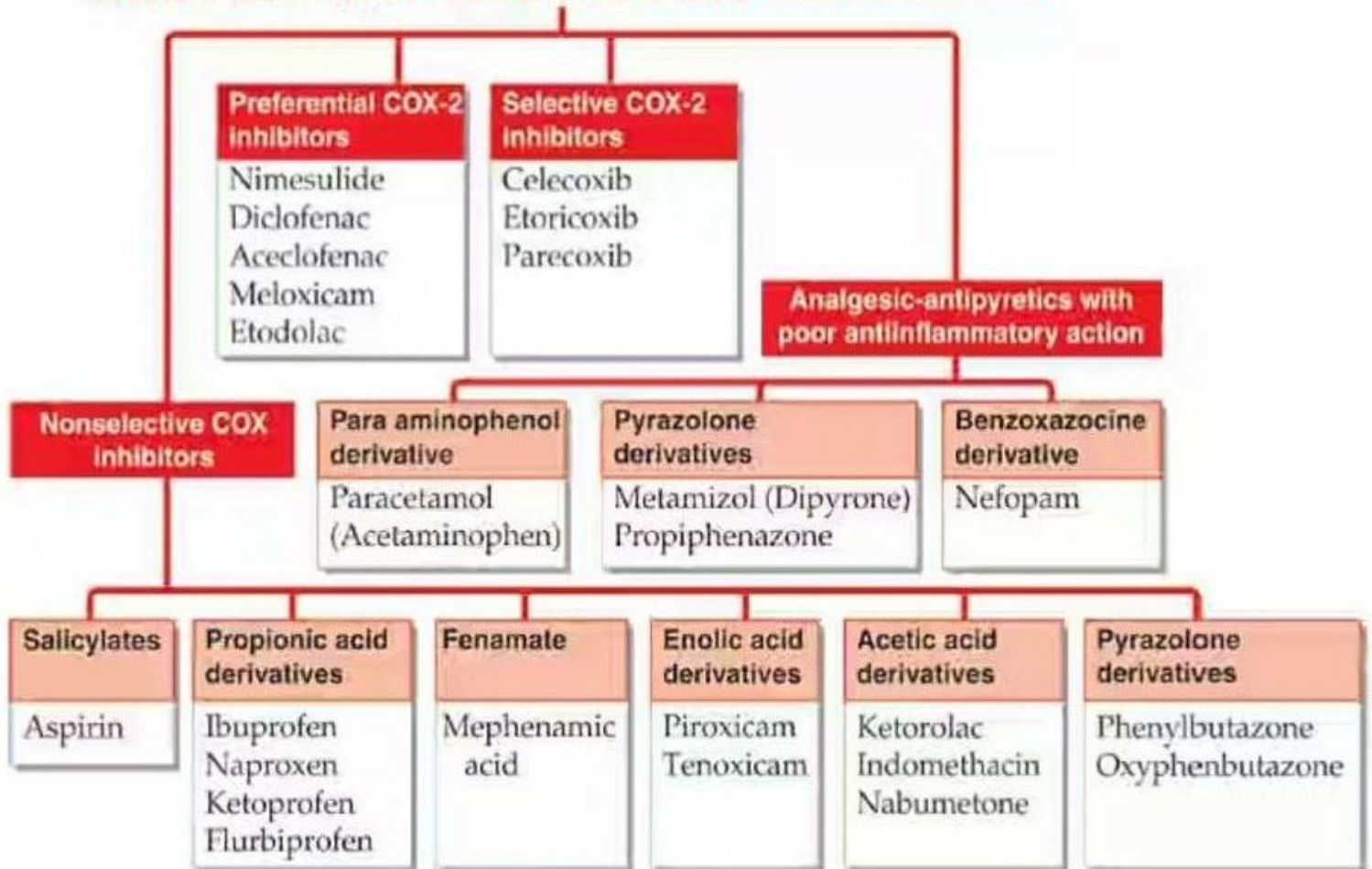
Natural PGs

Dinoprostone (PGE_2)
Gemeprost
Dinoprost ($\text{PGF}_{2\alpha}$)
Alprostadiol (PGE_1)
Prostacyclin (PGI_2)
(Epoprostenol)

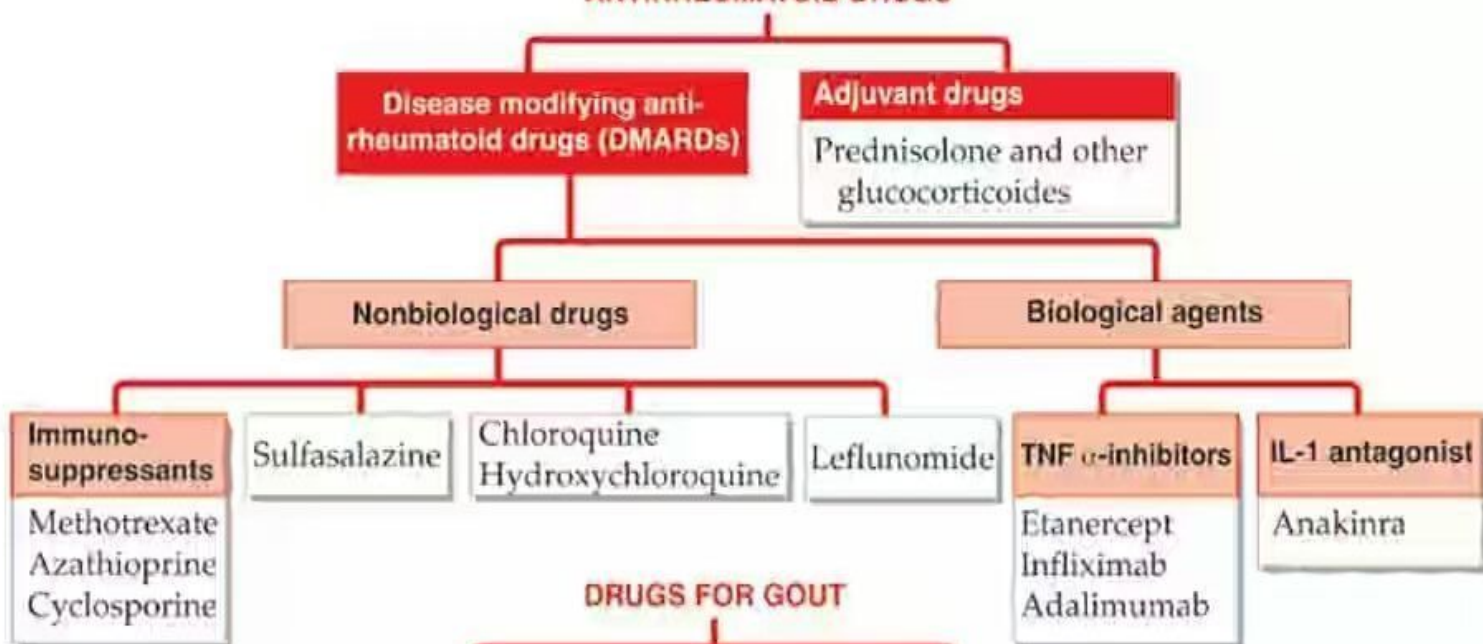
Prostaglandin analogues

Carboprost (15-methyl $\text{PGF}_{2\alpha}$)
Misoprostol (methyl PGE_1 ester)
Latanoprost (PGE_2 analogue)
Travoprost
Bimatoprost

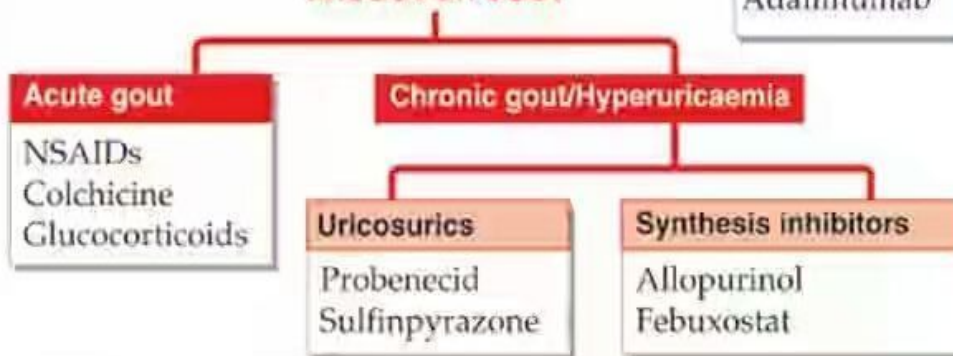
NONSTEROIDAL ANTIINFLAMMATORY DRUGS/ANTIPYRETIC-ANALGESICS



ANTIRHEUMATOID DRUGS

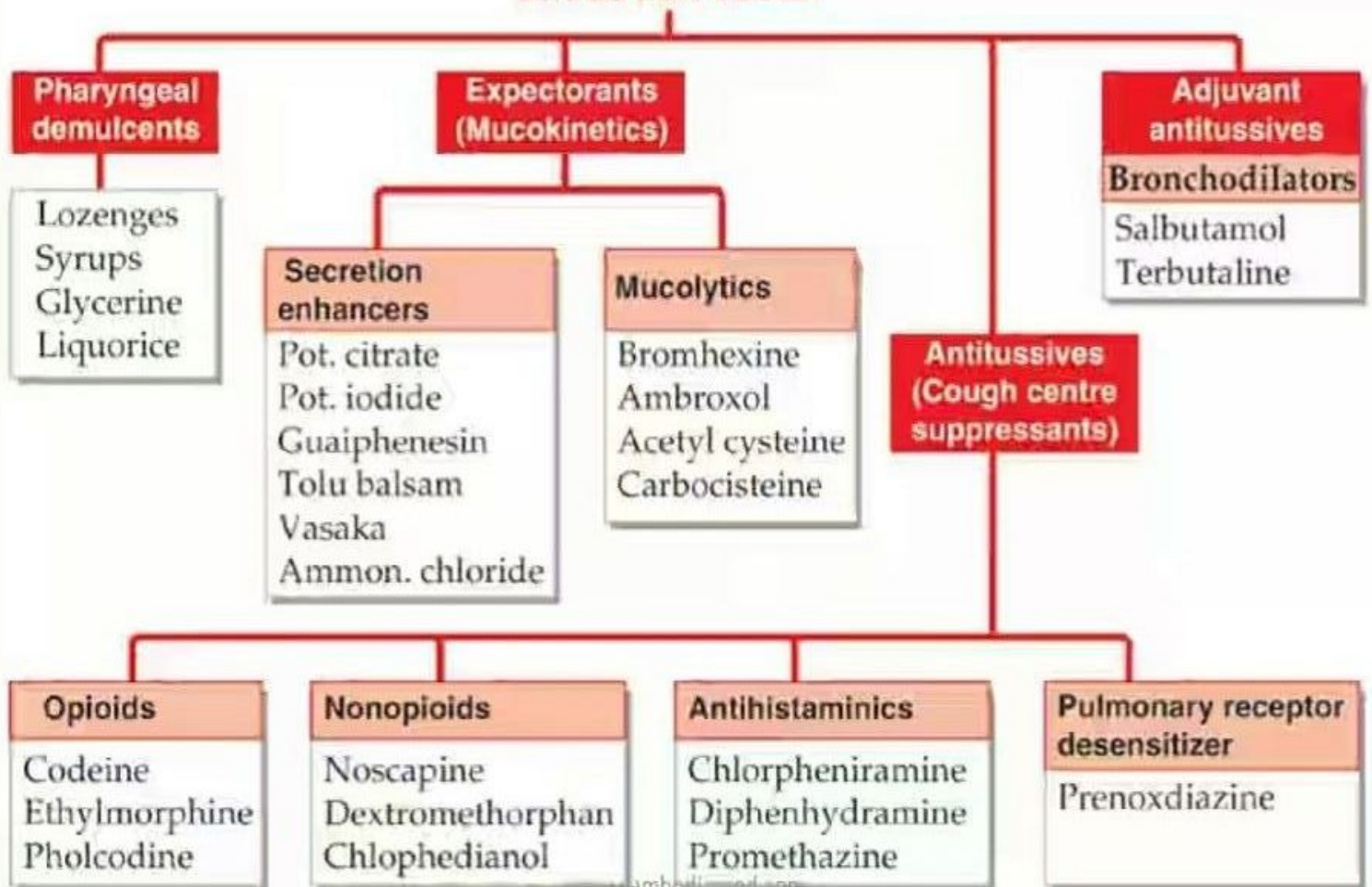


DRUGS FOR GOUT

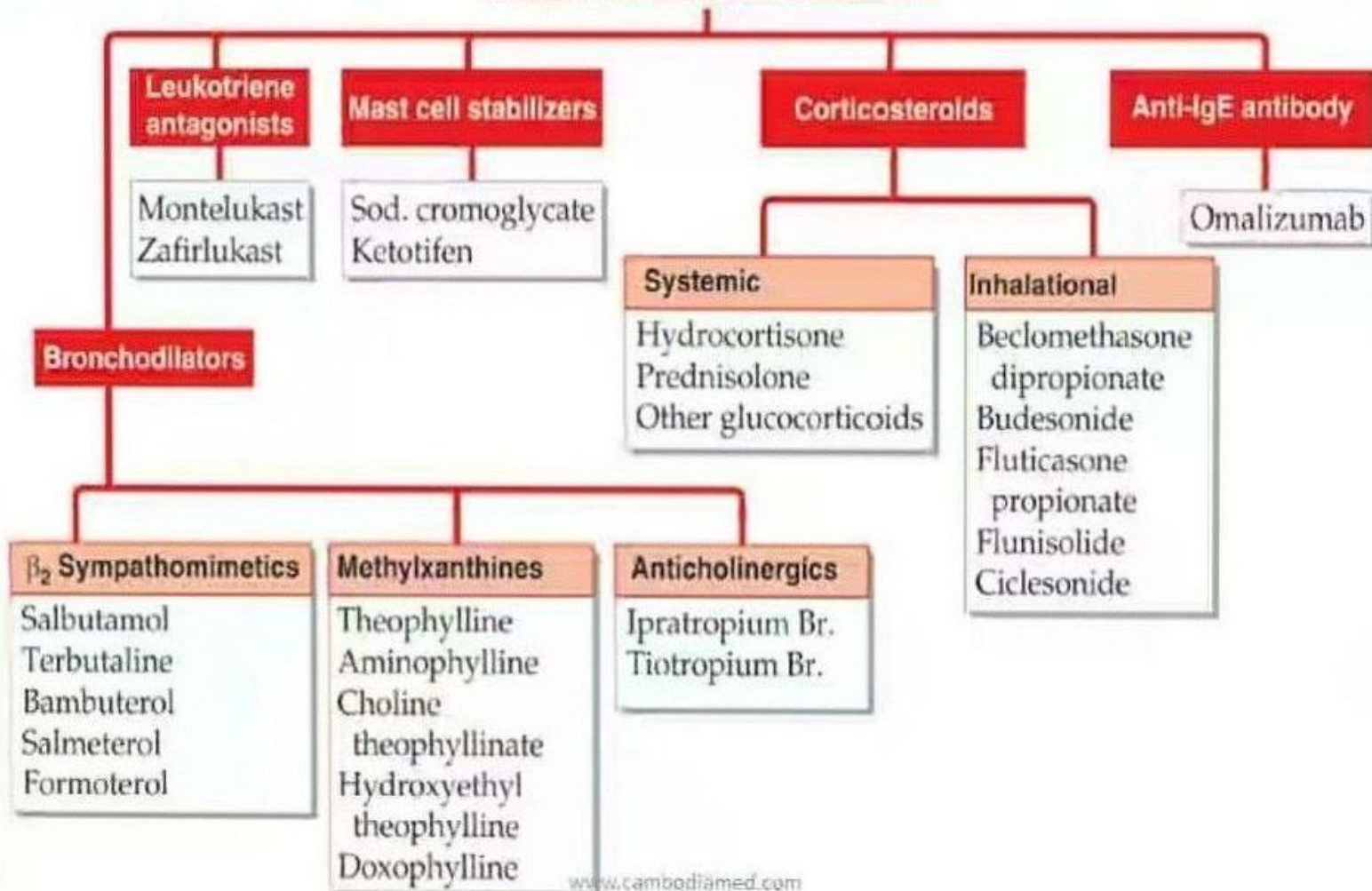


Drugs for Respiratory Disorder

DRUGS FOR COUGH



DRUGS FOR BRONCHIAL ASTHMA



Hormones and Related Drugs

ANTERIOR PITUITARY HORMONES

From acidophil cells

Growth hormone (GH)
Prolactin

From basophil cells

Thyroid stimulating hormone (TSH)
Adrenocorticotrophic hormone (ACTH)
Follicle stimulating hormone (FSH)
Luteinizing hormone (LH)

DRUGS ALTERING ANTERIOR PITUITARY HORMONE SECRETION

Inhibit GH release

Somatostatin
Octreotide
Lanreotide

Inhibit prolactin release

Bromocriptine
Cabergoline
Apomorphine

Enhance prolactin release

Chlorpromazine
(other neuroleptics)
Metoclopramide
Reserpine

Inhibit gonadotropin (Gn) release

Superactive GnRH agonists

(Initially enhance Gn release)
Nafarelin Goserelin
Triptorelin Leuprolide
www.cambootlamed.com

GnRH antagonists

Ganirelix
Cetrorelix

Thyroid hormones

Thyroxine (T_4)
Triiodothyronine (T_3 , Liothyronine)

THYROID INHIBITORS

Inhibit hormone synthesis

(Antithyroid drugs)
Propylthiouracil
Methimazole
Carbimazole

Inhibit iodide trapping

(Ionic inhibitors)
Thiocyanates ($-SCN$)
Perchlorates ($-ClO_4$)
Nitrates ($-NO_3$)

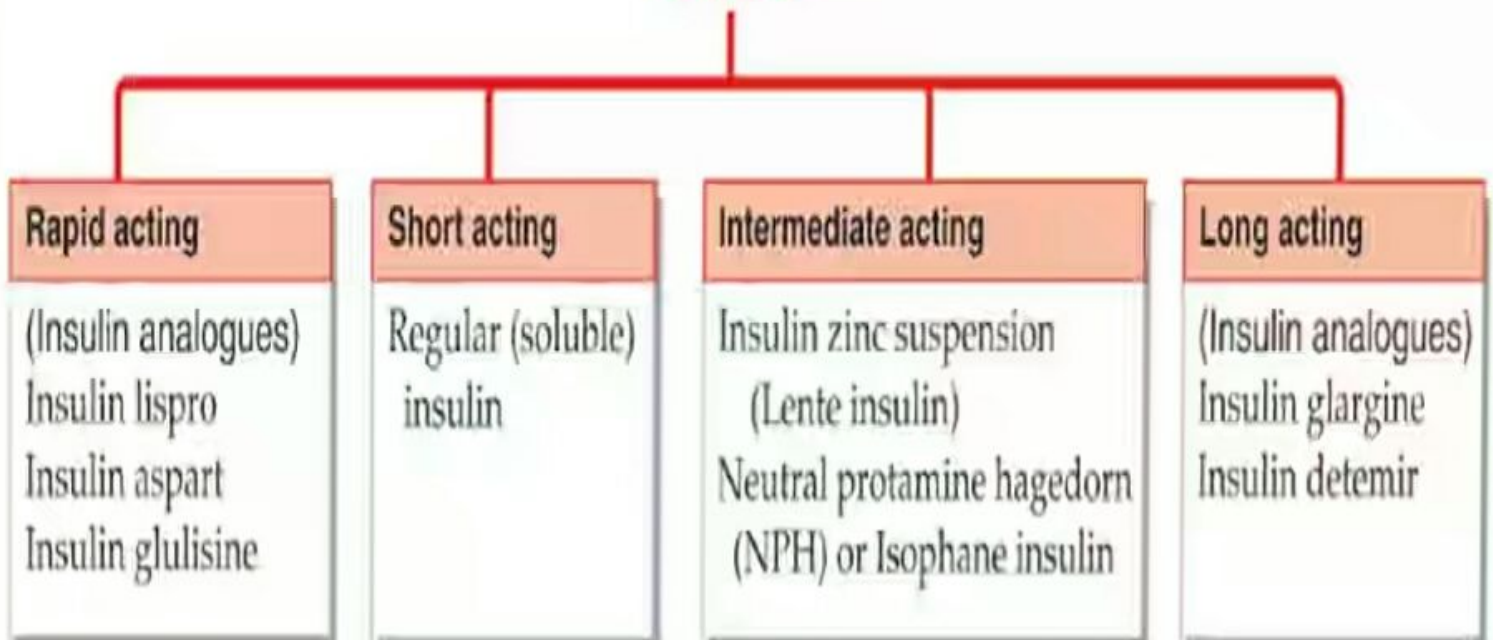
Inhibit hormone release

Iodine
Iodides of Na, K
Organic iodide

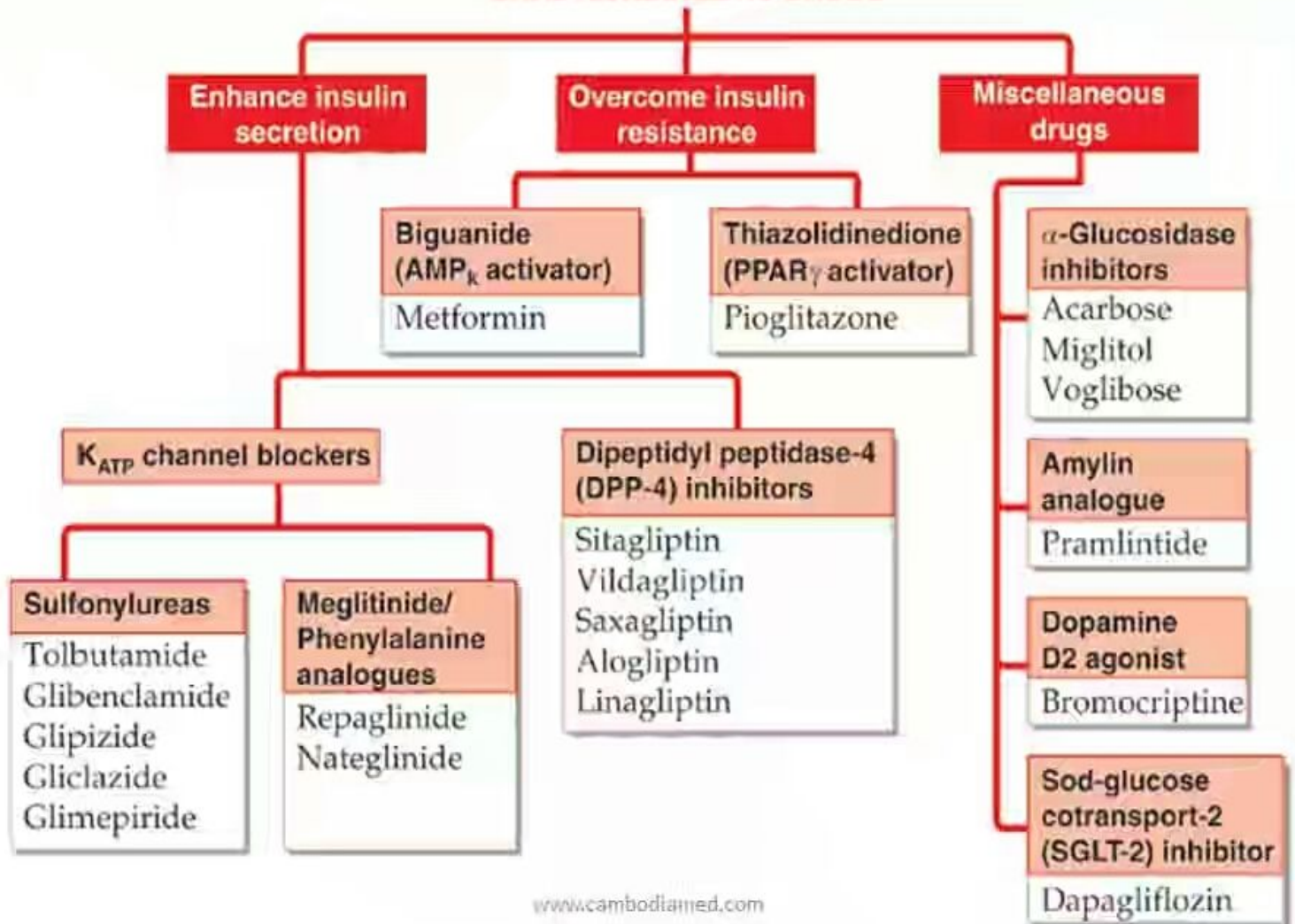
Destroy thyroid tissue

Radioactive iodine ^{131}I

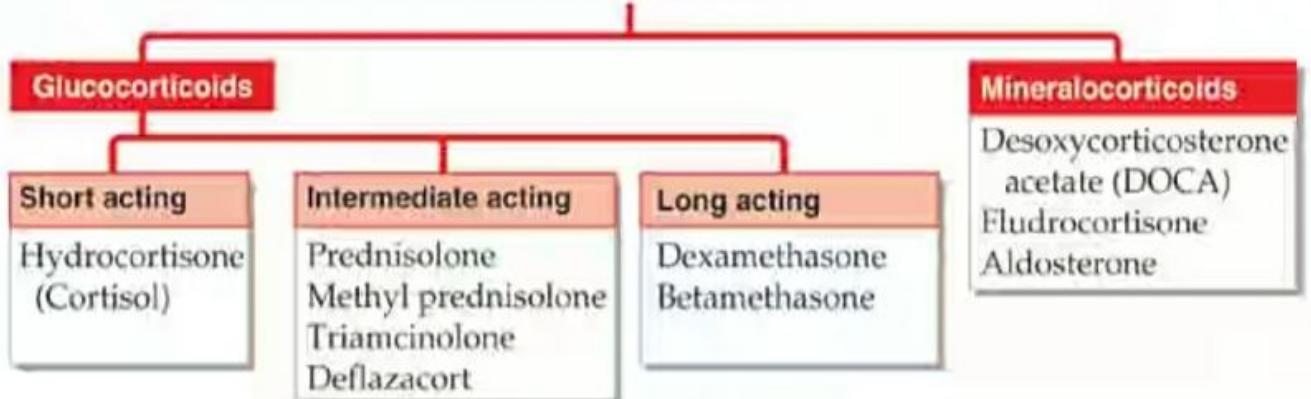
INSULINS



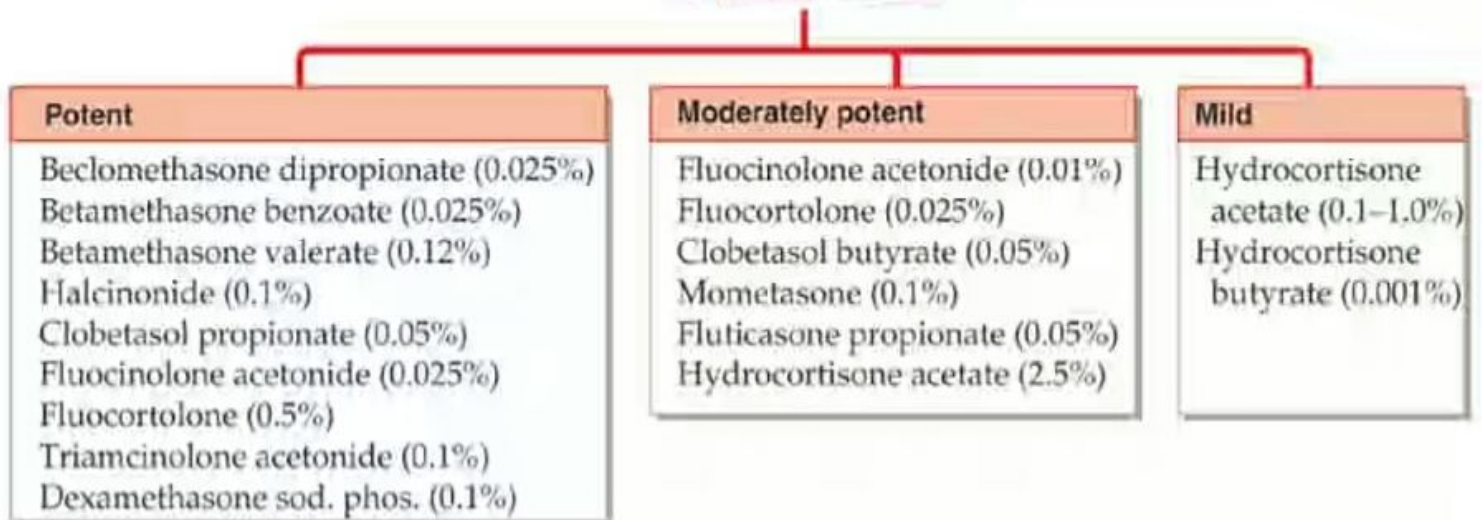
ORAL ANTIDIABETIC DRUGS



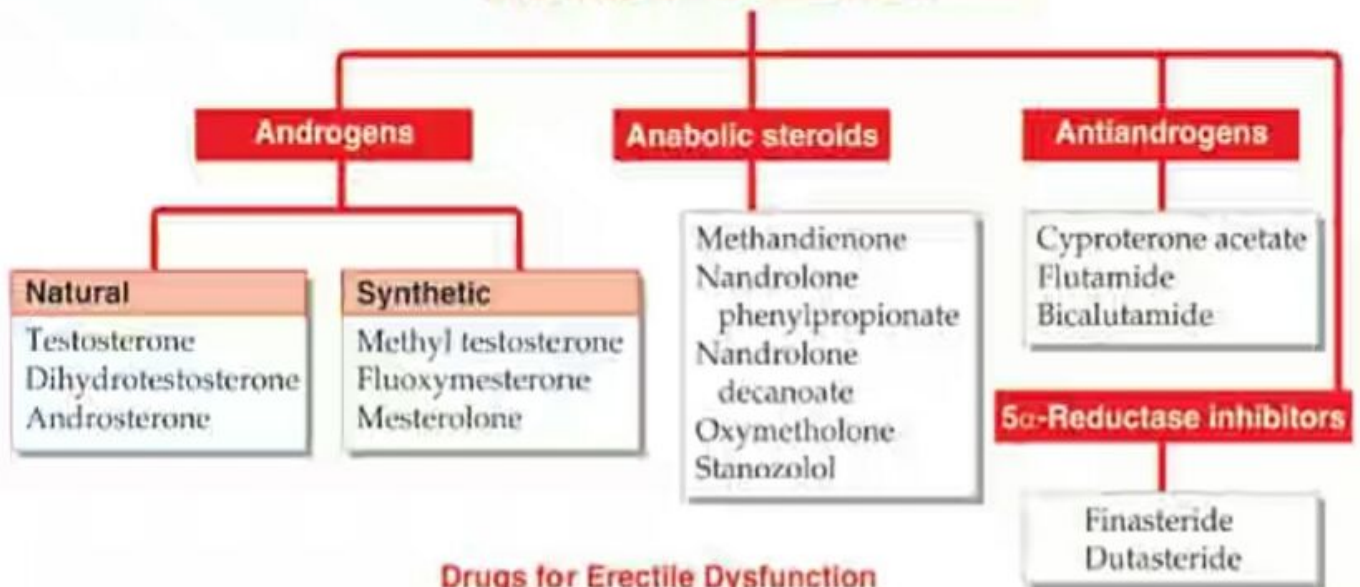
CORTICOSTEROIDS



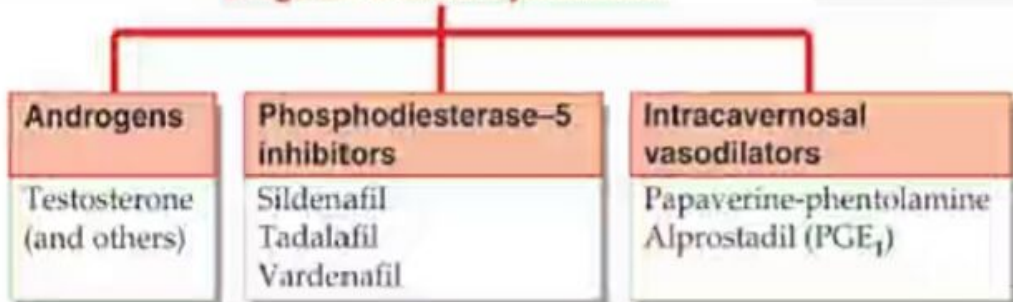
TOPICAL STEROIDS



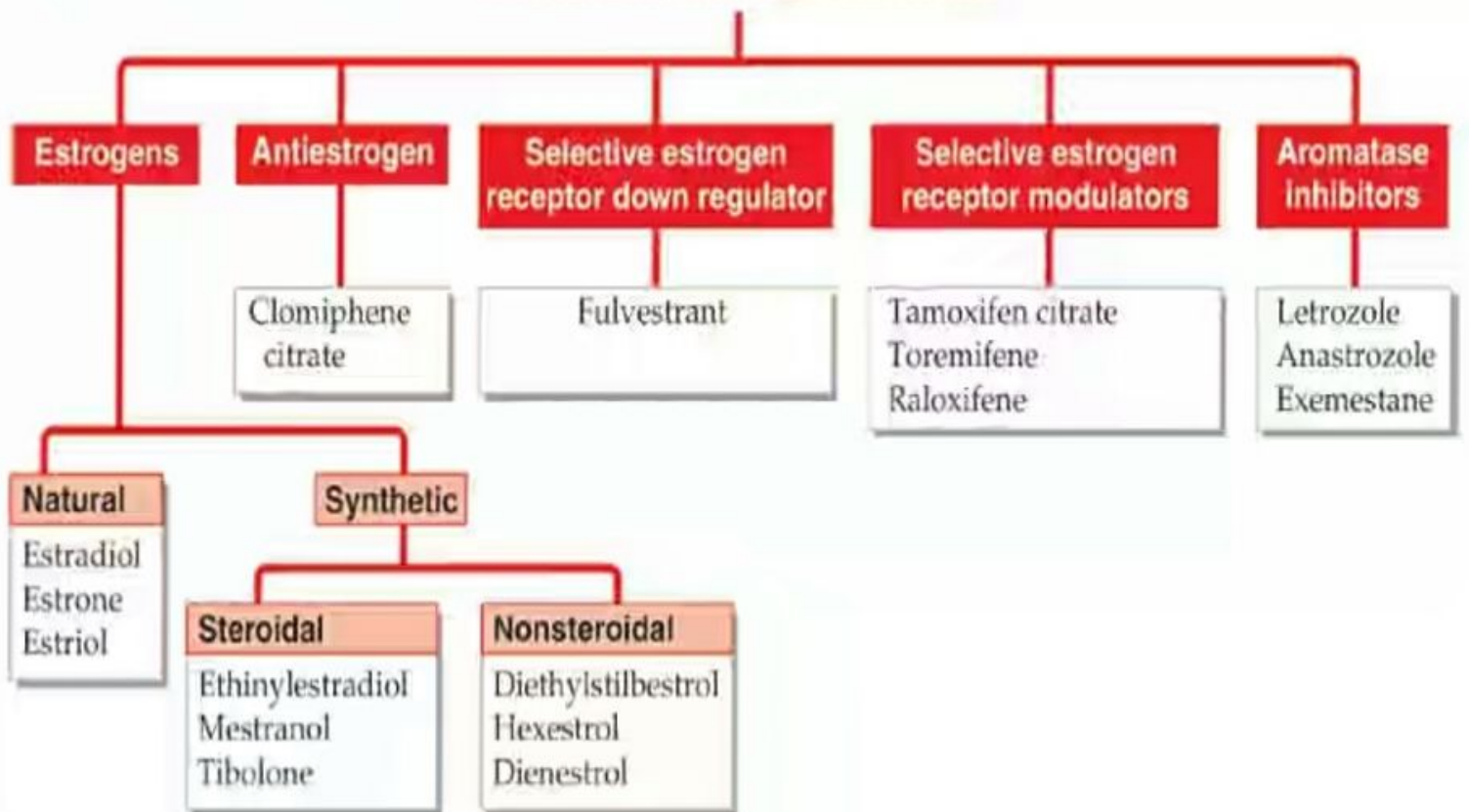
ANDROGENS AND RELATED DRUGS



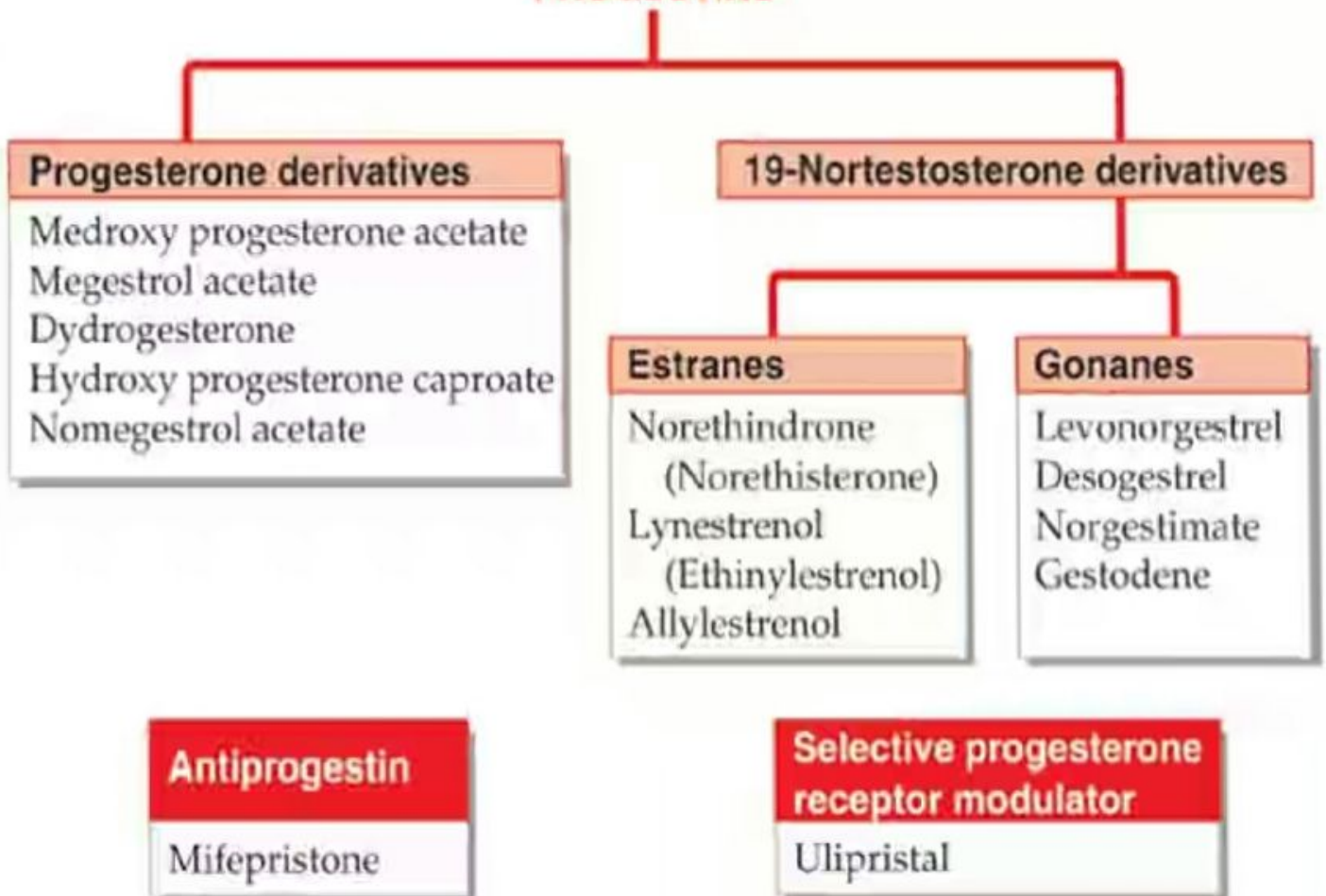
Drugs for Erectile Dysfunction



ESTROGENS AND RELATED DRUGS



PROGESTINS



HORMONAL CONTRACEPTIVES

Oral

Injectable

Combined pills

- Norgestrel (0.5 mg) + Ethinylestradiol (50 µg)
- Levonorgestrel (0.1 – 0.25 mg) + Ethinylestradiol (20 – 50 µg)
- Desogestrel (0.15 mg) + Ethinylestradiol (20 – 30 µg)

Phased pills

- Levonorgestrel (50 µg – 75 µg – 125 µg) + Ethinylestradiol (30 µg – 40 µg – 30 µg)
- Norethindrone (0.5 mg – 0.75 mg – 1.0 mg) + Ethinylestradiol (35 µg)

Postcoital pills

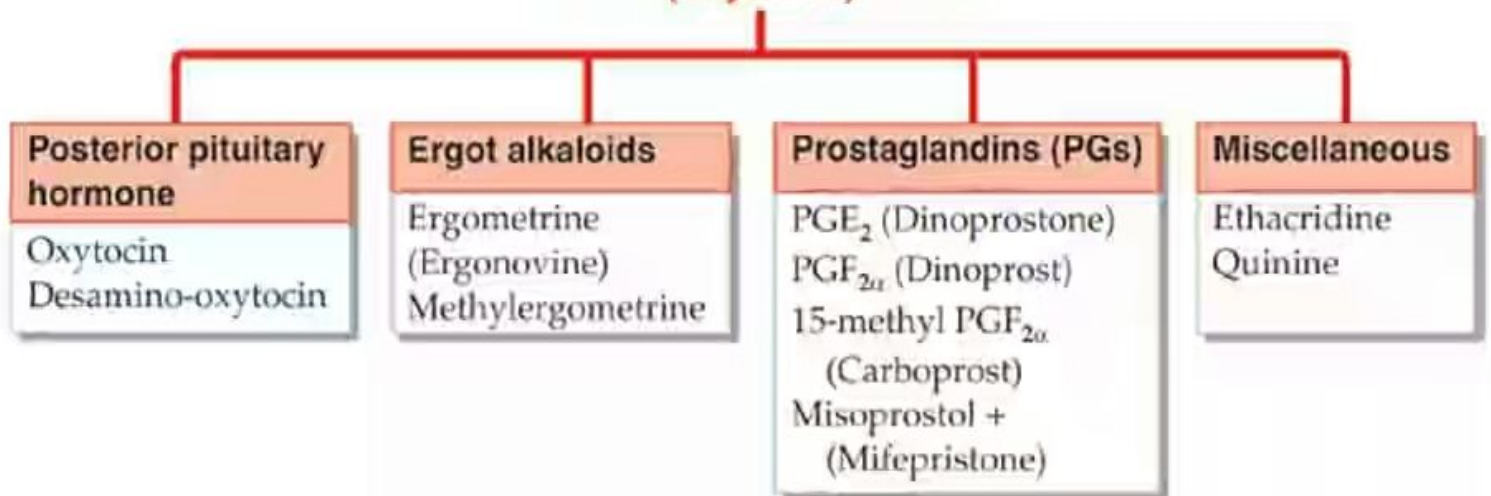
- Levonorgestrel (1.5 mg)
- Levonorgestrel (0.5 mg) + Ethinylestradiol (100 µg) × 2 doses

- Depot medroxy-progesterone acetate (DMPA)
- Norethindrone enanthate

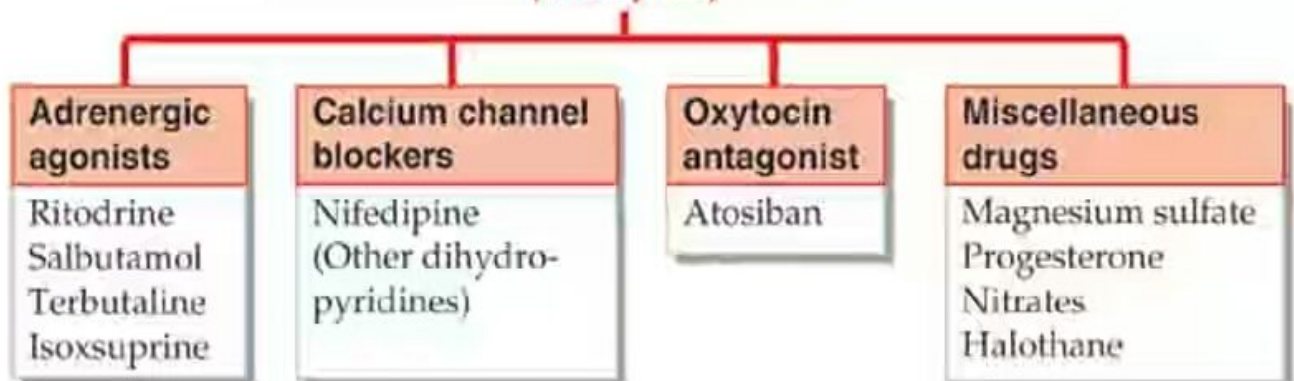
Progestin only pills (mini pills)

- Norethindrone (0.35 mg)
- Norgestrel (75 µg)

UTERINE STIMULANTS (Oxytocics)

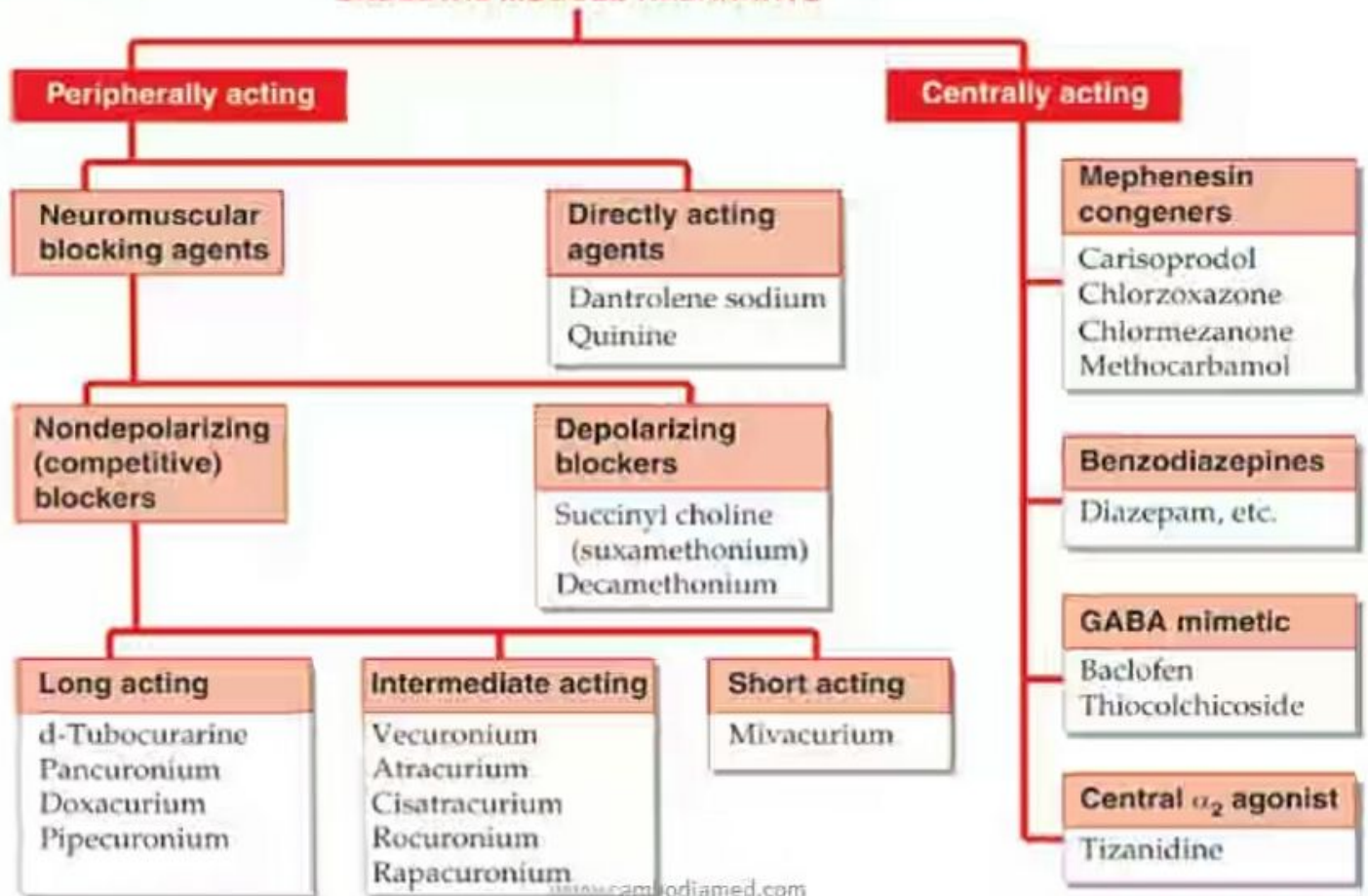


UTERINE RELAXANTS (Tocolytics)

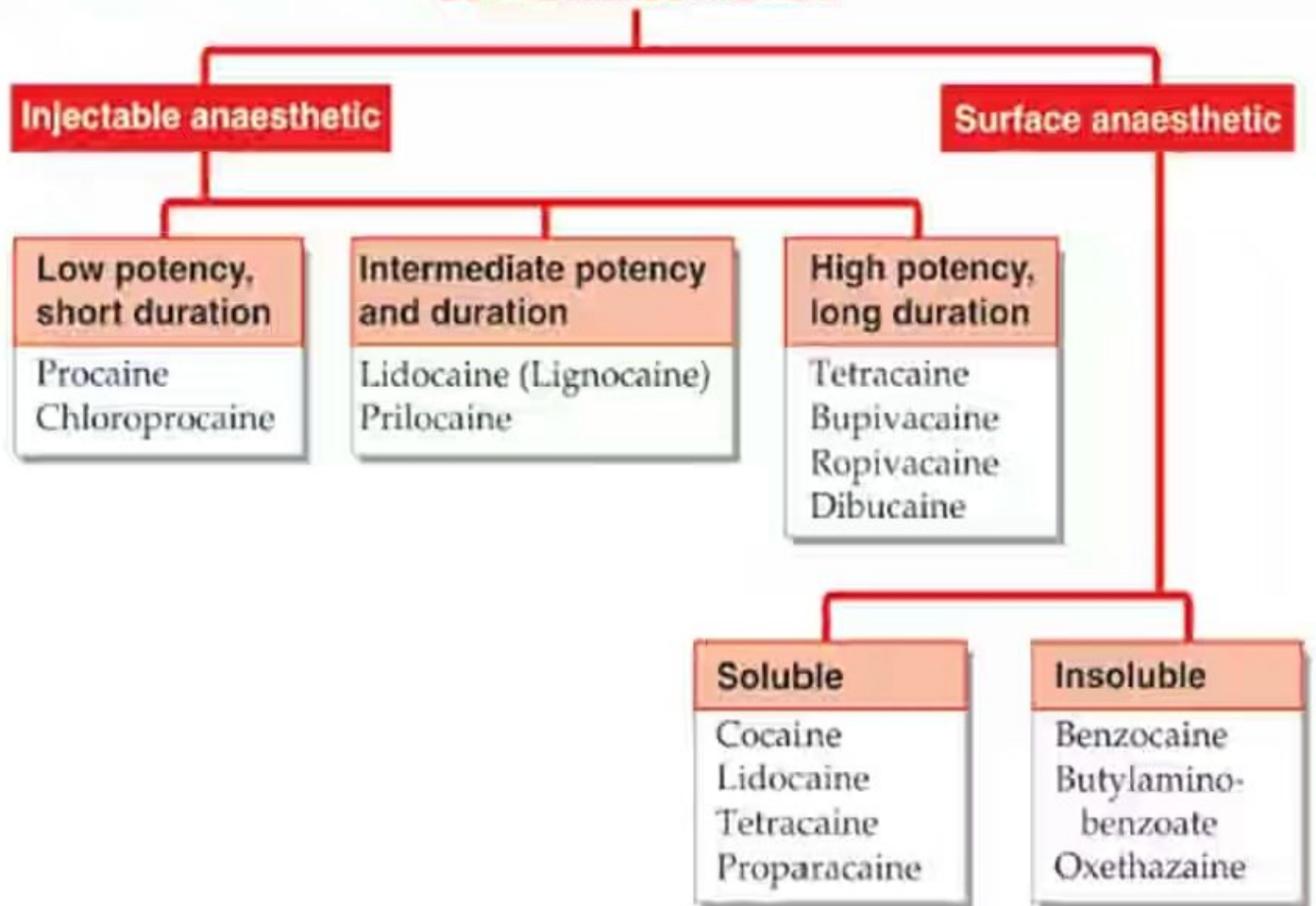


Drugs Acting on Peripheral (somatic) Nervous System

SKELETAL MUSCLE RELAXANTS



LOCAL ANAESTHETICS



Drugs Acting on Central Nervous System

GENERAL ANAESTHETICS

Inhalational

Gas

Nitrous oxide

Volatile liquids

Ether
Halothane
Isoflurane
Desflurane
Sevoflurane

Intravenous

Fast acting drugs

Thiopentone sod.
Methohexitone sod.
Propofol
Etomidate

Slower acting drugs

Benzodiazepines

Diazepam
Lorazepam
Midazolam

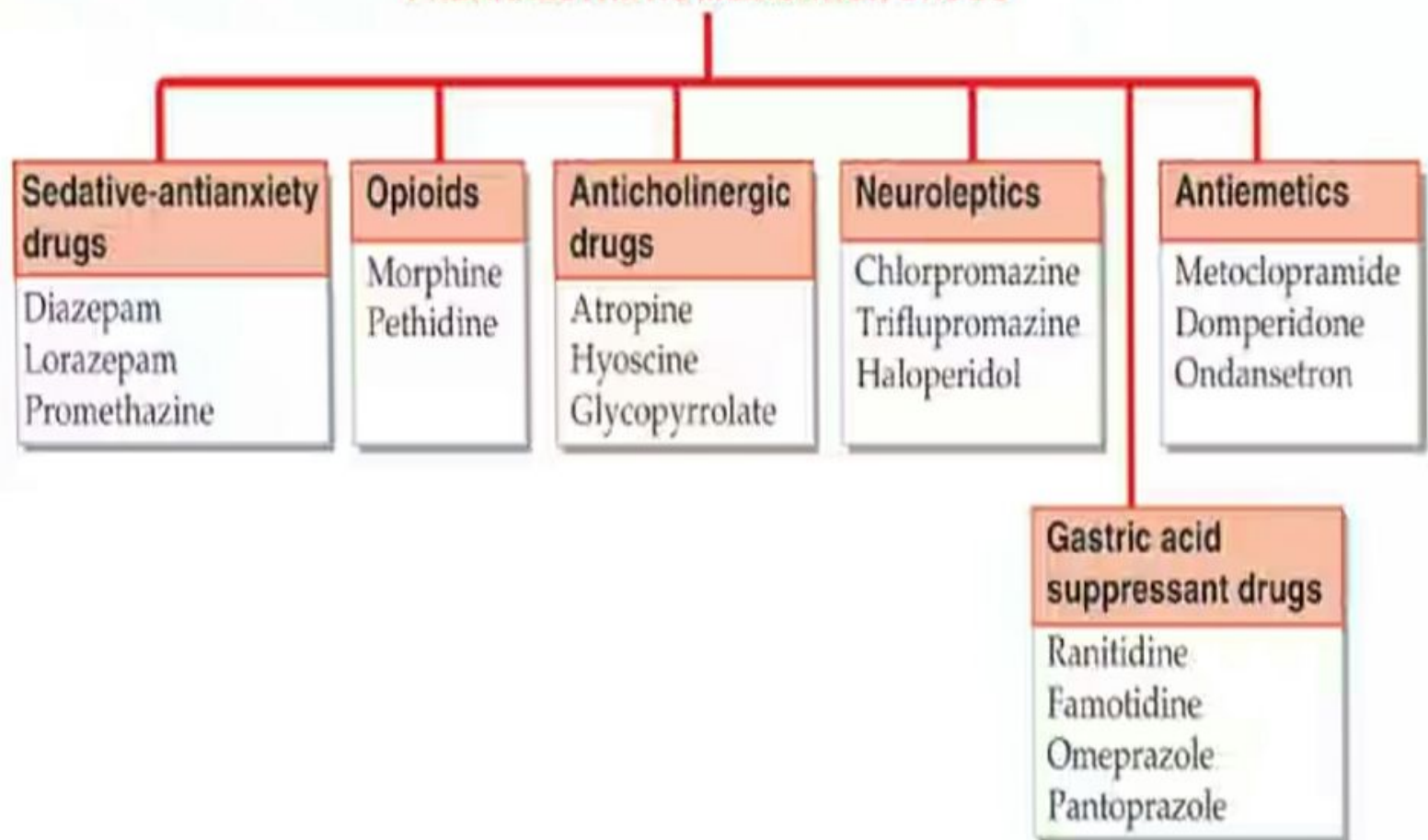
Opioid analgesic

Fentanyl

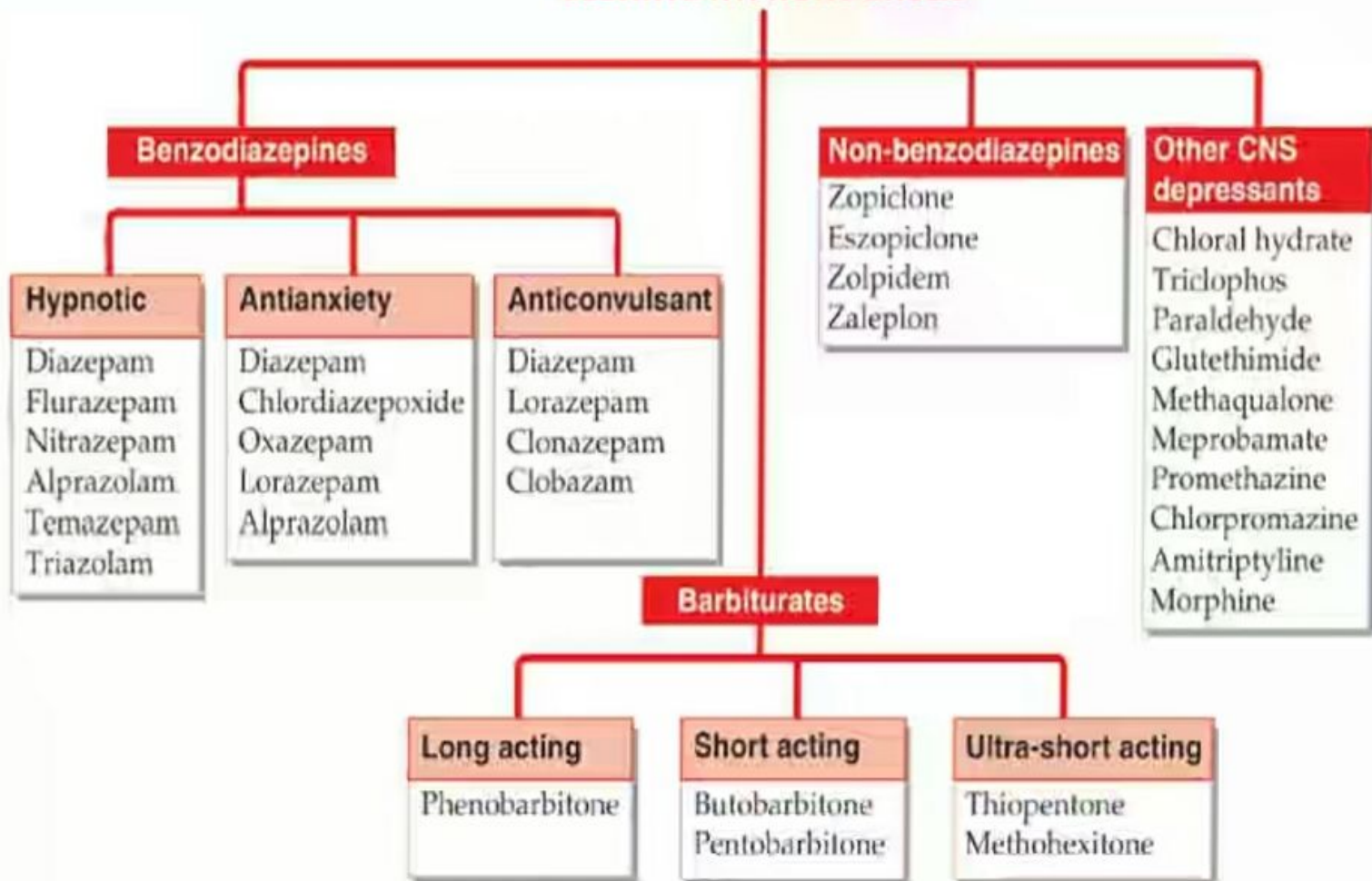
Dissociative anaesthetic

Ketamine

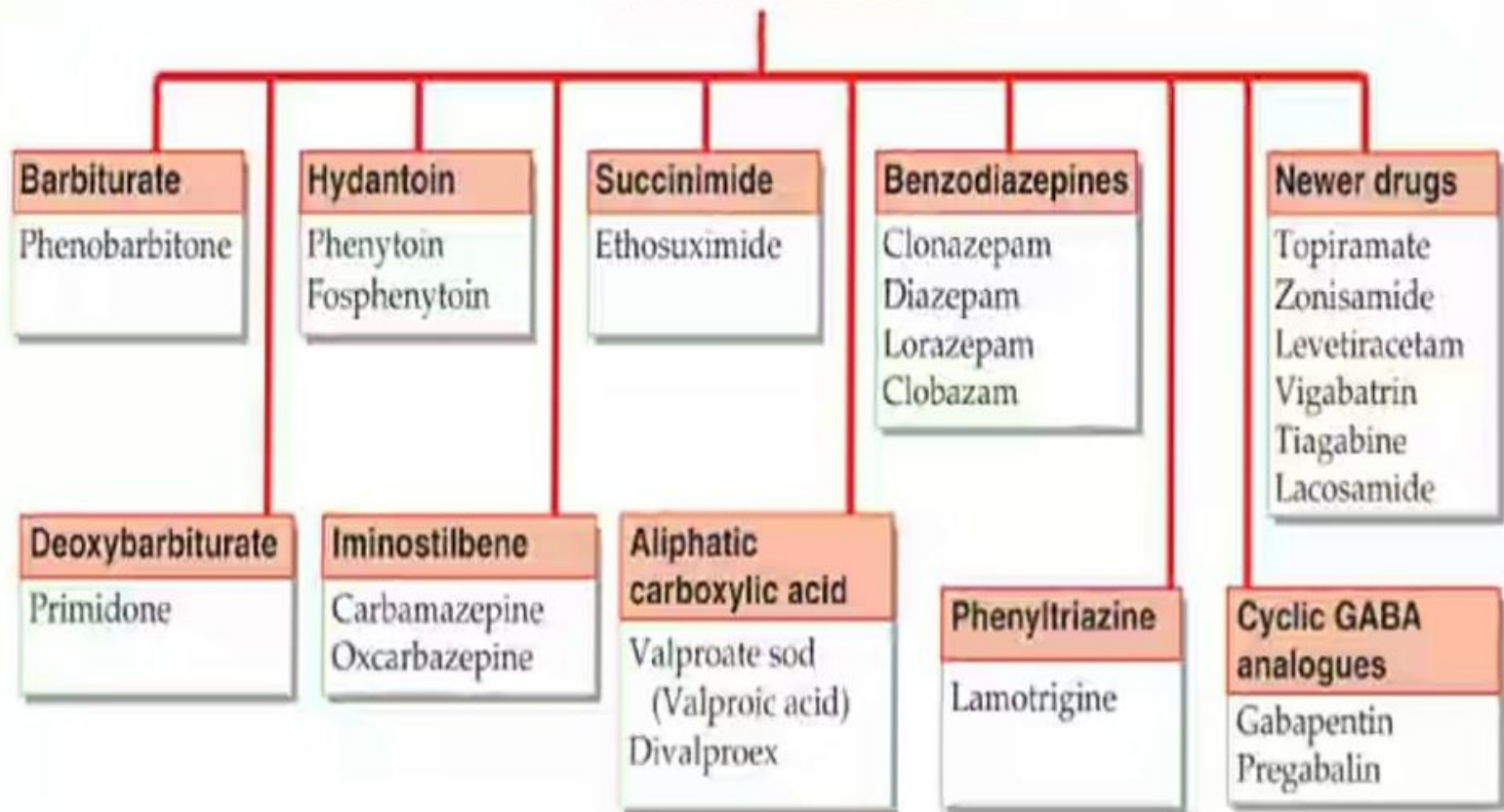
PREANAESTHETIC MEDICATION DRUGS



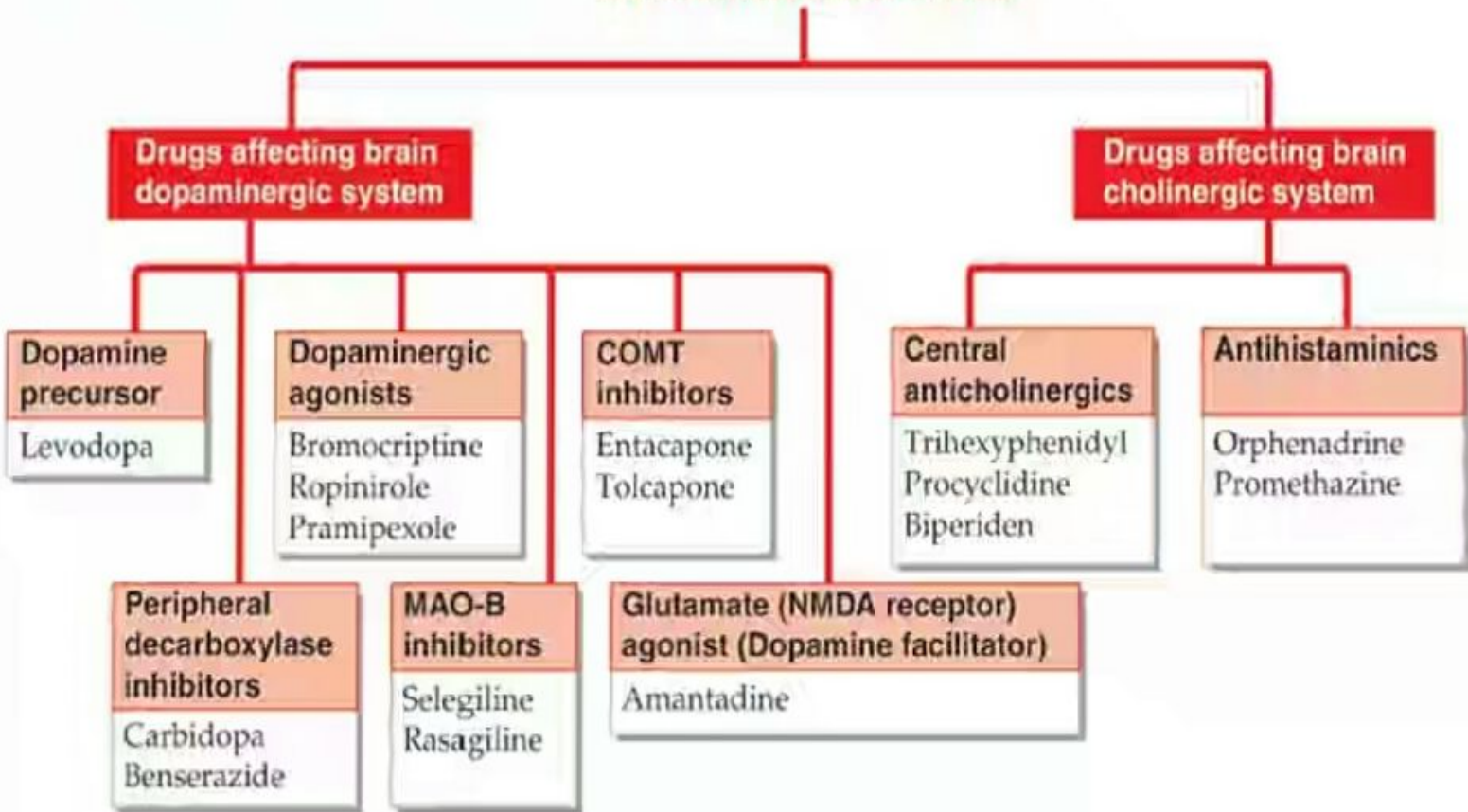
SEDATIVE-HYPNOTIC DRUGS



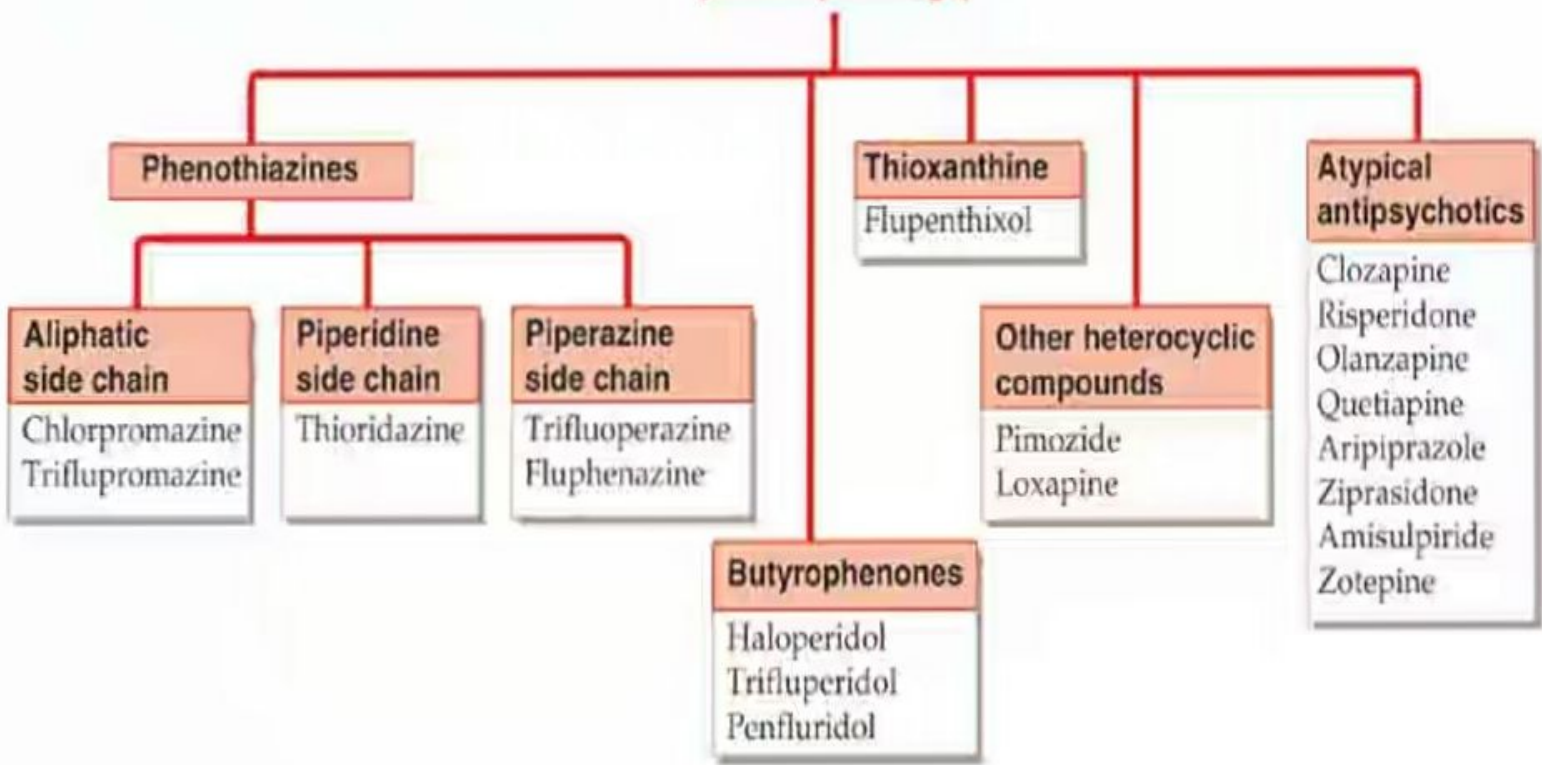
ANTIEPILEPTIC DRUGS



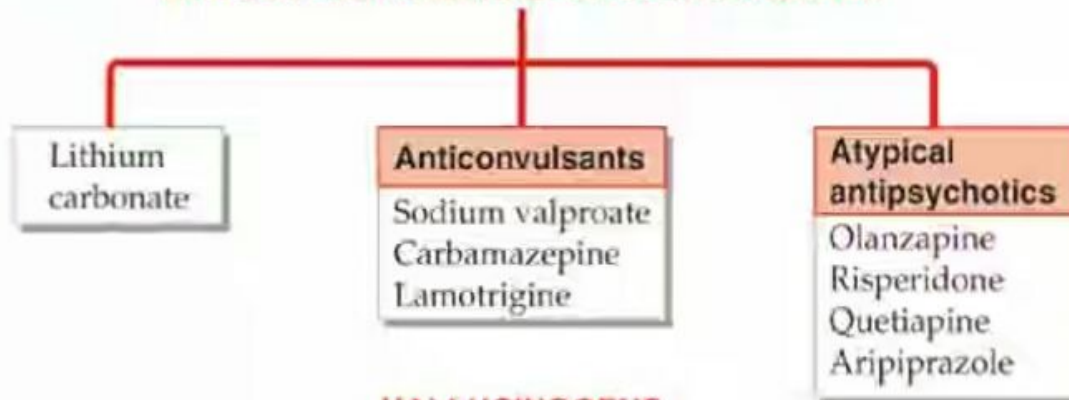
ANTIPARKINSONIAN DRUGS



ANTIPSYCHOTIC DRUGS
(Neuroleptic drugs)

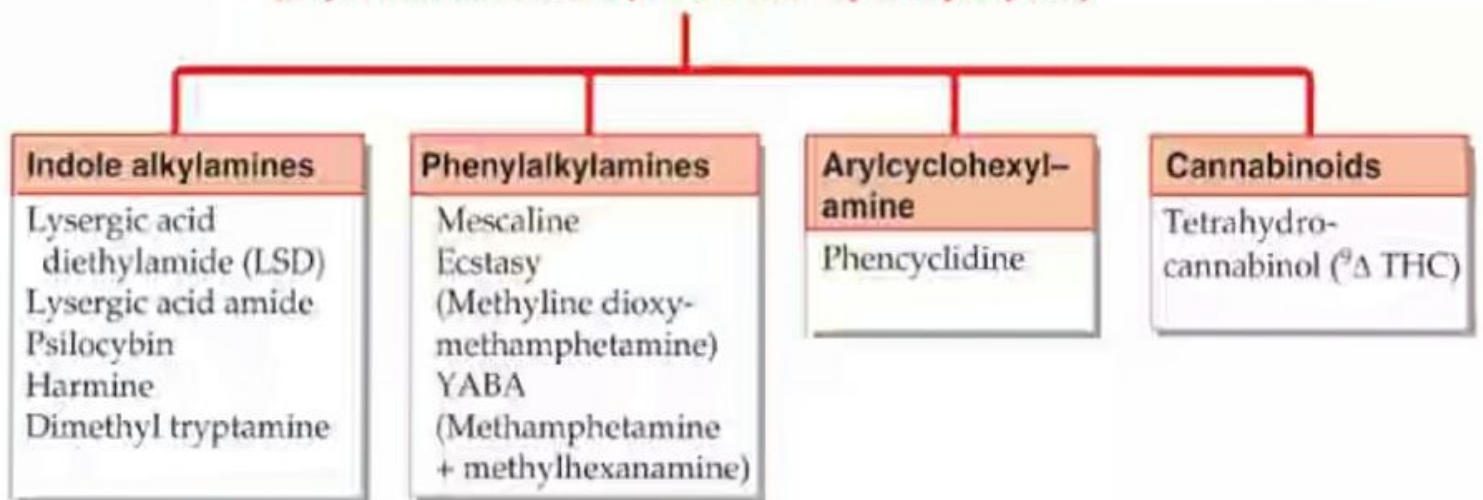


DRUGS FOR MANIA AND BIPOLAR DISORDER

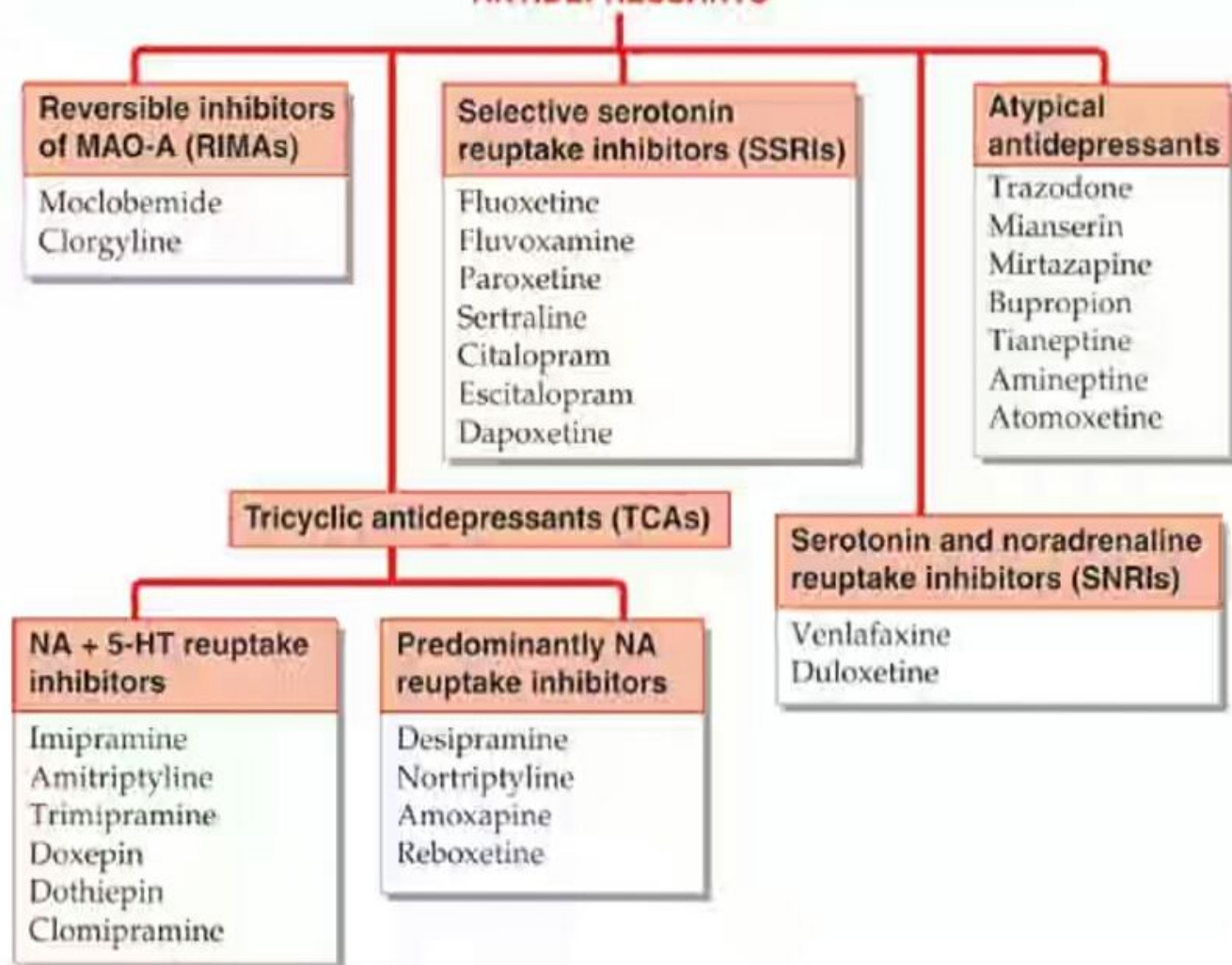


HALLUCINOGENS

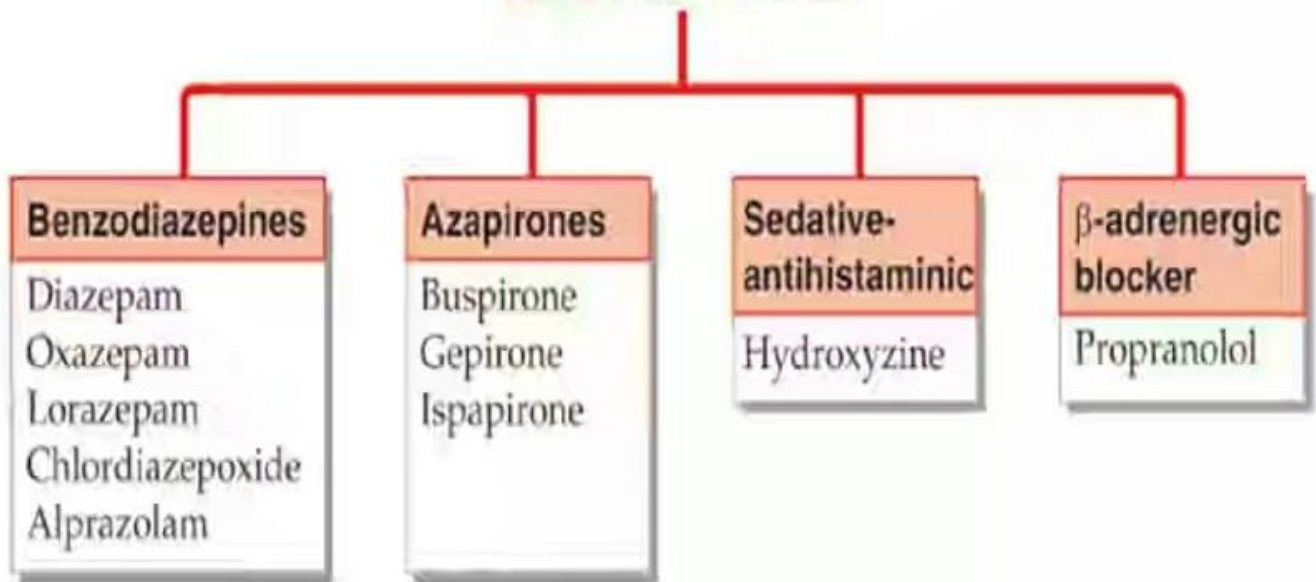
(Psychotomimetics, Psychedelics, Psychodysleptics)



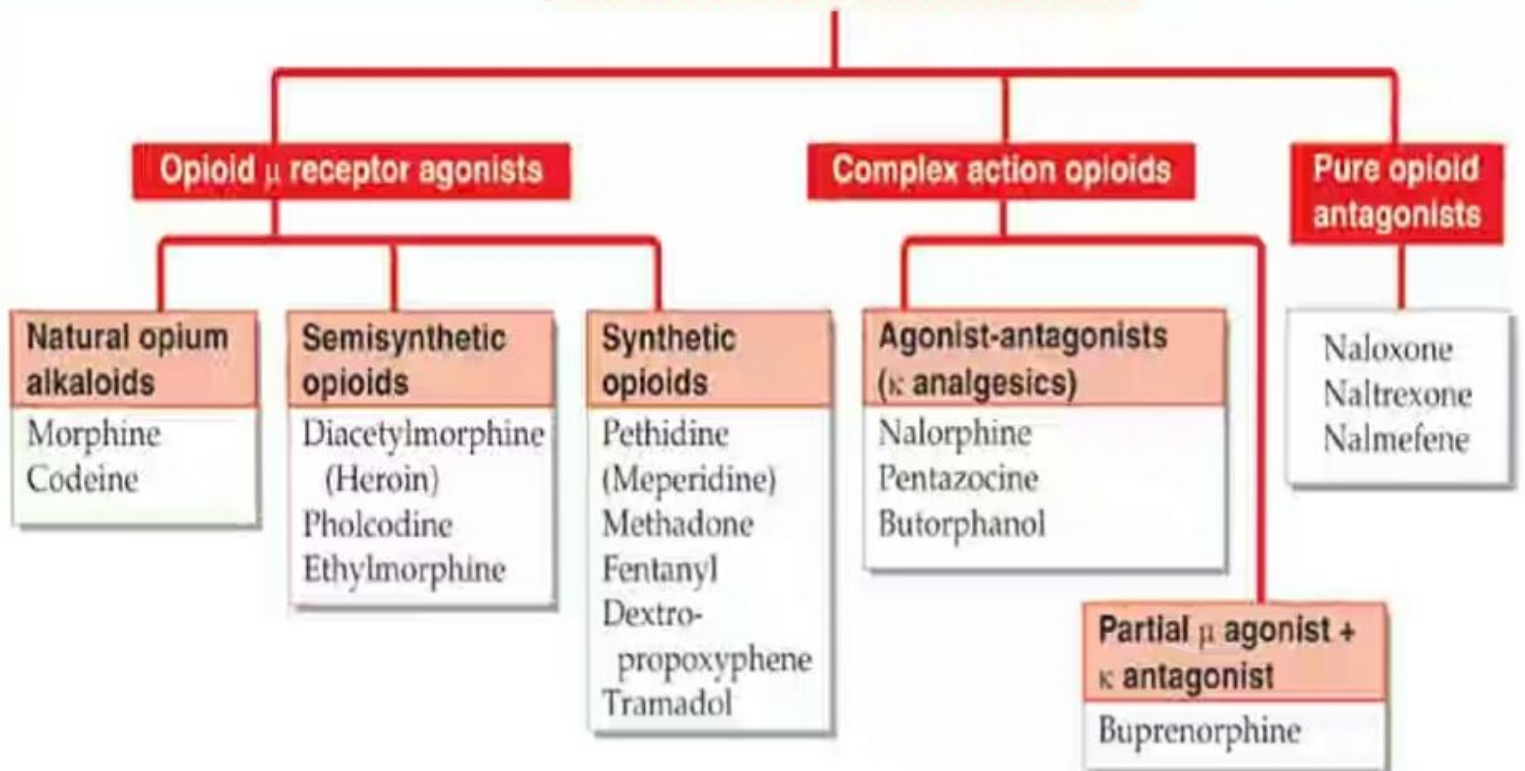
ANTIDEPRESSANTS



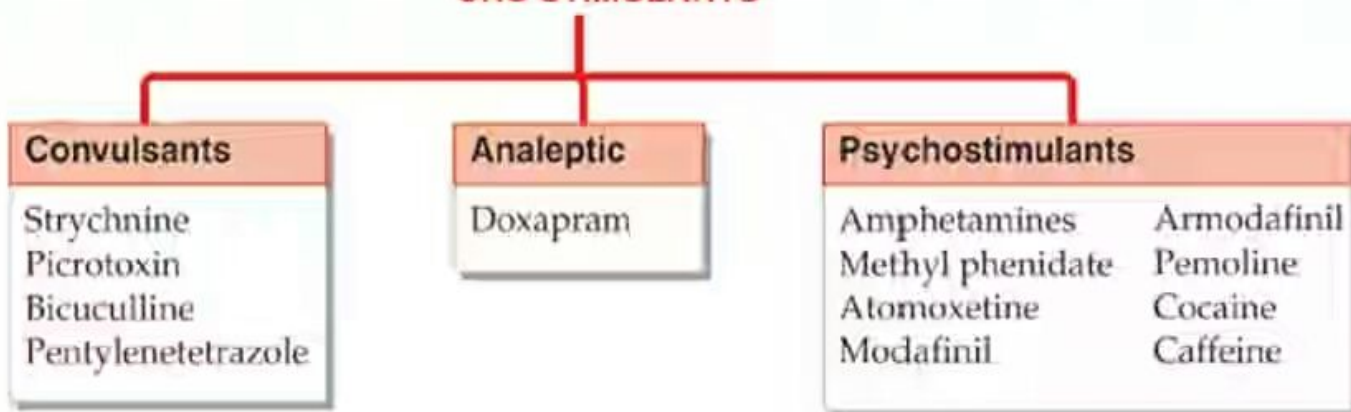
ANTI-ANXIETY DRUGS



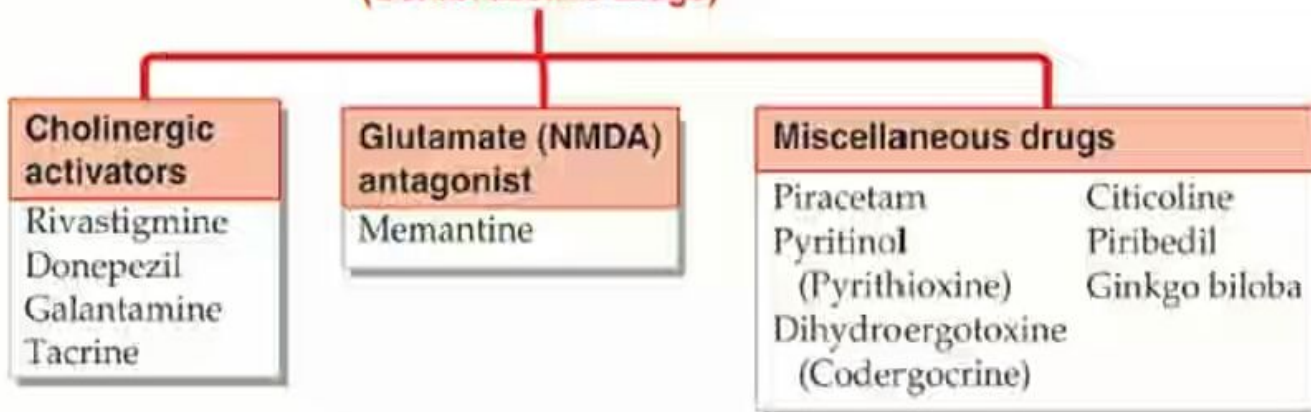
OPIOID ANALGESICS AND ANTAGONISTS



CNS STIMULANTS

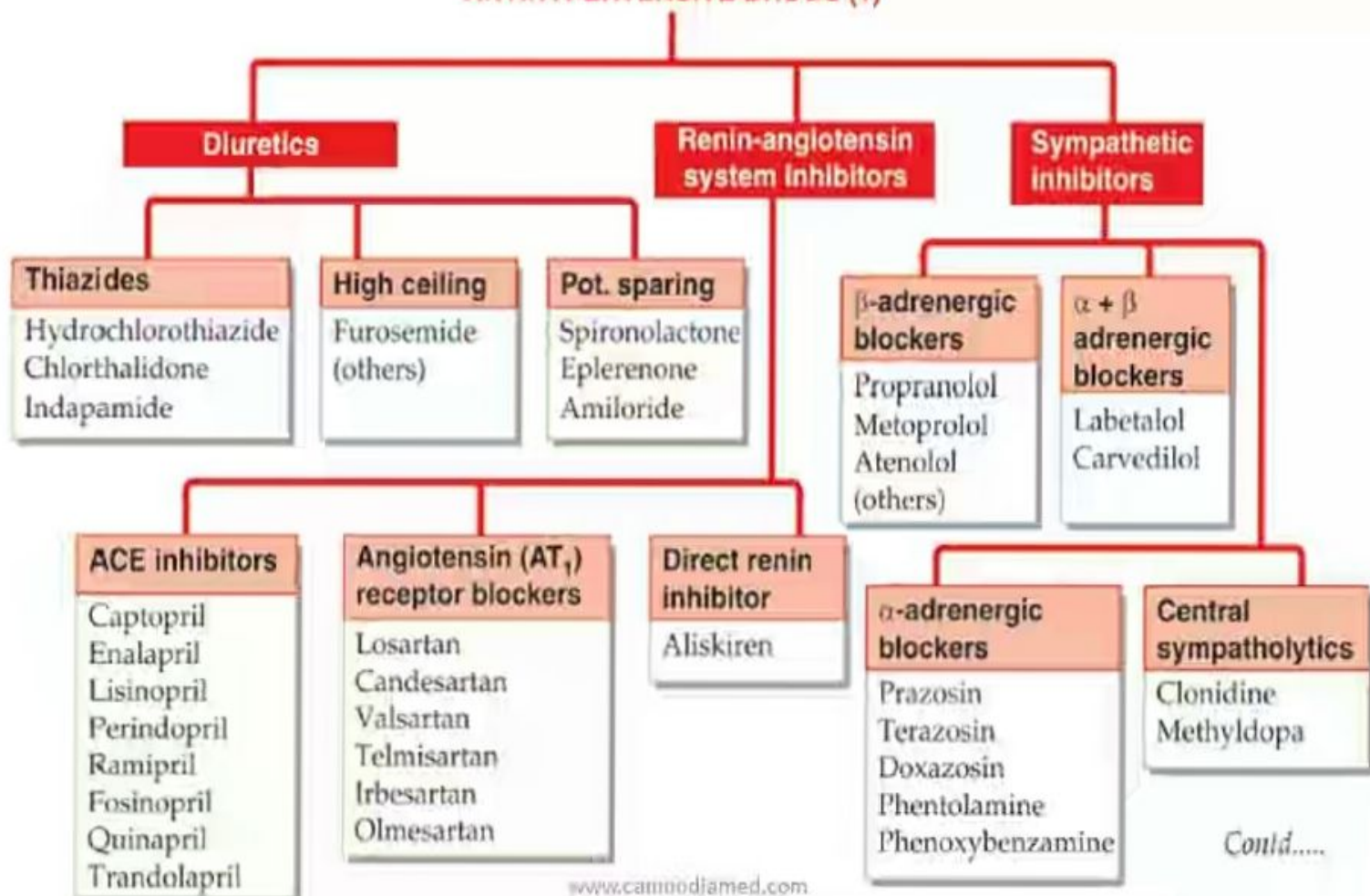


COGNITION ENHANCERS (Cerebroactive drugs)

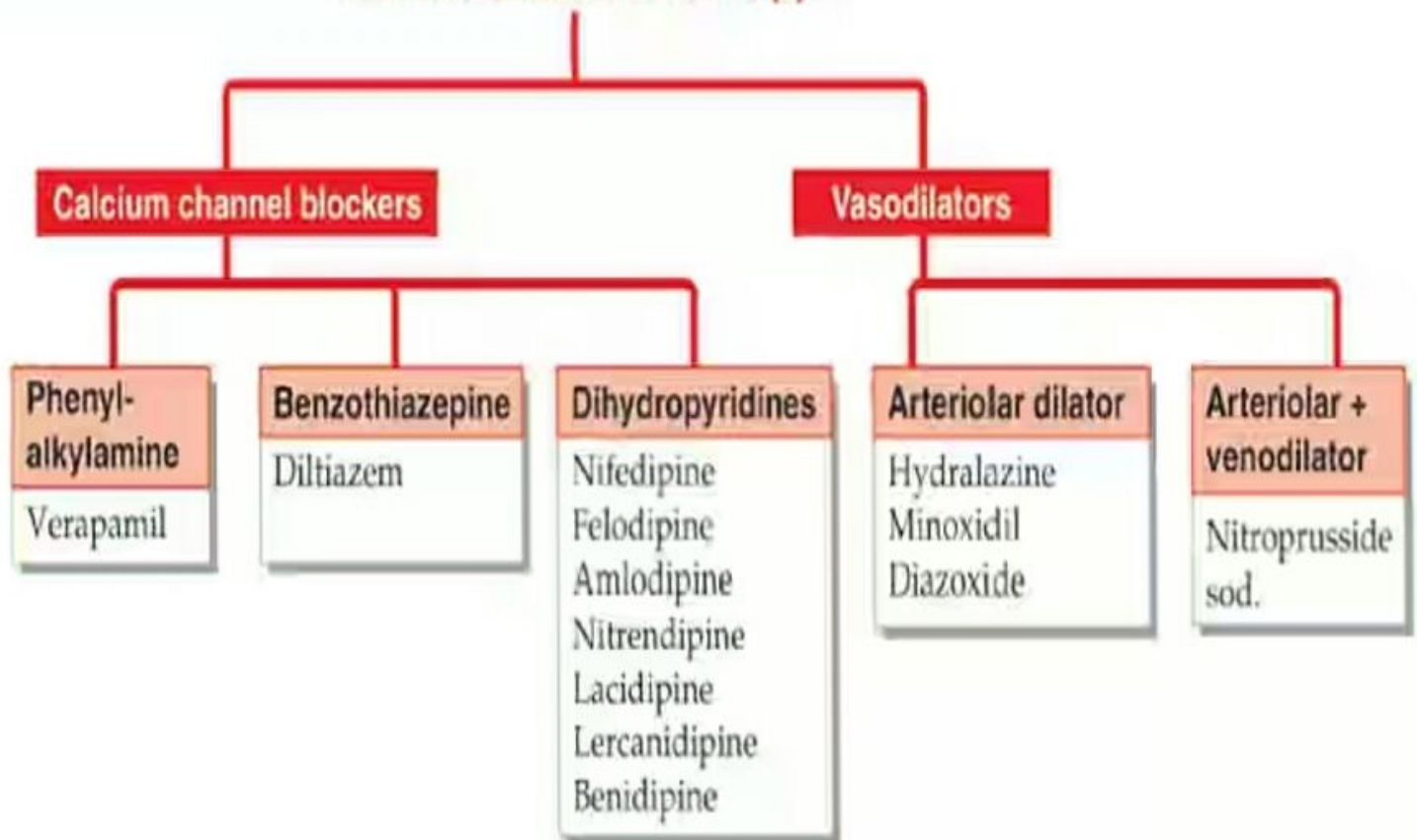


Cardiovascular Drugs

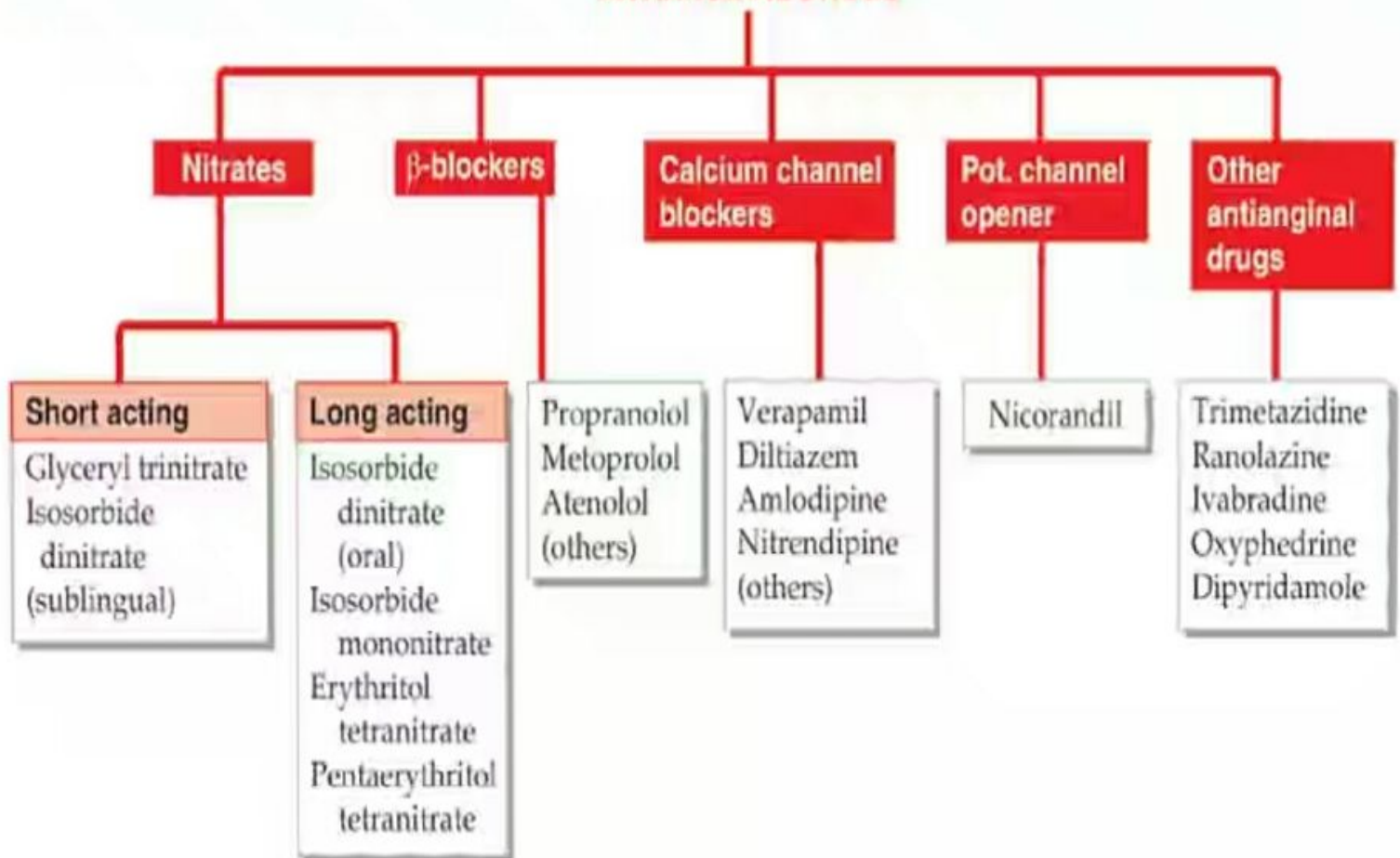
ANTIHYPERTENSIVE DRUGS (1)



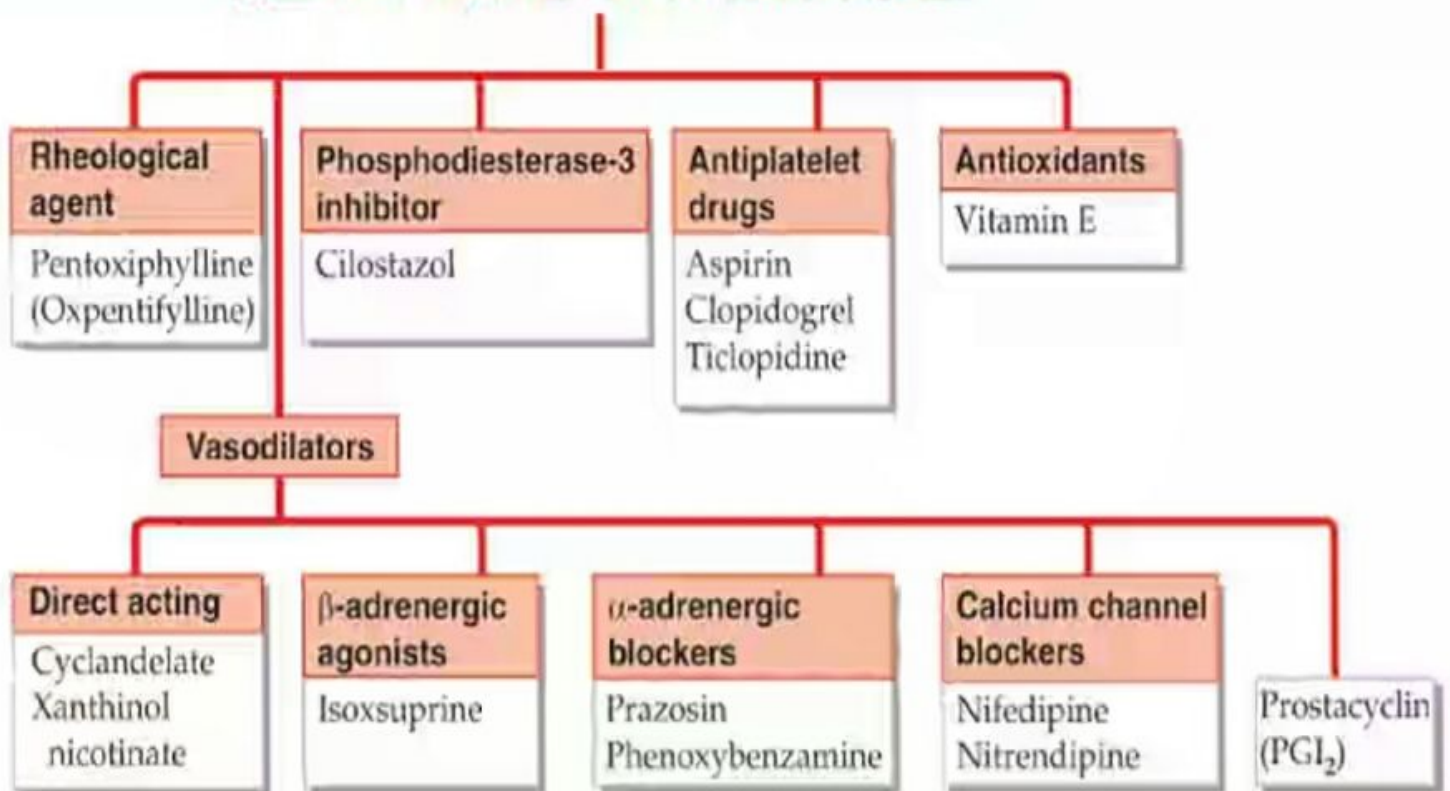
ANTIHYPERTENSIVE DRUGS (2)



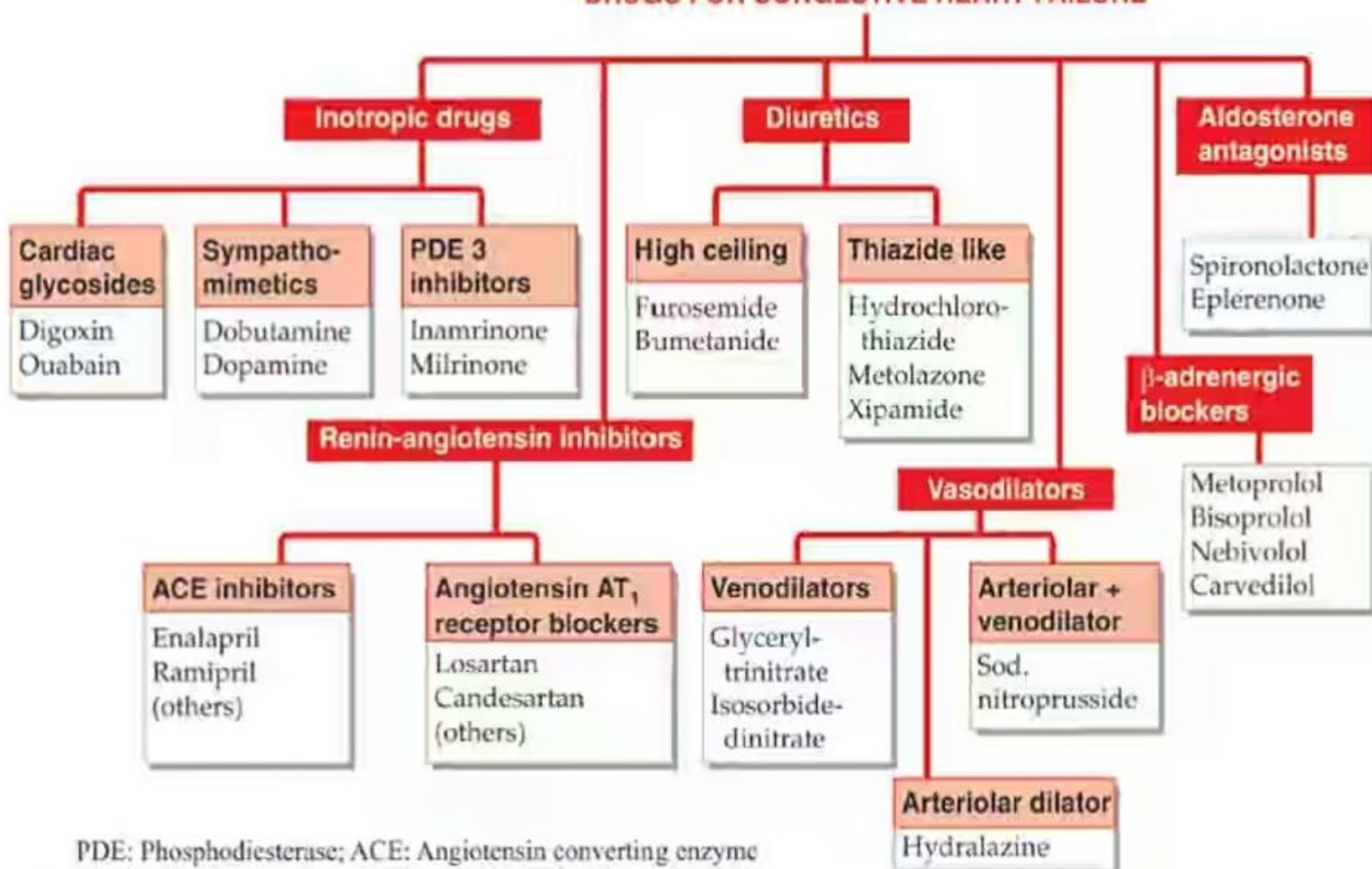
ANTIANGINAL DRUGS



DRUGS FOR PERIPHERAL VASCULAR DISEASES

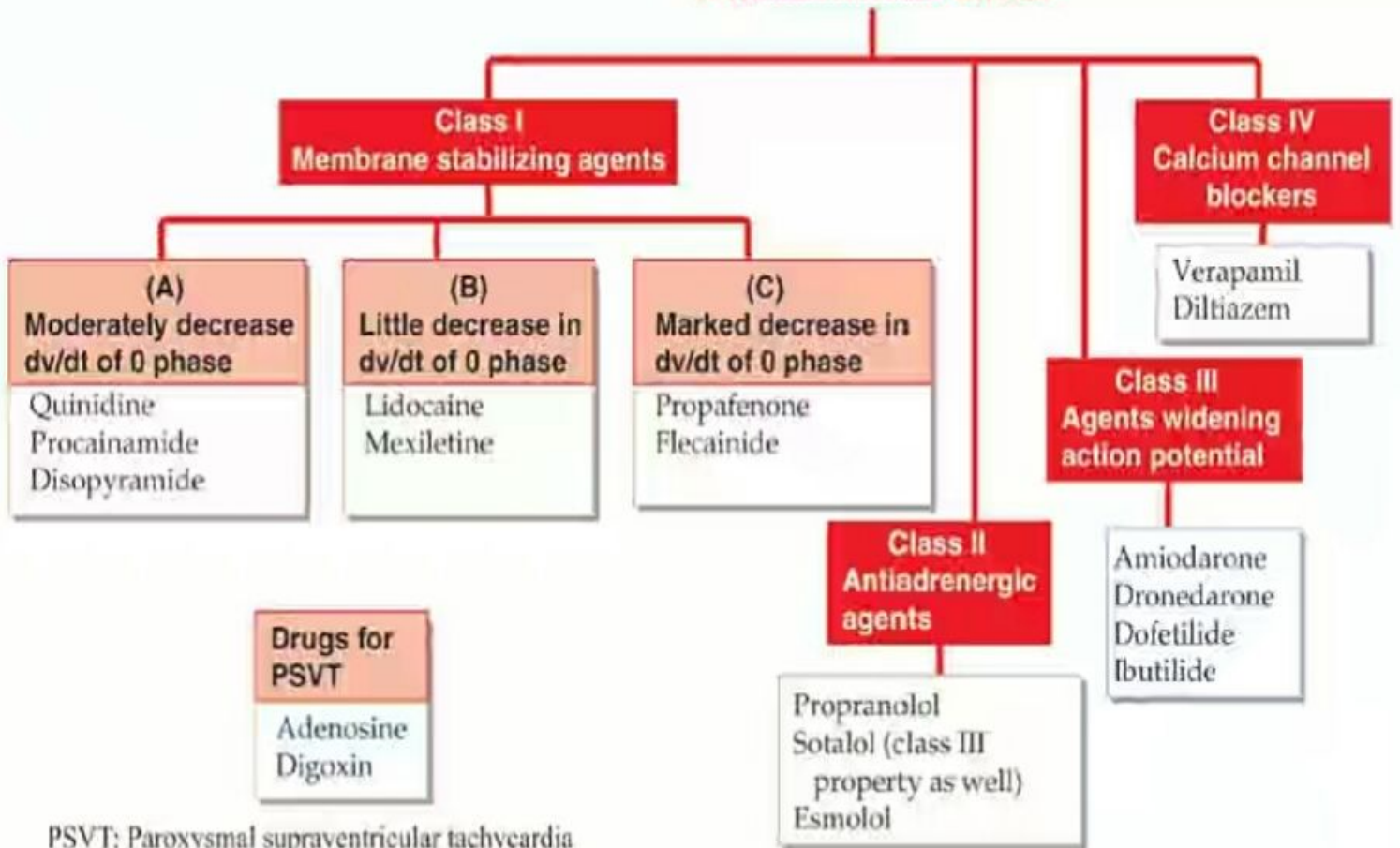


DRUGS FOR CONGESTIVE HEART FAILURE



PDE: Phosphodiesterase; ACE: Angiotensin converting enzyme

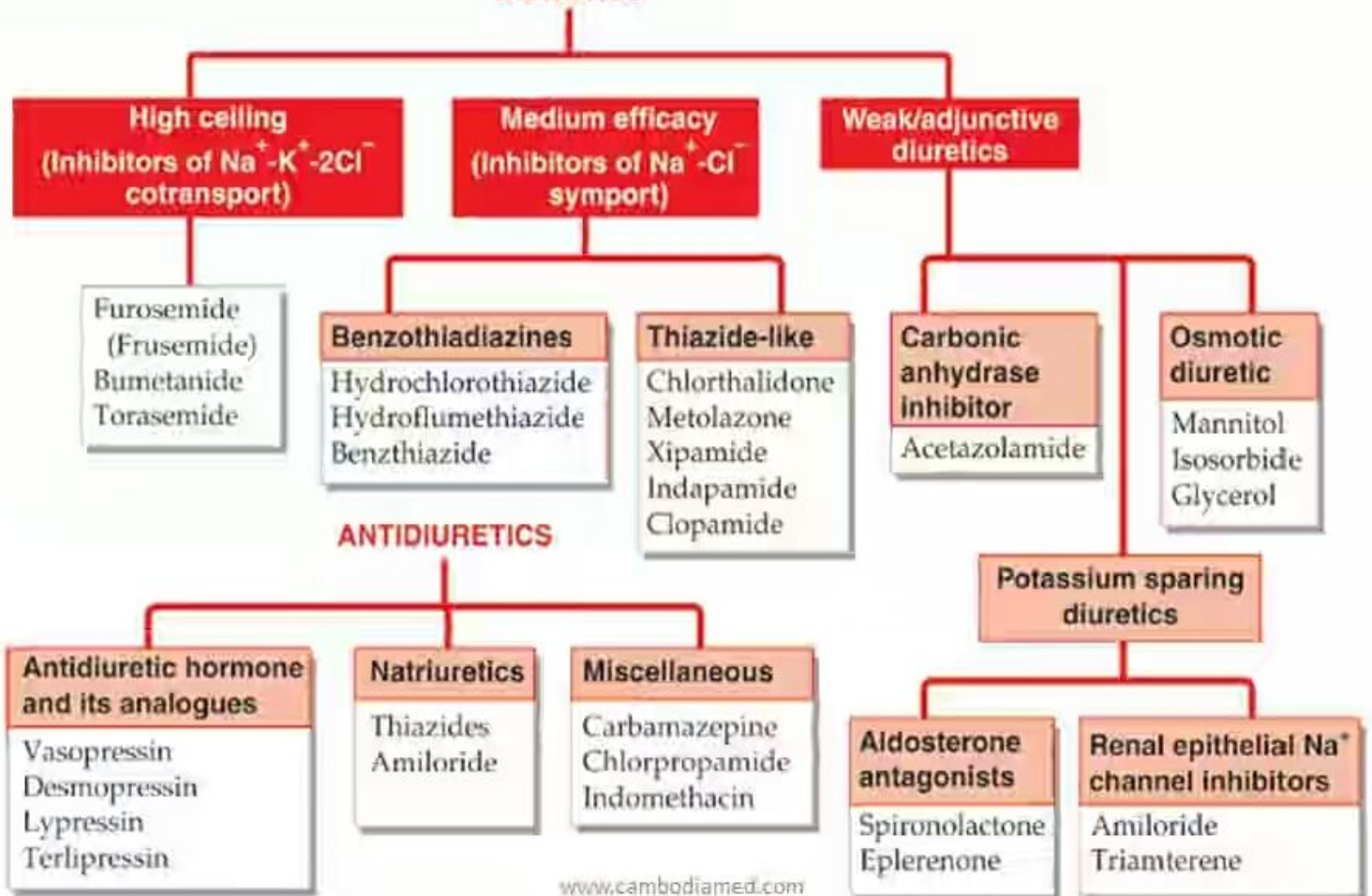
ANTIARRHYTHMIC DRUGS



PSVT: Paroxysmal supraventricular tachycardia

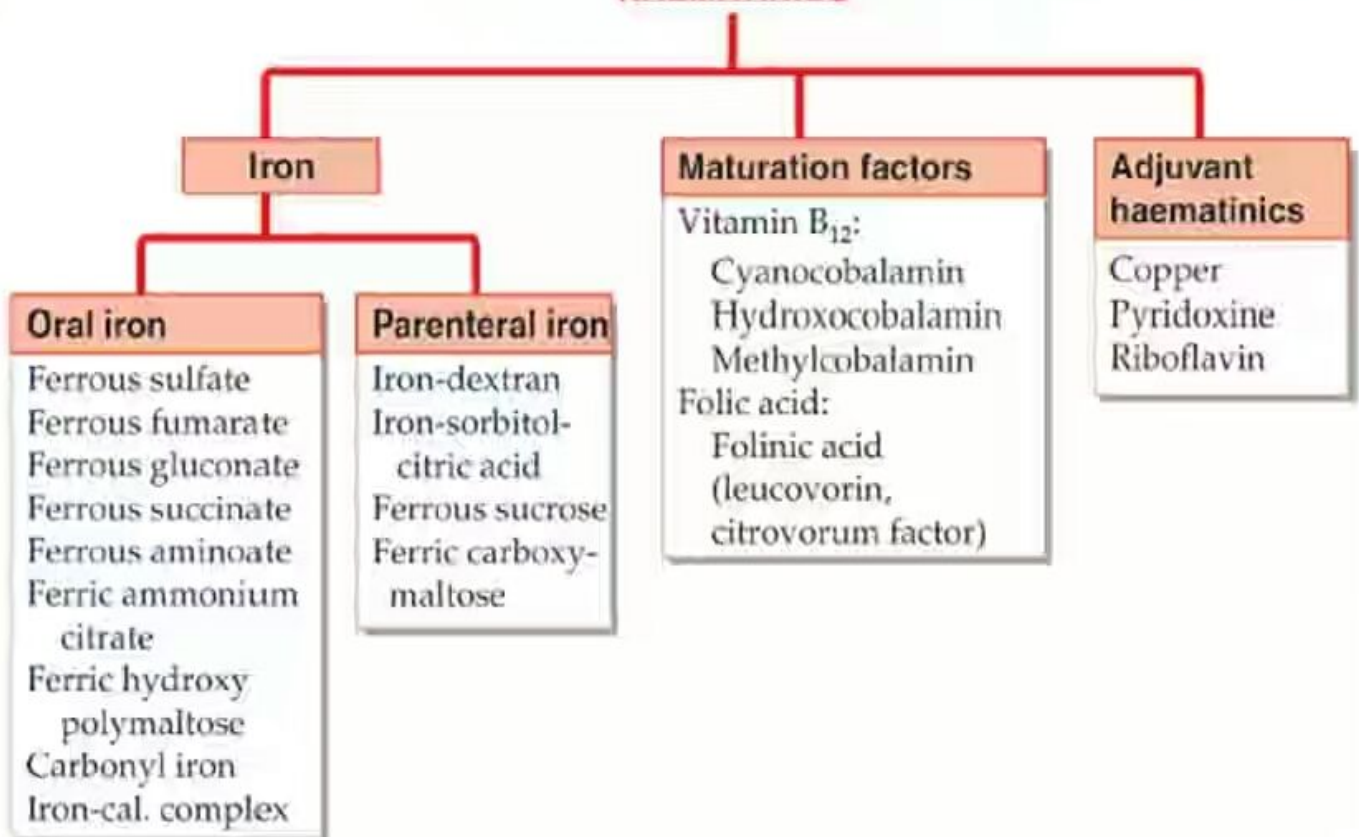
Drugs Acting on Kidney

DIURETICS

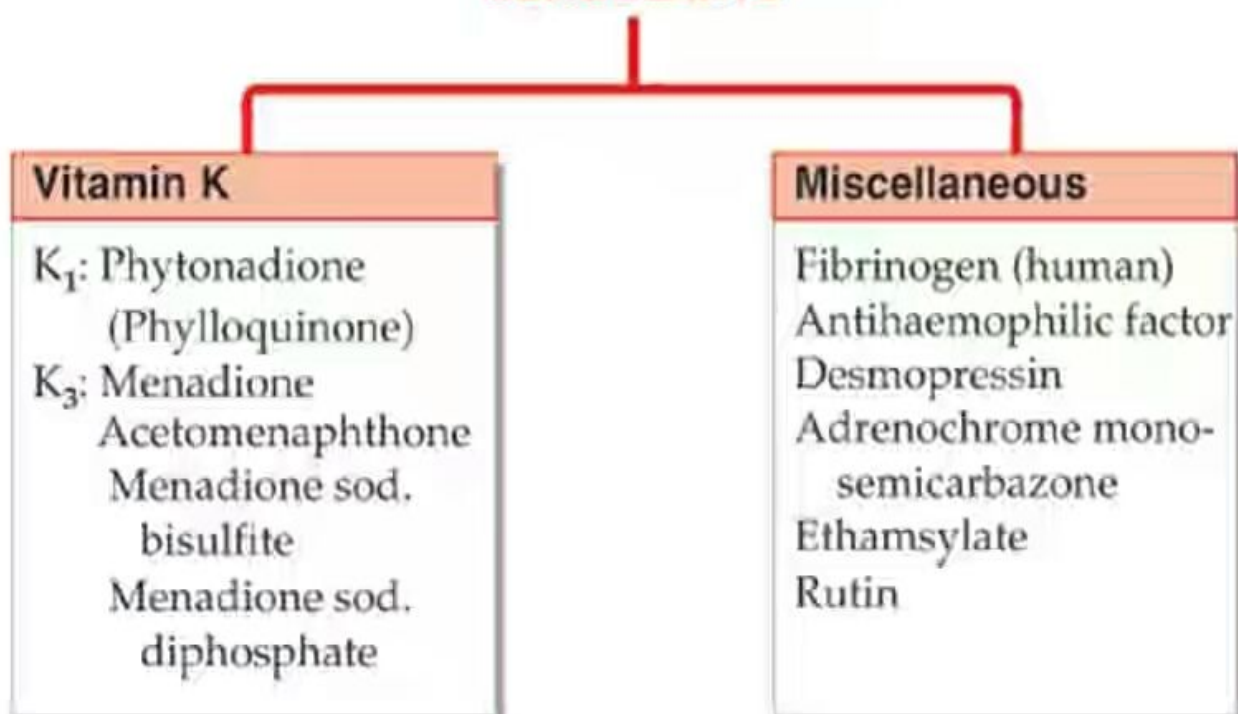


Drugs Affecting Blood

HAEMATINICS



COAGULANTS



ANTICOAGULANTS

Parenteral anticoagulants

Oral anticoagulants

Indirect thrombin inhibitors

Heparin (unfractionated)
Low molecular weight heparins
(Enoxaparin, Reviparin, Nadroparin, Dalteparin, Parnaparin, Ardeparin)
Fondaparinux
Danaparoid

Direct thrombin inhibitors

Lepirudin
Bivalirudin
Argatroban

Coumarin derivatives

Bishydroxycoumarin (dicumarol)
Warfarin sod.
Acenocoumarol (Nicoumalone)
Ethyl-biscoum-acetate

Direct factor Xa inhibitor

Rivaroxaban

Oral direct thrombin inhibitor

Dabigatran-etexilate

In vitro anticoagulants

Heparin
Sod. edetate
Sod. citrate
Sod. oxalate

Fibrinolytics (Thrombolytics)
Streptokinase Urokinase Alteplase (rt-PA) Reteplase Tenecteplase

Antifibrinolytics (Antithrombolytics)
Epsilon amino-caproic acid (EACA) Tranexamic acid

**ANTIPLATELET DRUGS
(Antithrombotic drugs)**

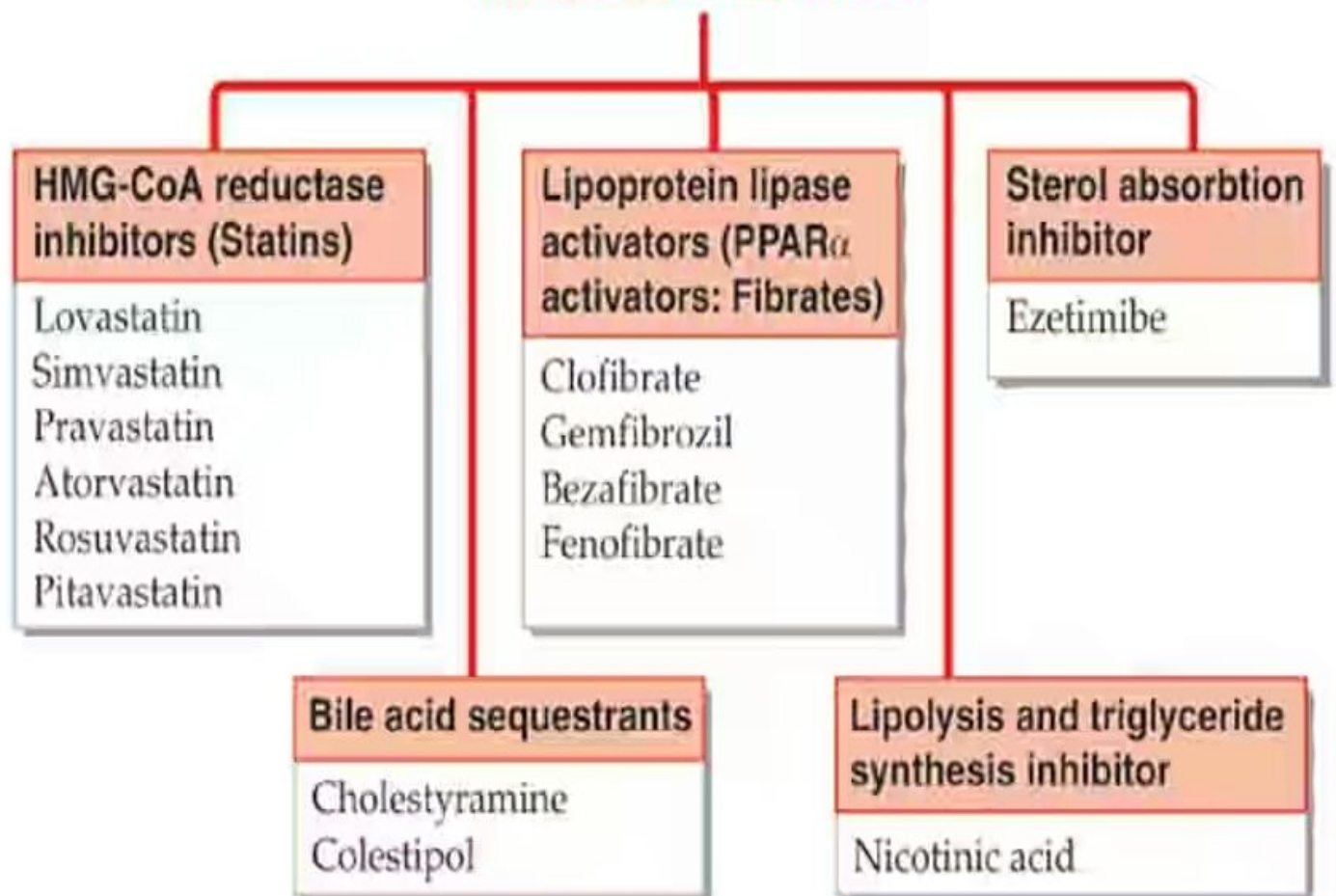
Thromboxane synthesis inhibitor
Aspirin

Platelet cAMP enhancer
Dipyridamole

P2Y₁₂ receptor blockers
Ticlopidine Clopidogrel Prasugrel

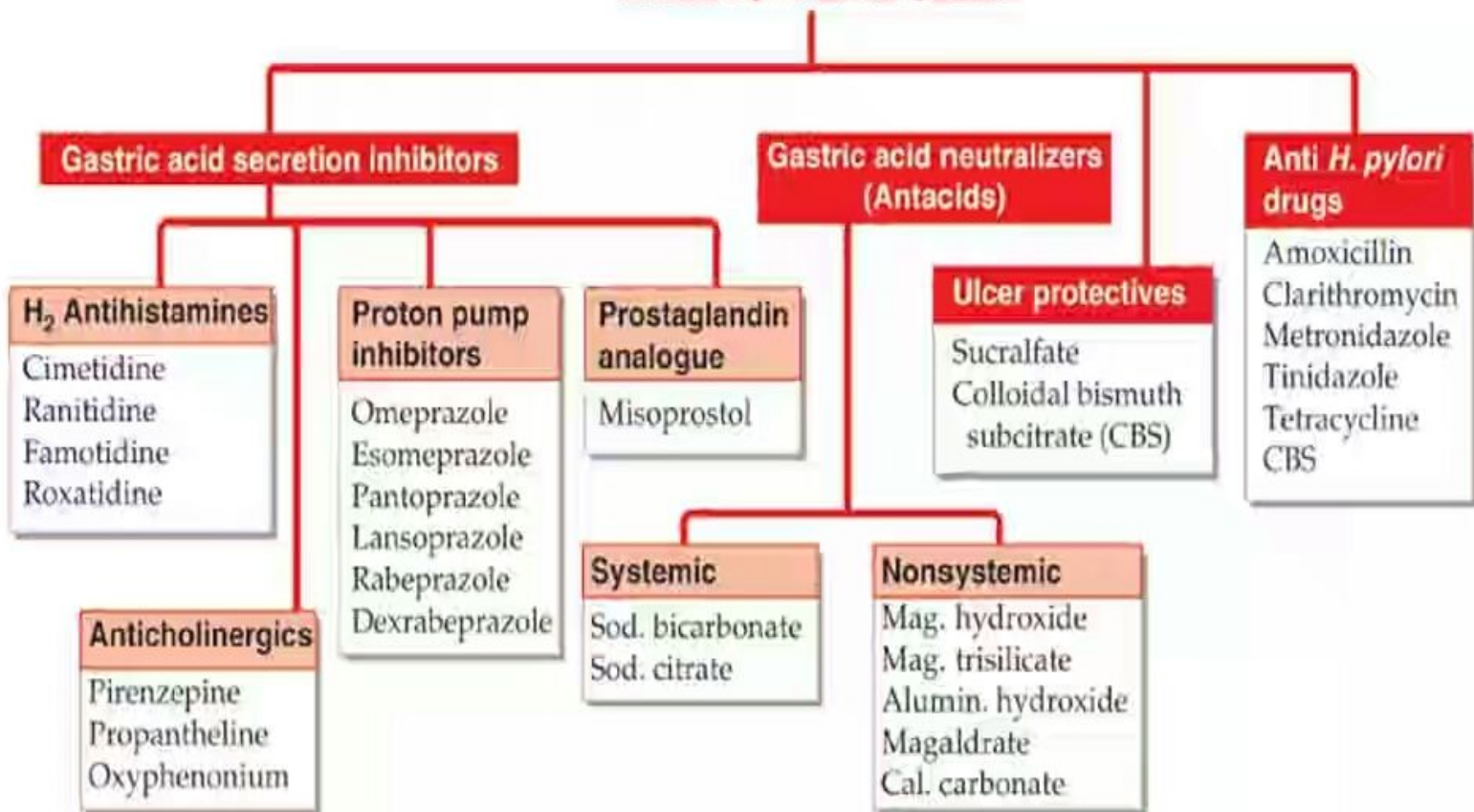
GP II_b/III_a antagonists
Abciximab Eptifibatide Tirofiban

HYPOLIPIDAEMIC DRUGS



Gastrointestinal Drugs

DRUGS FOR PEPTIC ULCER



ANTIEMETICS

Anticholinergics

Hyoscine
Dicyclomine

Neuroleptics (D2 blockers)

Chlorpromazine
Triflupromazine
Prochlorperazine
(others)

Prokinetic drugs

Metoclopramide
Domperidone
Cisapride,
Mosapride
Itopride

NK₁ receptor antagonists

Aprepitant
Fosaprepitant

H₁ antihistaminics

Promethazine
Diphenhydramine
Dimenhydrinate
Doxylamine
Meclozine (Meclizine)

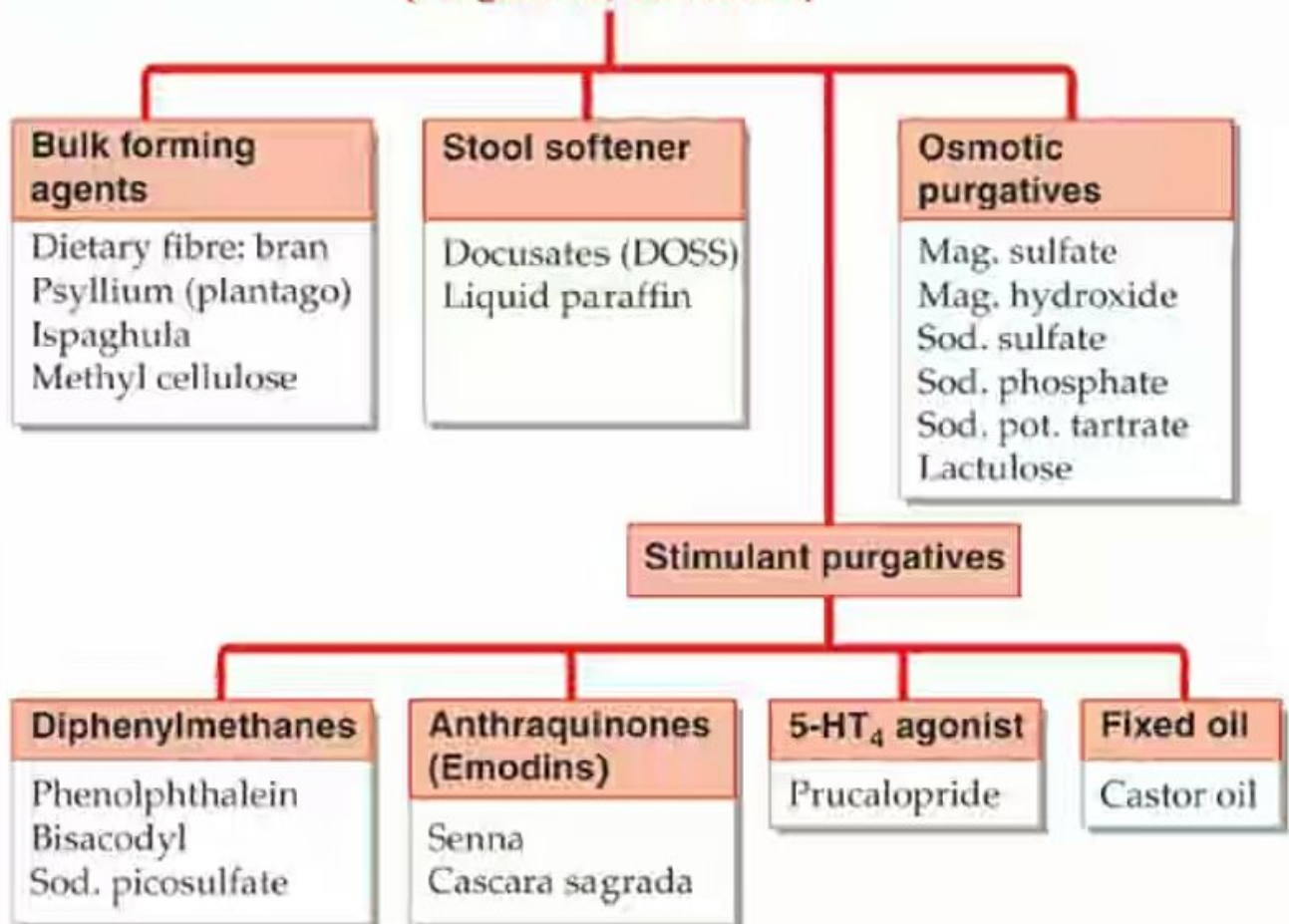
5-HT₃ antagonists

Ondansetron
Granisetron
Palonosetron
Ramosetron

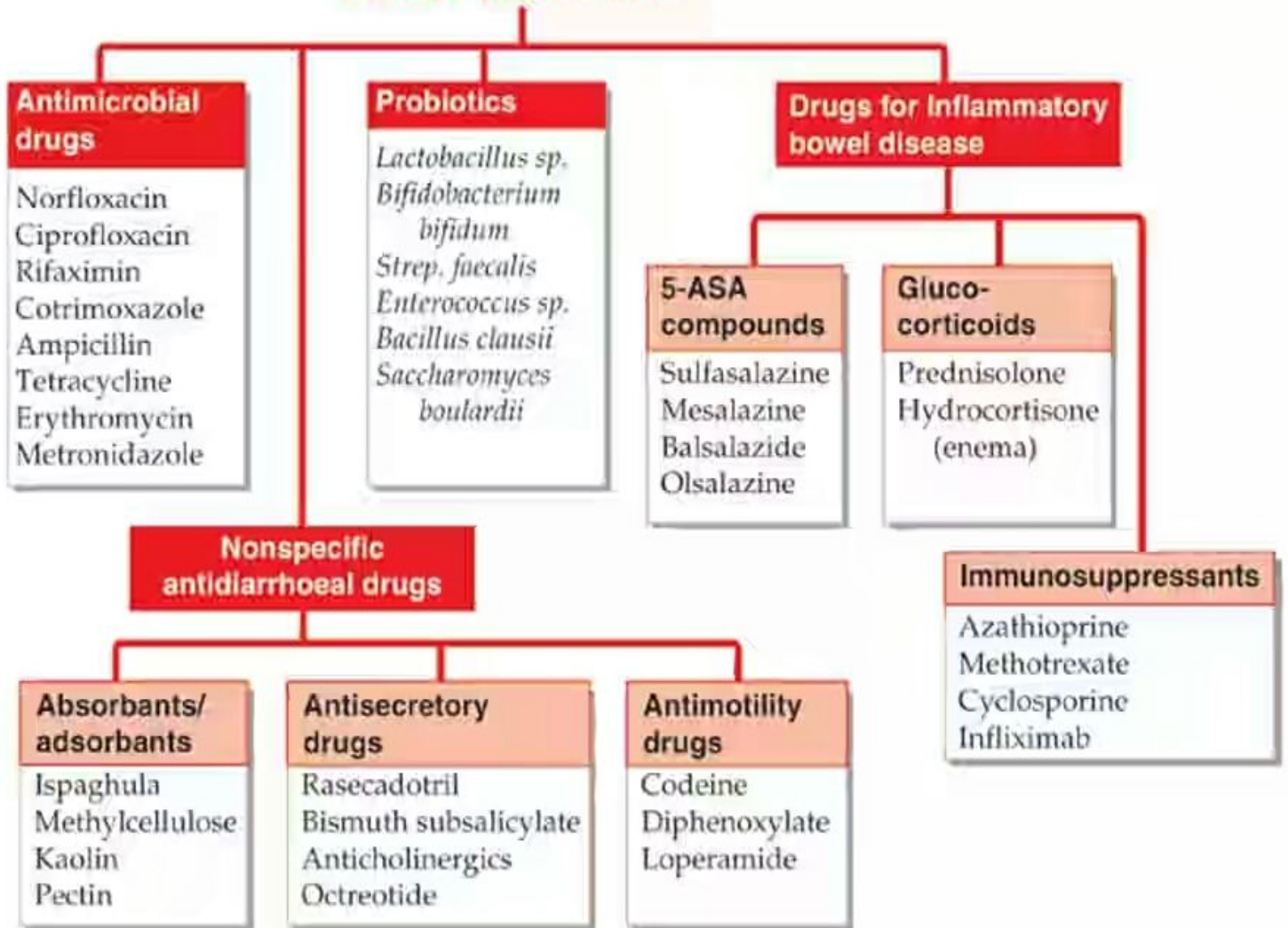
Adjuvant antiemetics

Dexamethasone
Benzodiazepines
Dronabinol
Nabilone

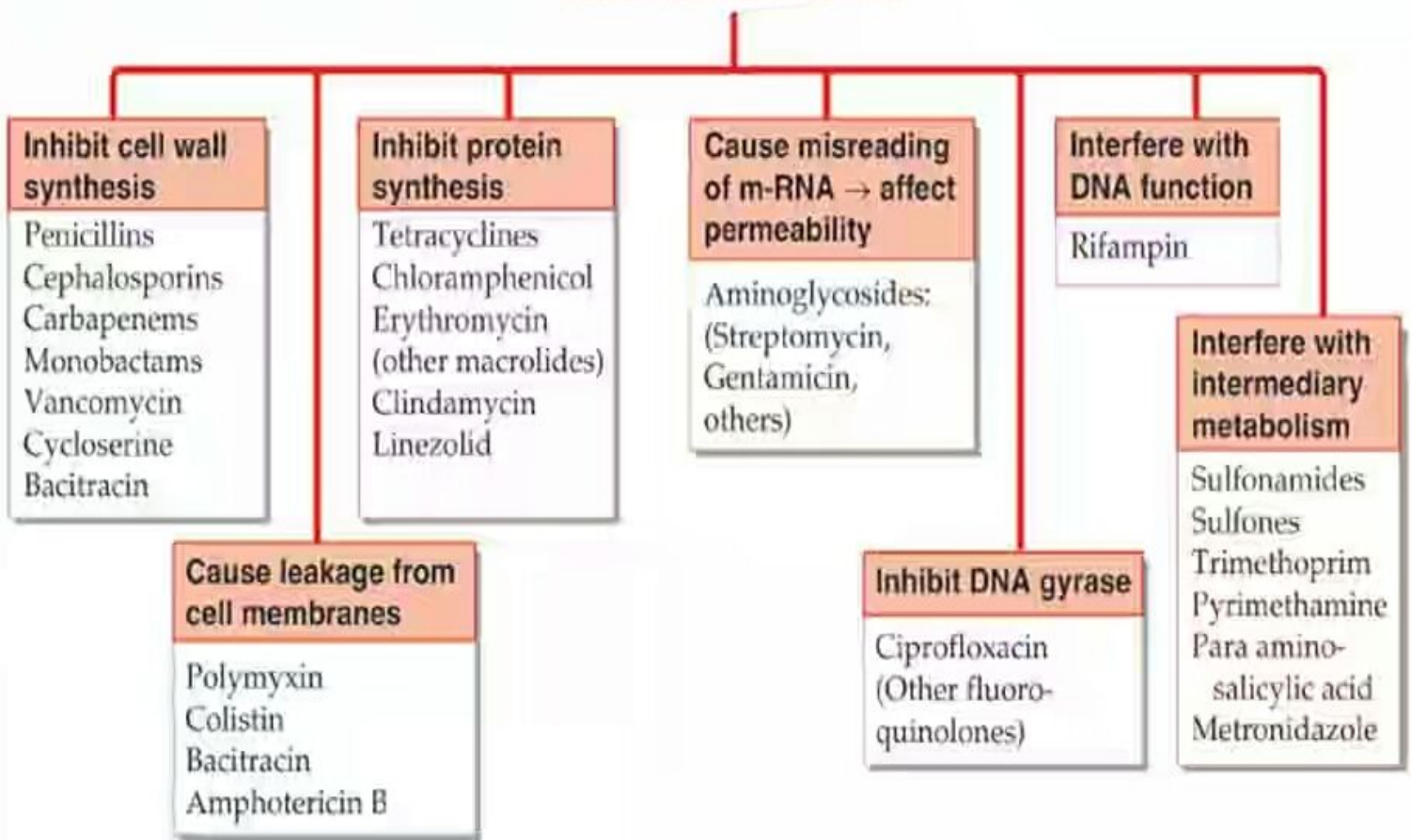
LAXATIVES
(Purgatives, Cathartics)



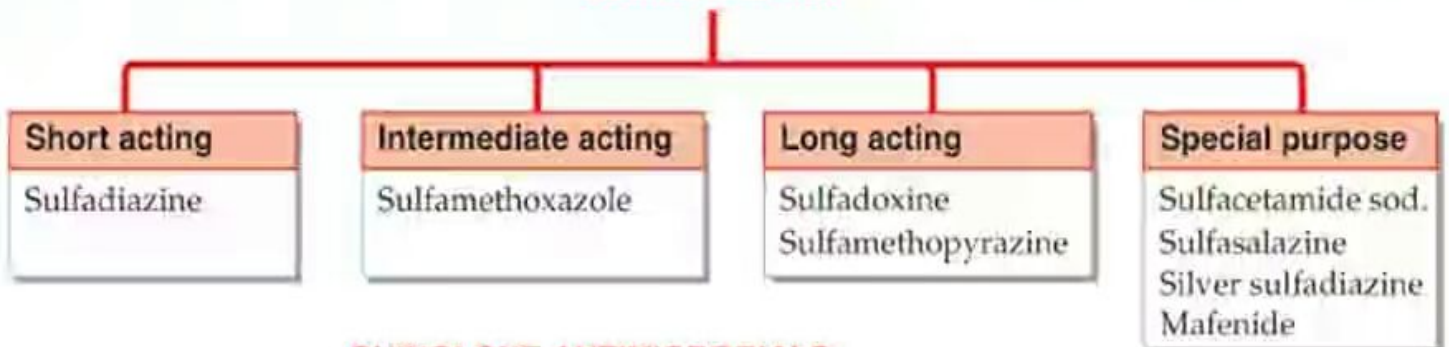
DRUGS FOR DIARRHOEA



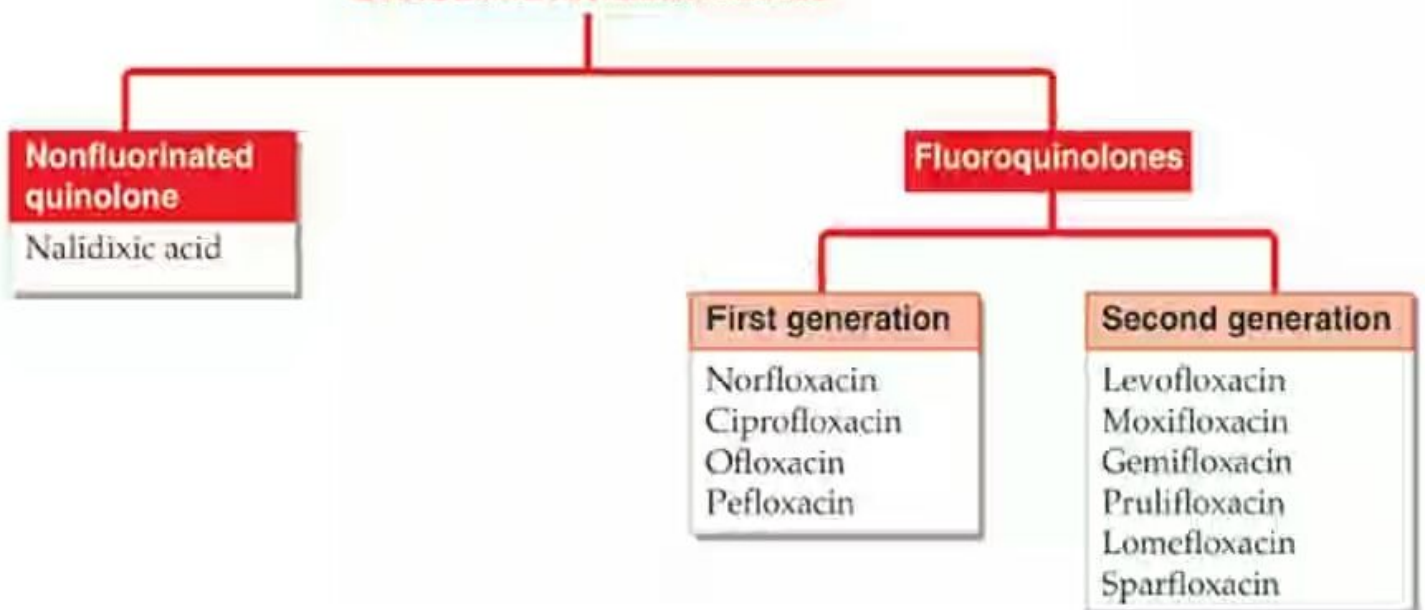
ANTIBACTERIAL DRUGS



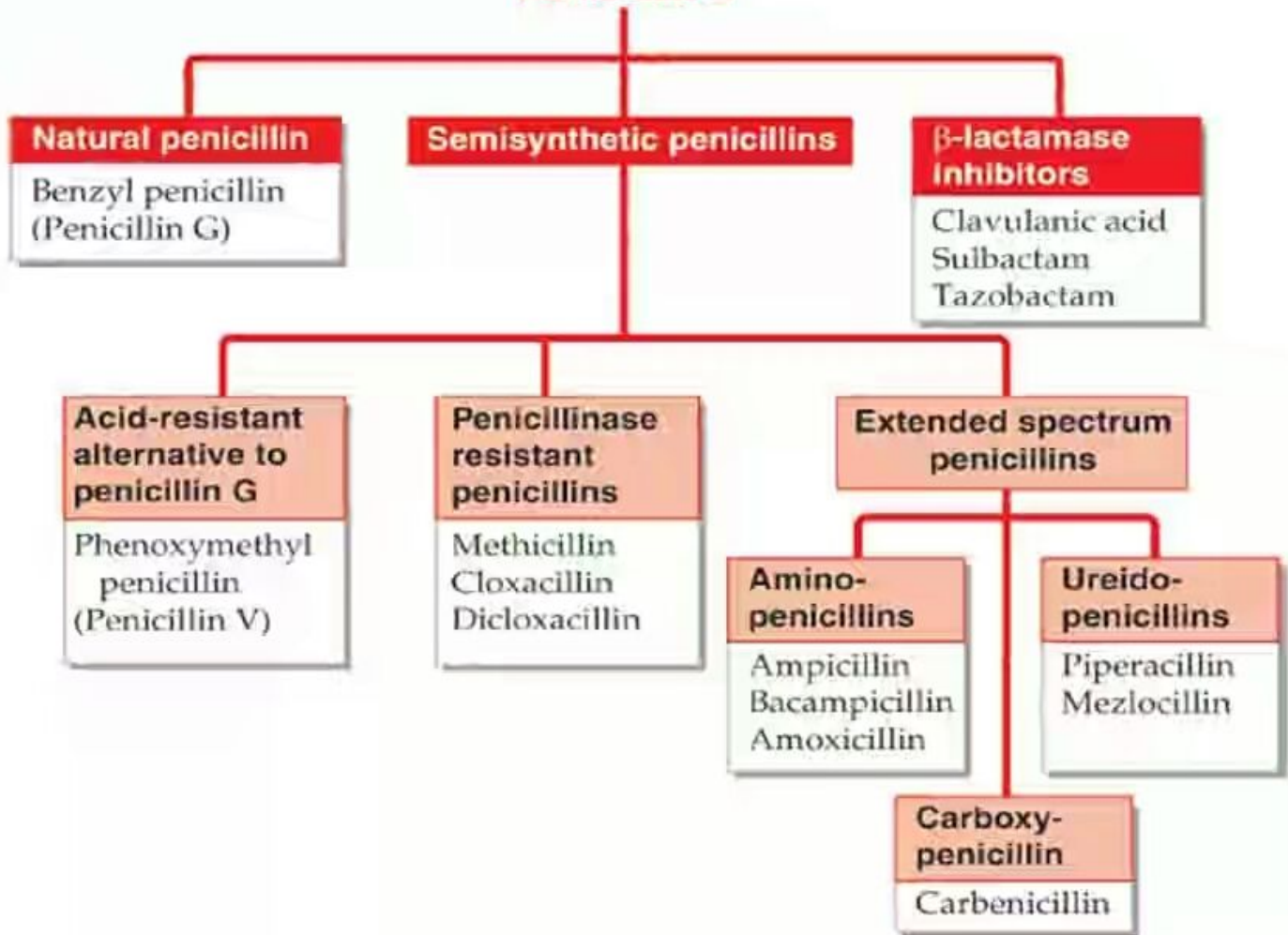
SULFONAMIDES



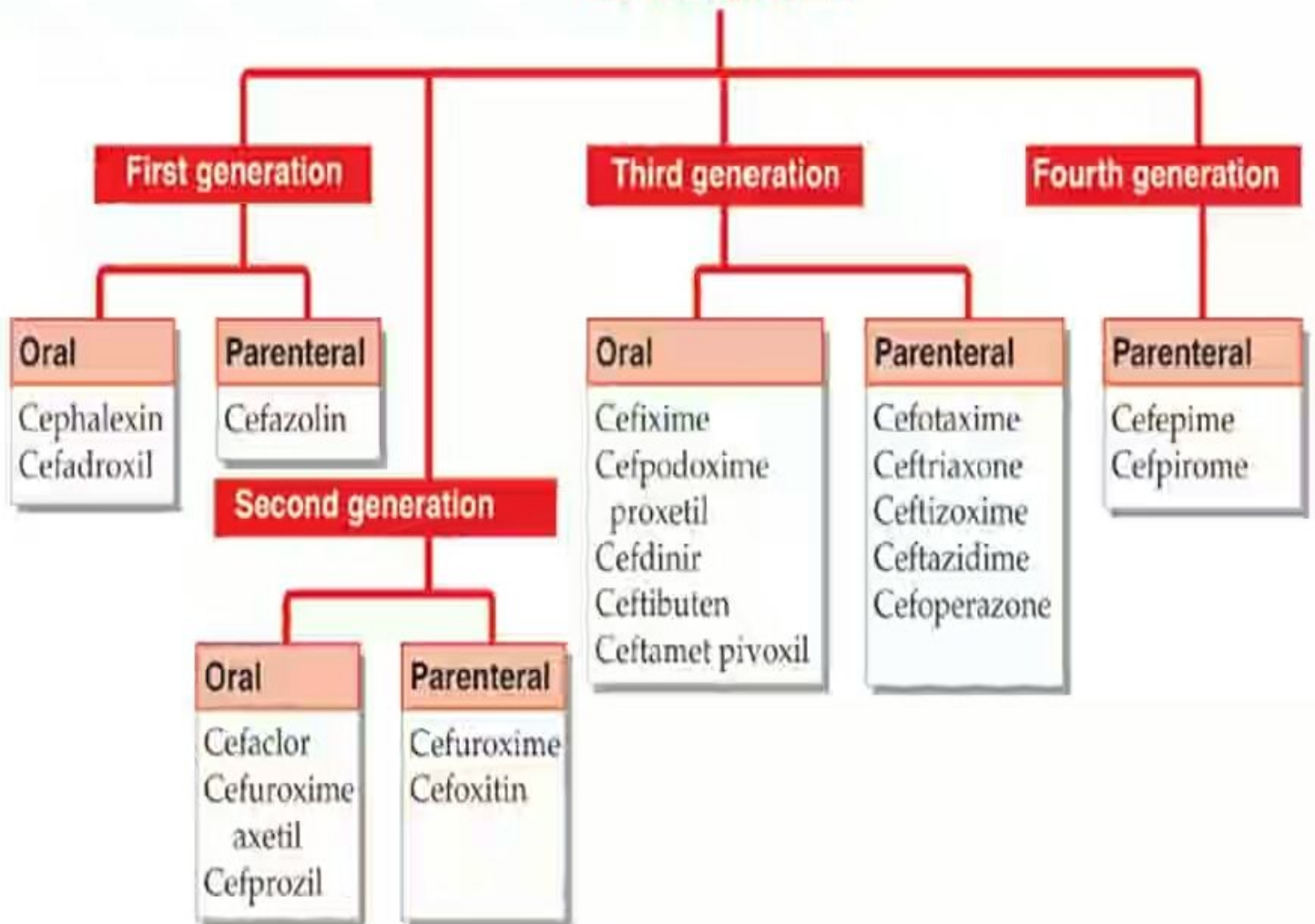
QUINOLONE ANTIMICROBIALS



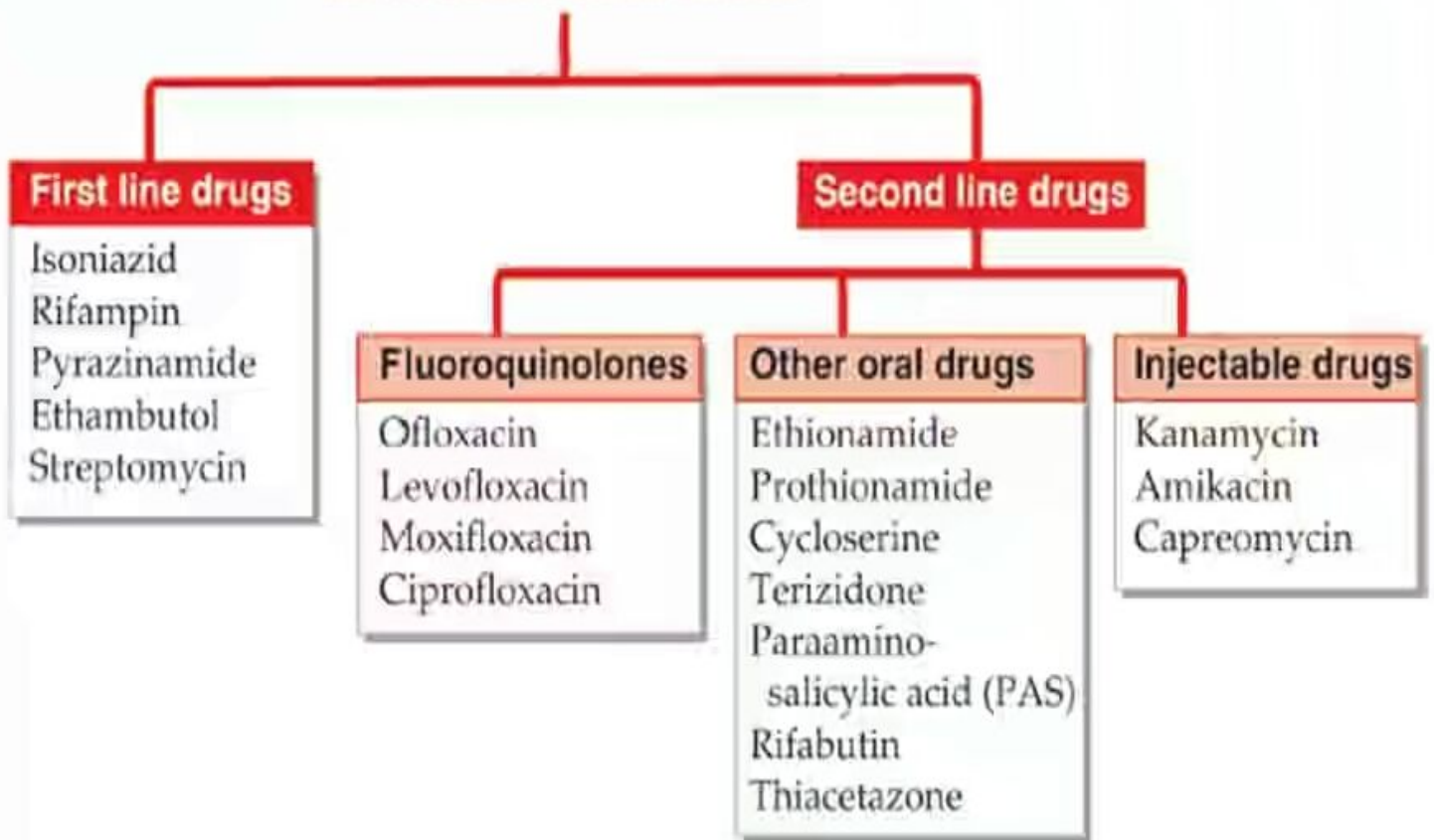
PENICILLINS



CEPHALOSPORINS

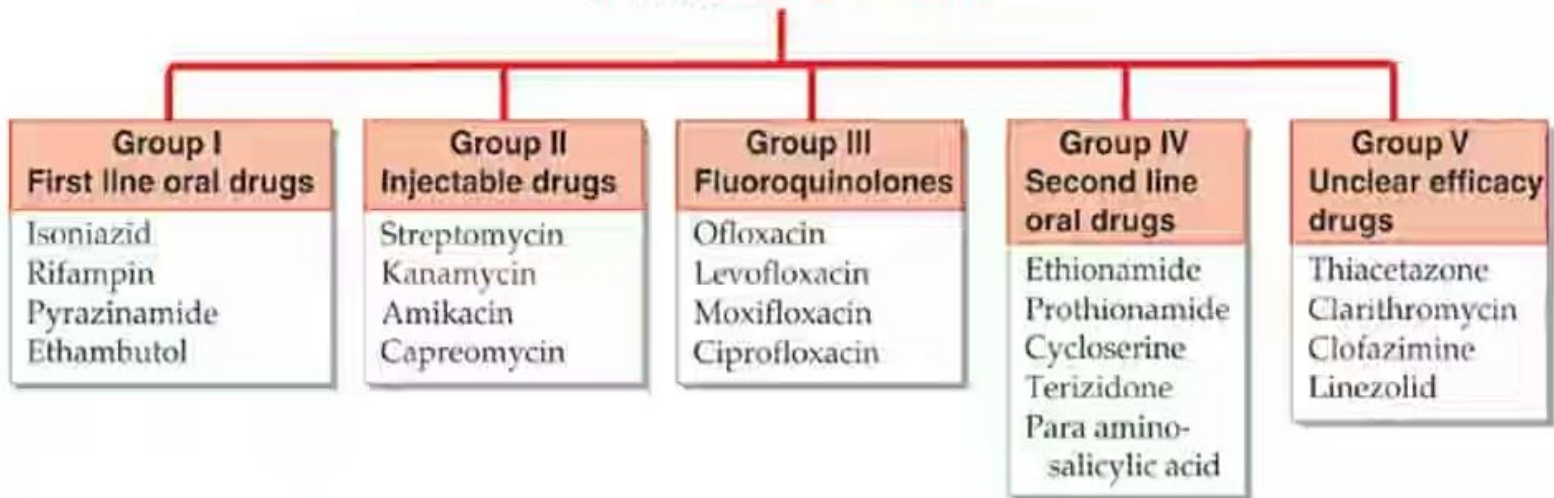


ANTITUBERCULAR DRUGS

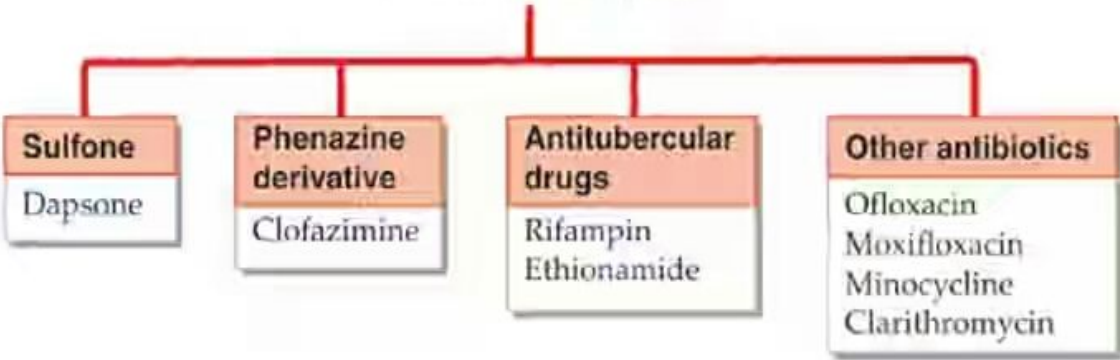


ALTERNATIVE CLASSIFICATION

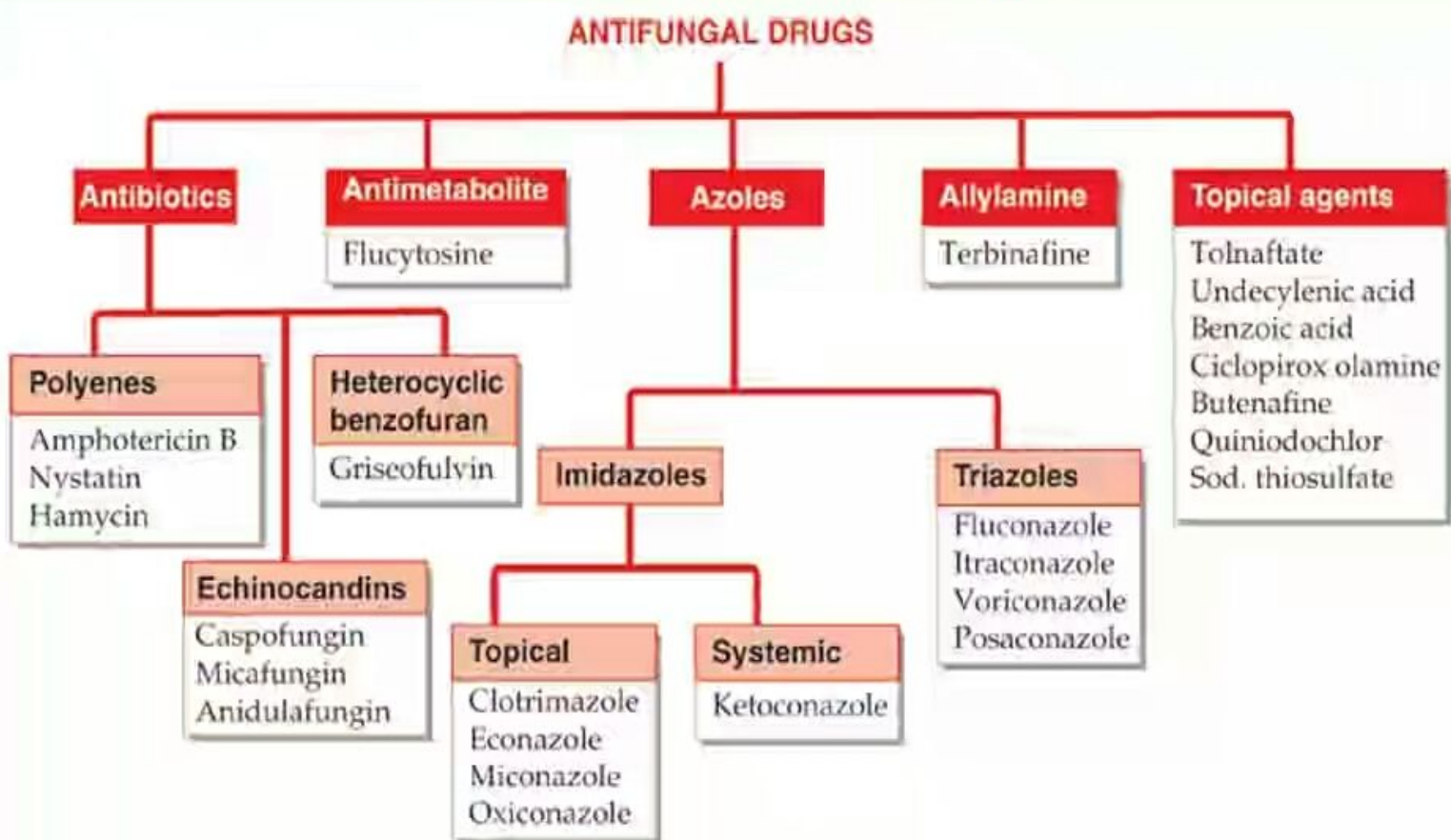
ANTITUBERCULAR DRUGS



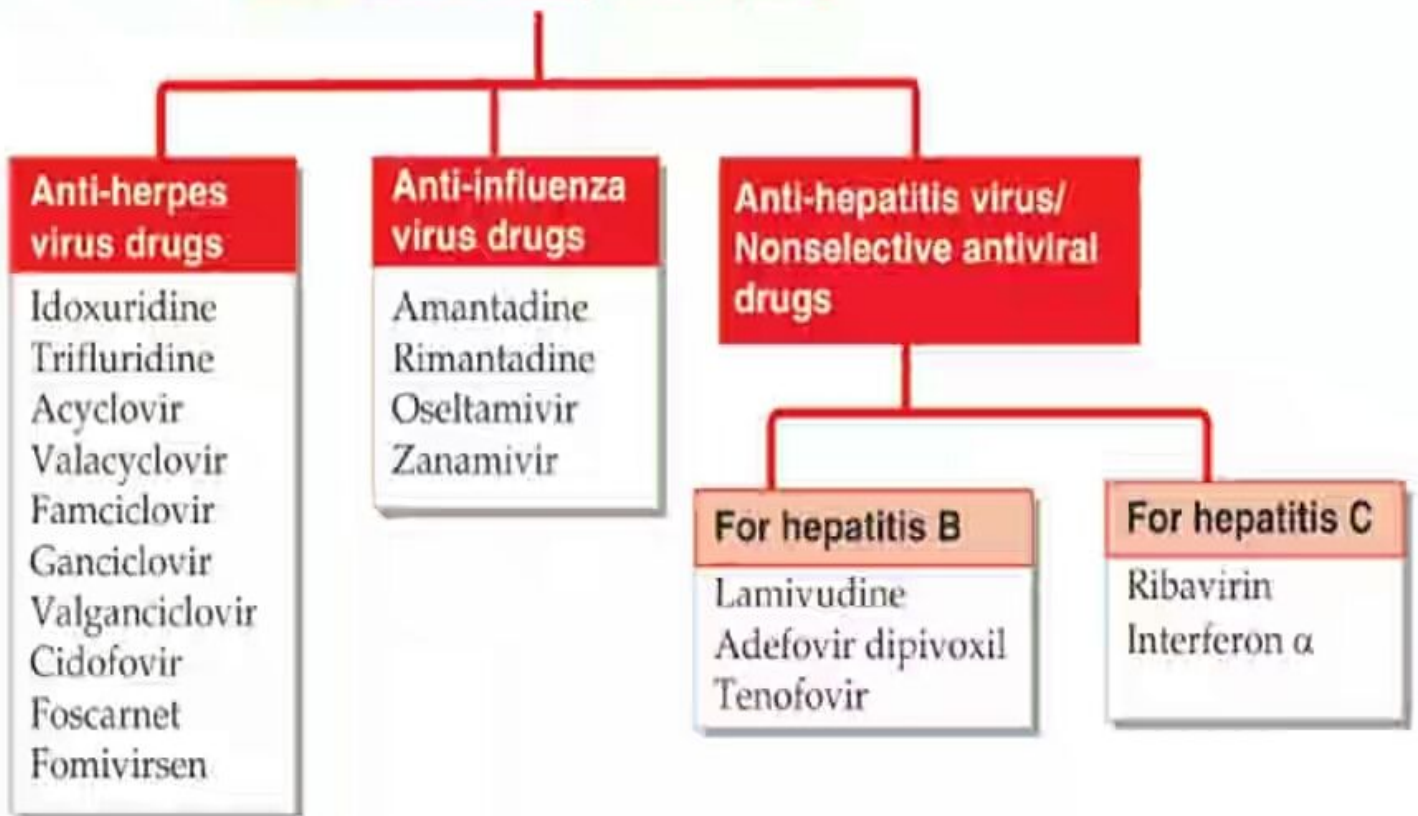
ANTILEPTIC DRUGS



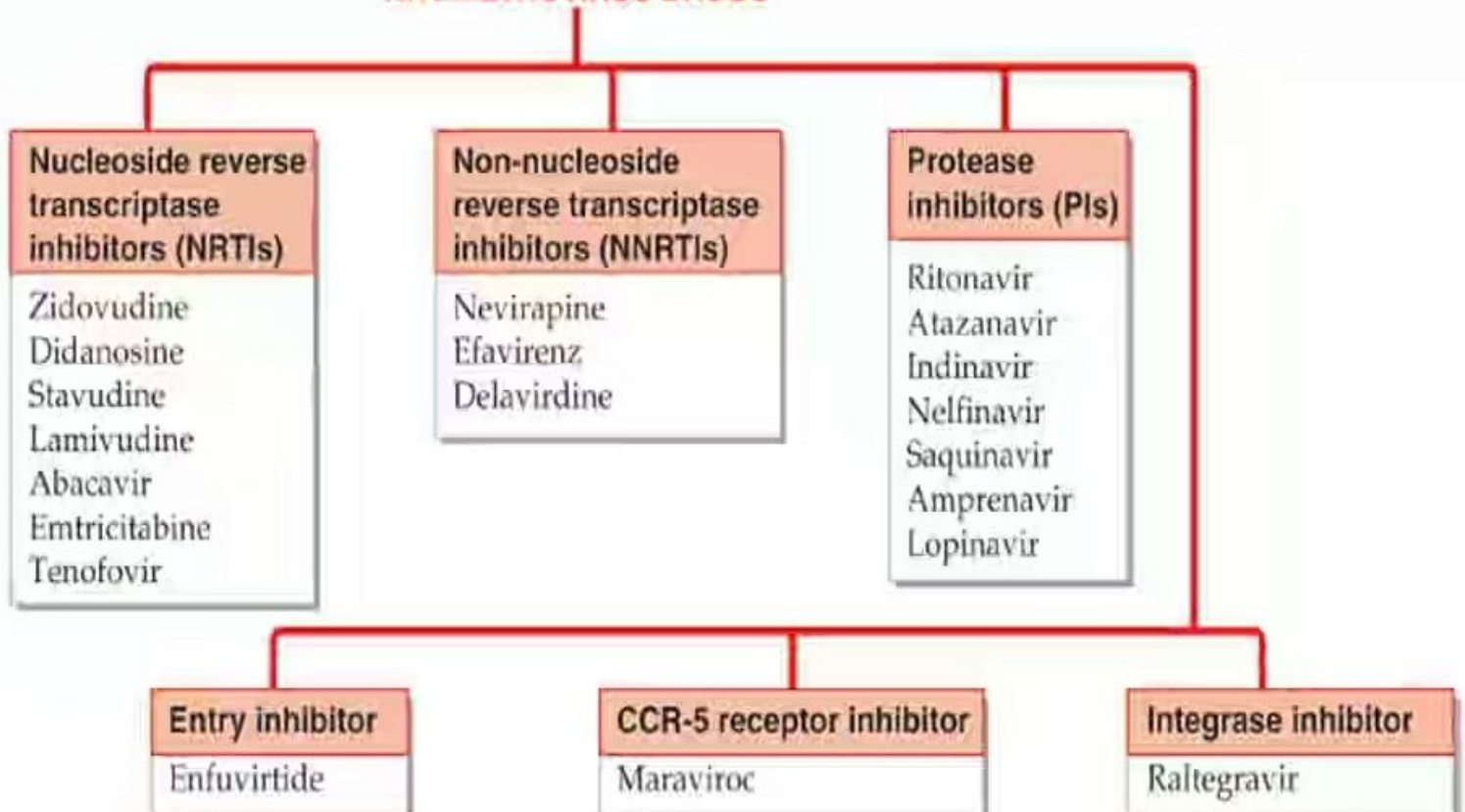
Antifungal, Antiviral, Antiprotozoal and Anthelmintic Drugs



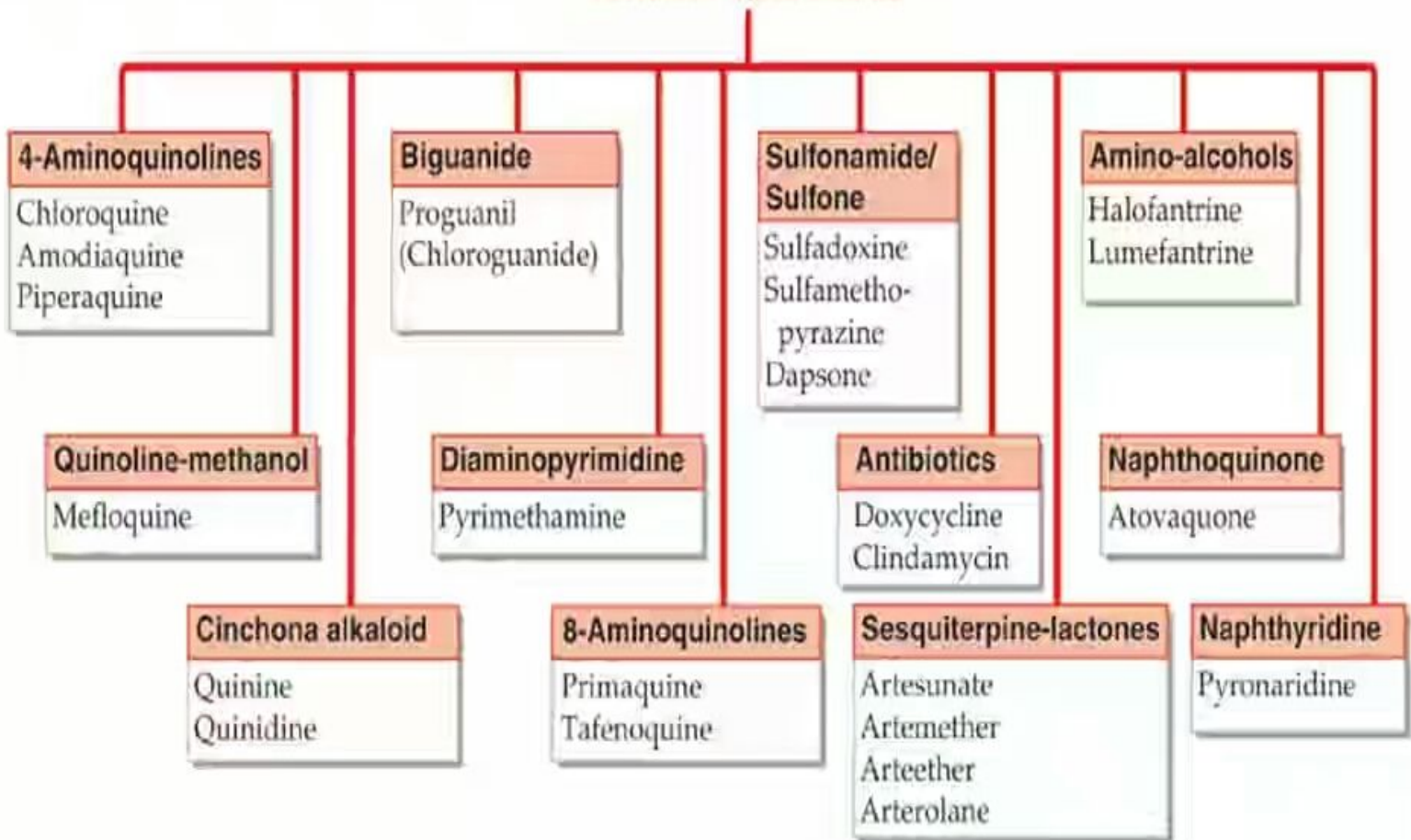
ANTIVIRAL DRUGS (Non-retroviral)



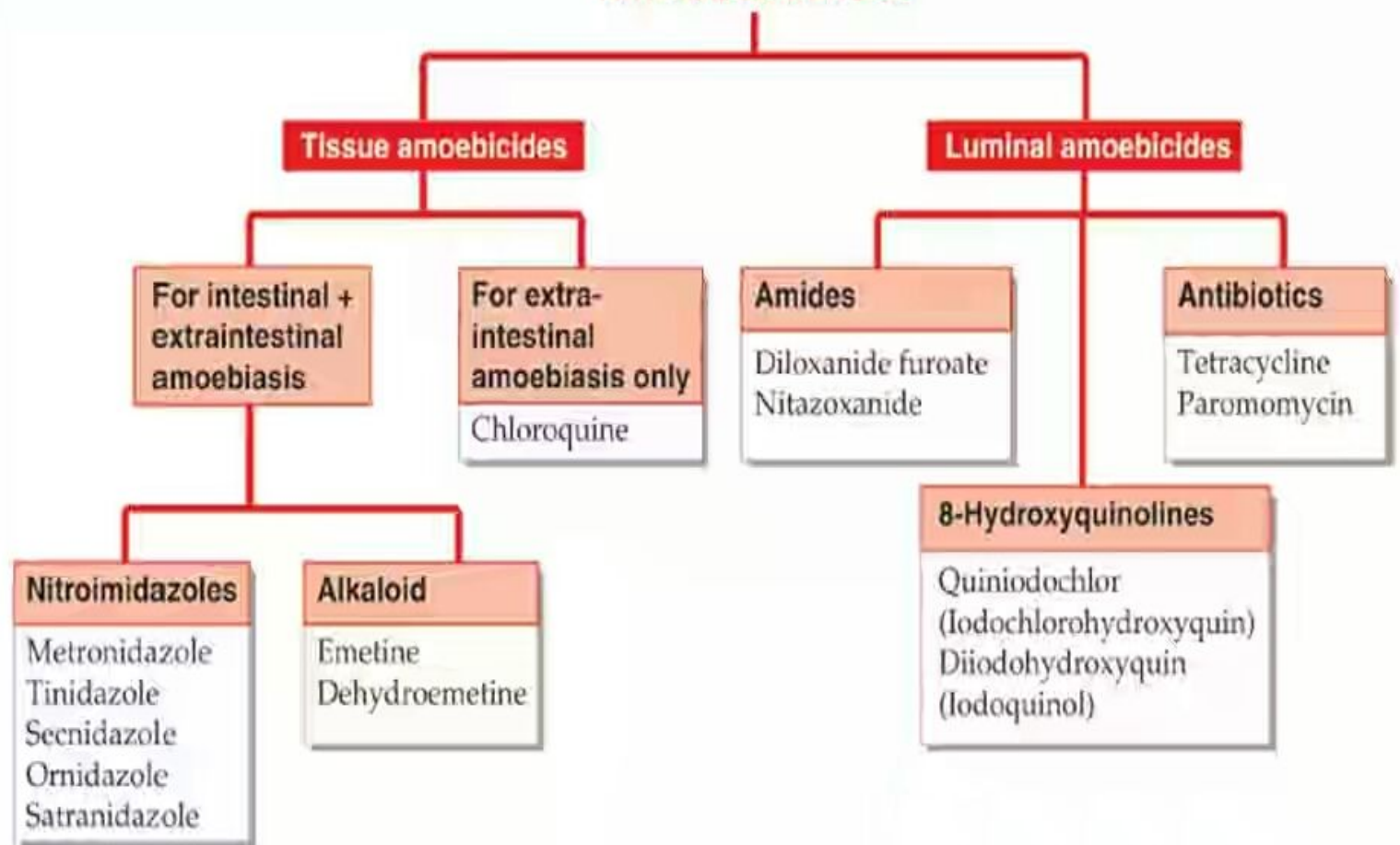
ANTIRETROVIRUS DRUGS



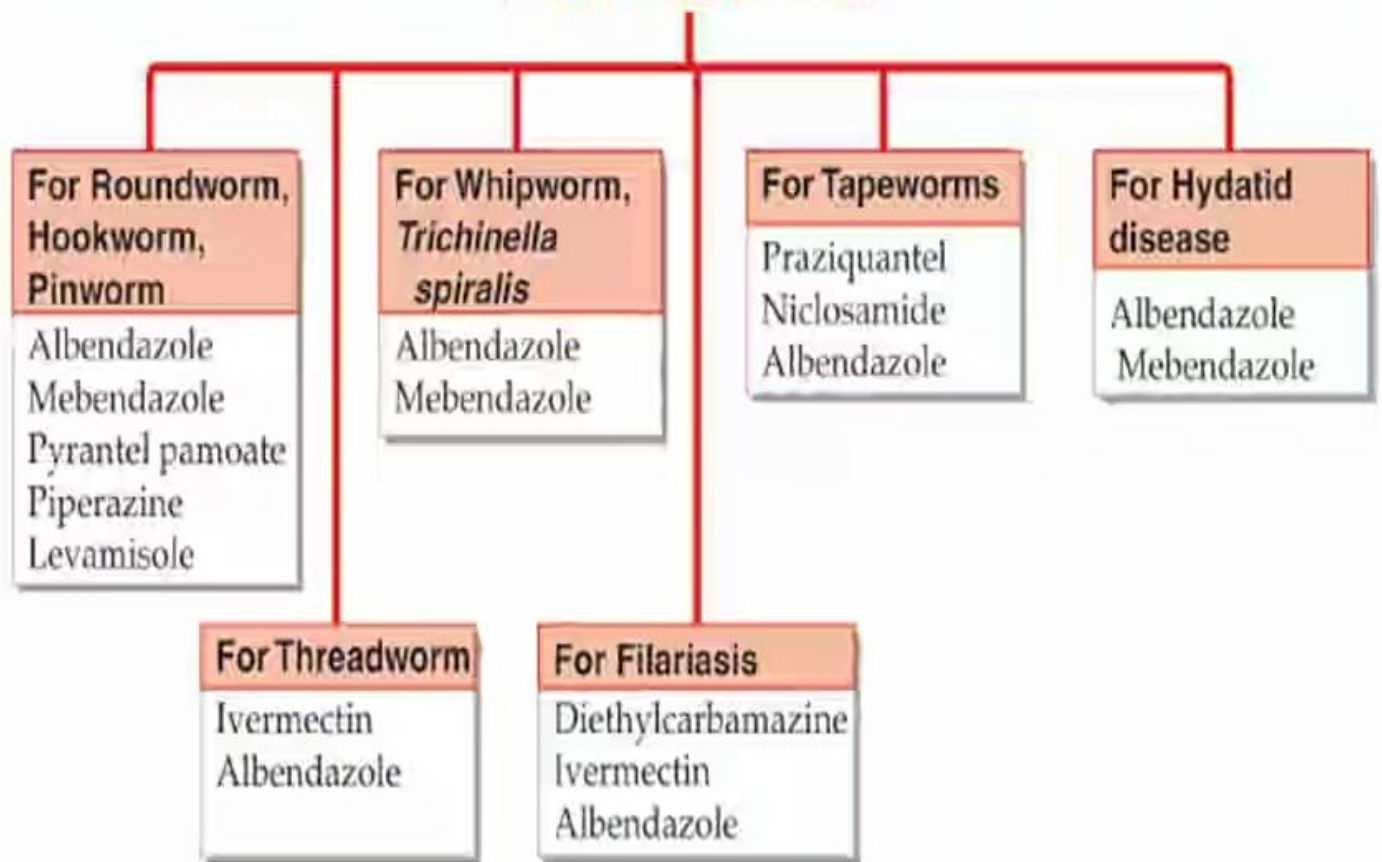
ANTIMALARIAL DRUGS



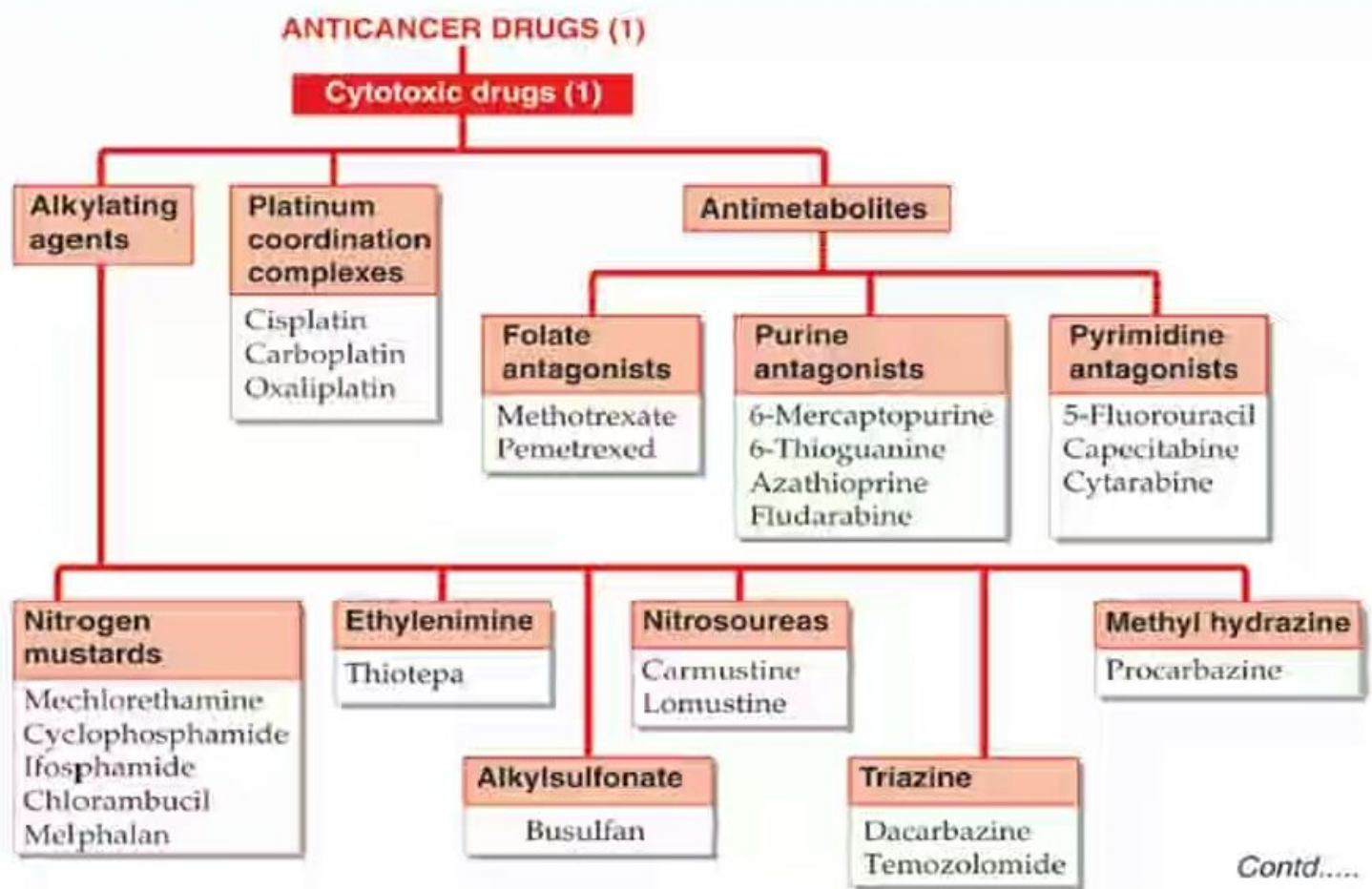
ANTIAMOEBIC DRUGS



ANTHELMINTIC DRUGS

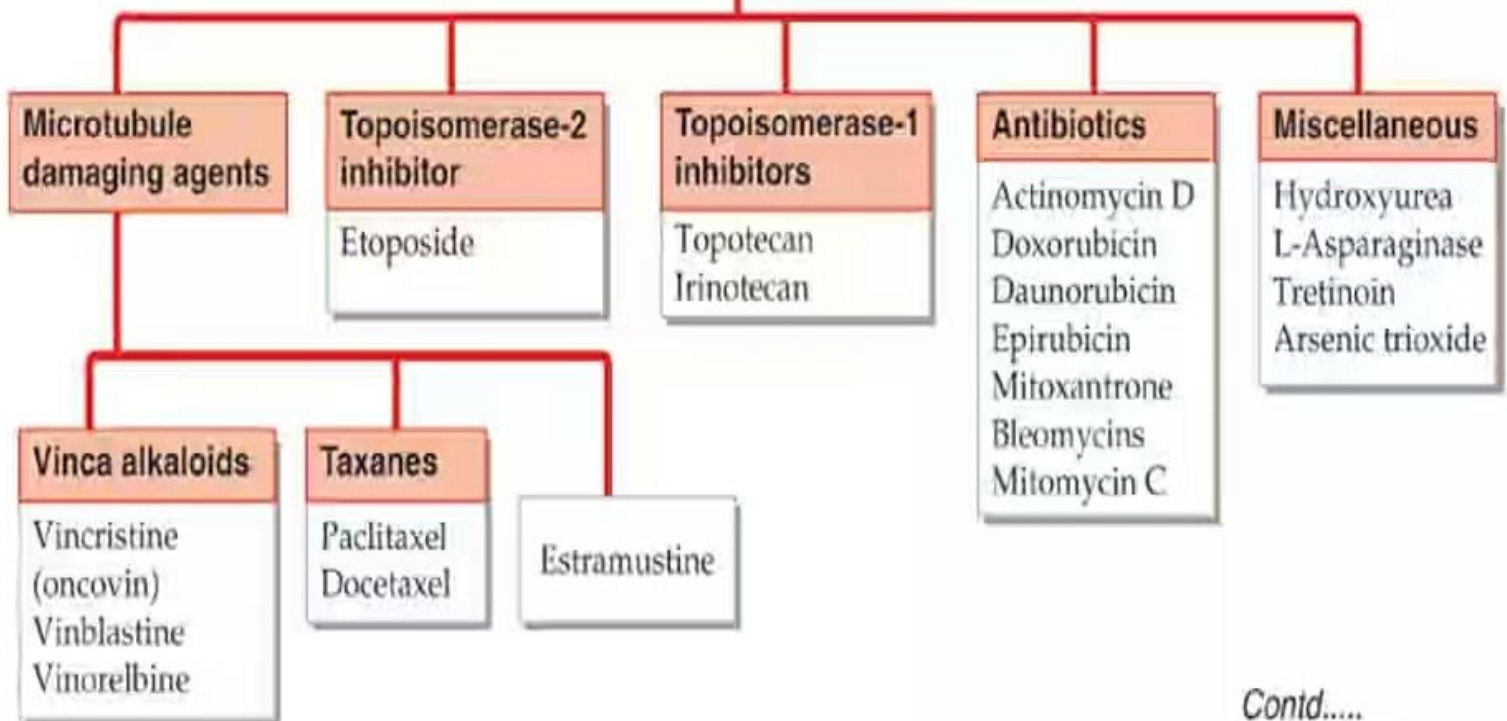


Anticancer Drugs (Antineoplastic Drugs)



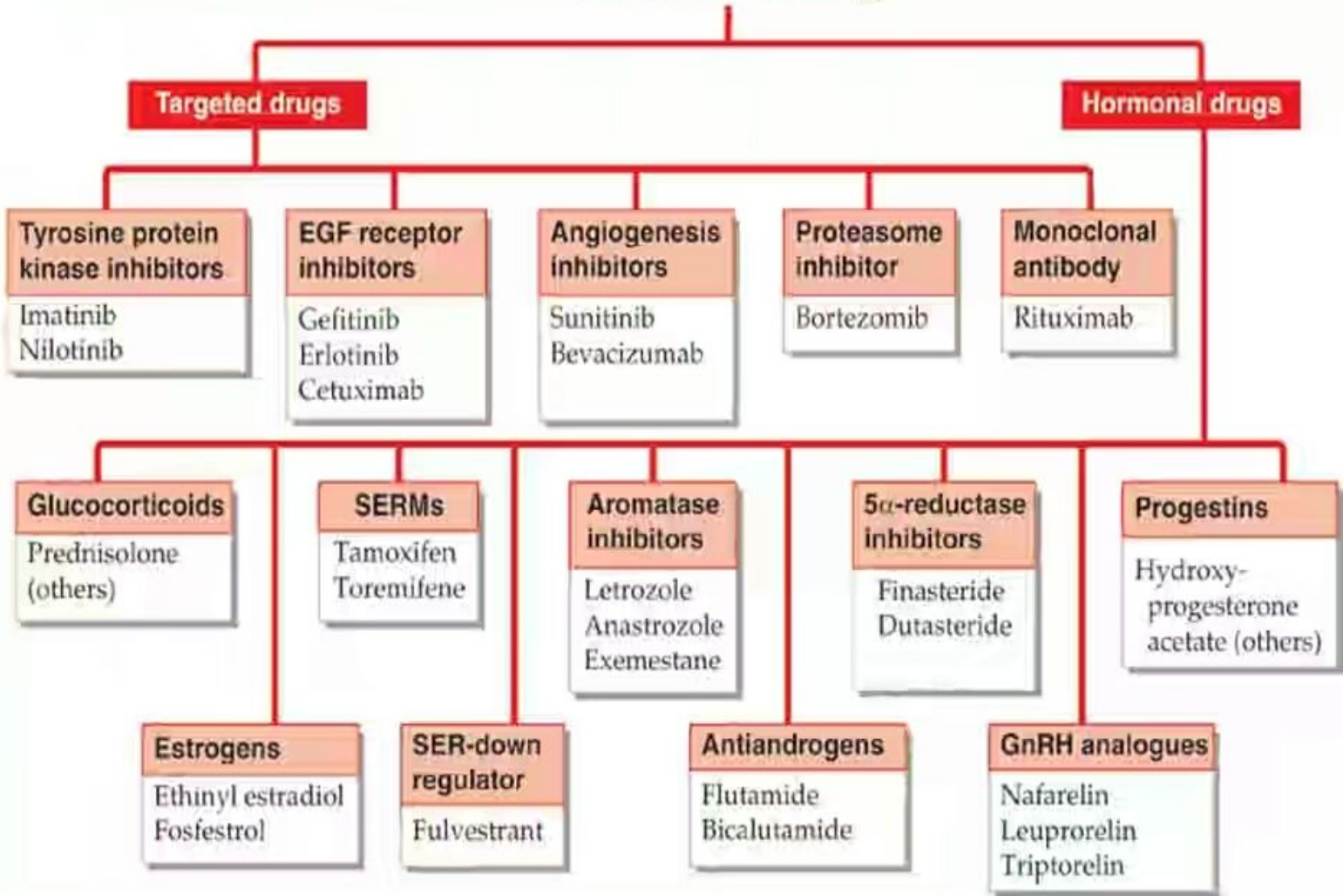
ANTICANCER DRUGS (2)

Cytotoxic drugs (2)



Contd.....

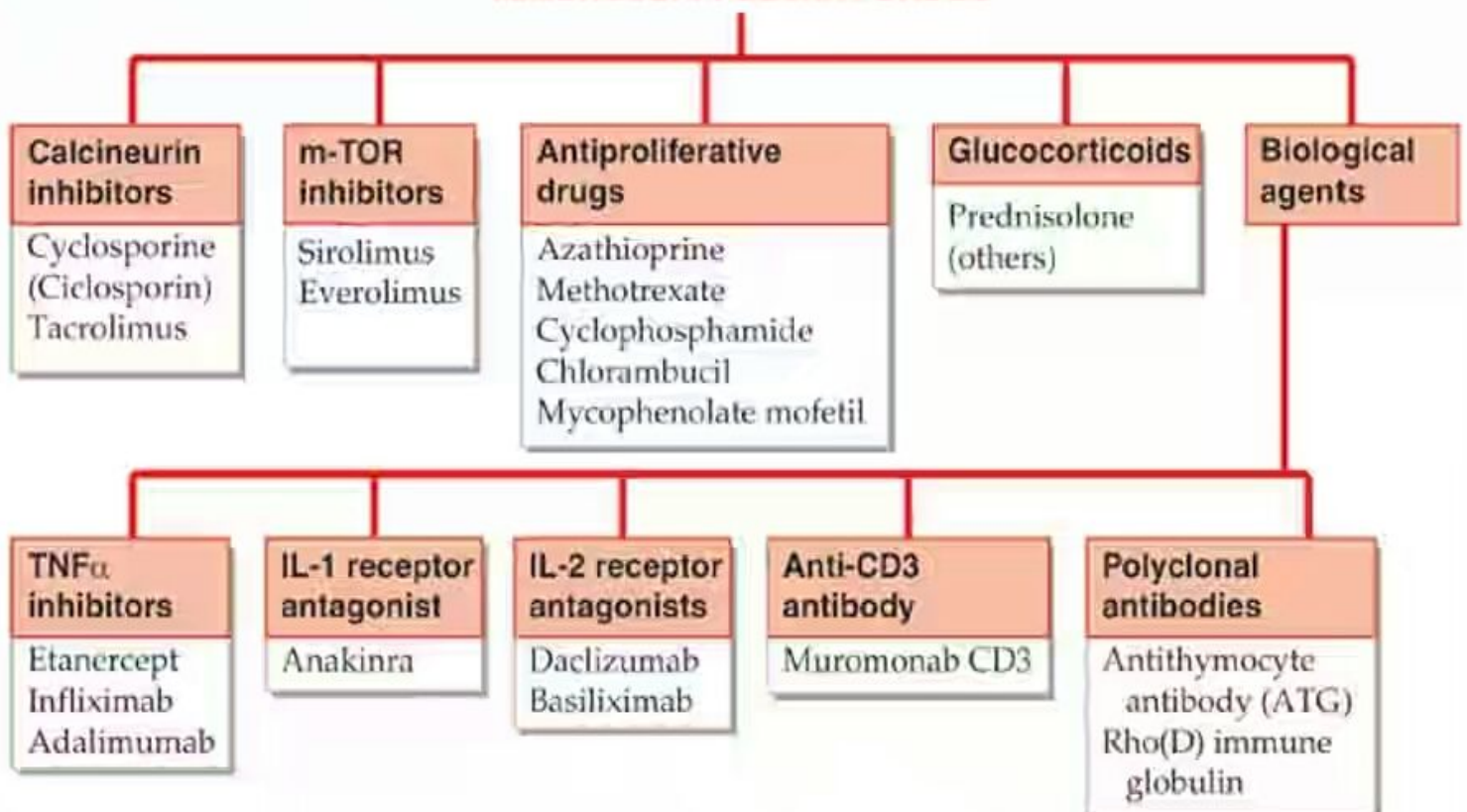
ANTICANCER DRUGS (3)



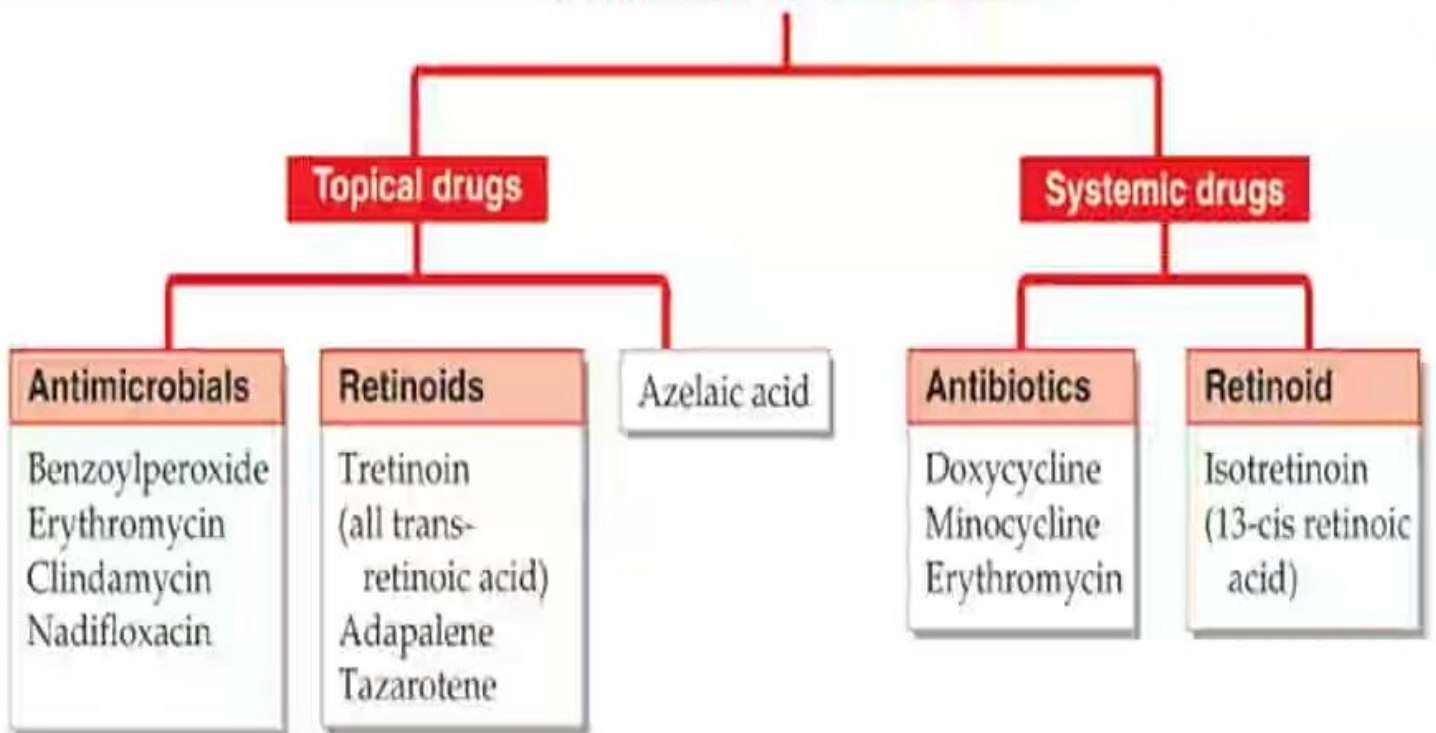
www.cambridgeinmed.com

Miscellaneous Drugs

IMMUNOSUPPRESSANT DRUGS



DRUGS FOR ACNE VULGARIS



VACCINES

Killed (inactivated) vaccines

Bacterial

Typhoid - paratyphoid (TAB)
Vi Typhoid polysaccharide
Cholera
Whooping cough (Pertussis)
Meningococcal
Haemophilus influenzae
type B
Plague

Viral

Poliomyelitis inactivated
(IPV; Salk vaccine)
Rabies (Neural tissue)
Rabies (chick embryo cell;
PCEV)
Rabies (Human diploid
cell; HDCV)
Rabies (Vero cell; PVRV)
Influenza
Hepatitis B
Hepatitis A

Live attenuated vaccines

Bacterial

Bacillus
Calmette-
Guerin (BCG)
Typhoid Ty 21a
(oral)

Viral

Poliomyelitis oral
vaccine (OPV, Sabin)
Mumps (Live atte.)
Measles (Live atte.)
Rubella (Live atte.)
Varicella (Live atte.)

Toxoids

Tetanus (fluid/adsorbed)
Diphtheria (adsorbed)

Combined vaccines

Double antigen: Diphtheria toxoid + tetanus toxoid (DT-DA)
Triple antigen: Diphtheria toxoid + tetanus toxoid + pertussis vaccine (DPT)
Pentavalent vaccine: DPT + Hepatitis B + *H. influenzae* type B vaccines
Measles + mumps + rubella vaccine (MMR)