

Common Drugs & Their Uses

Related Medical Terminology

Topic Outline

- Terminology
- Organ system terminology
- Cardiovascular
- Endocrine
- Gastrointestinal
- Integumentary
- Lymph and Blood
- Muscular
- Nervous
- Skeletal
- Female Reproductive
- Respiratory
- Urinary
- Senses
- Drug Classifications
- Medical Abbreviations

Basic Elements of a Medical Word

Medical science terminology is made up of a small number of ROOT words.

These Root words are combined with a SUFFIX, PREFIX and COMBINING VOWEL to create new words with modified meaning.

- Word Root
- Suffix
- Prefix
- Combining vowel

Basic Elements of a Medical Word

These four parts of a word are known as
ELEMENTS.

- E.g. Peri – o - dont – ic
- Periodontic: around the teeth

Word Root

- Main part or foundation of a word.
- Identify to what part of the body a term is related.
- All words have at least one word root.
- A word root may be used alone or be combined with other elements to form a complete word.
 - E.g. Gastr (word root) + itis (suffix)
 - GASTRITIS (complete word).

Terminology

- Most root words originate from either Greek or Latin words.
- Words developed from the Greek language are often used to refer to diagnosis and surgery.
- Words from the Latin language generally refer to the anatomy of the body.

Root - Part of Body

- Card - heart
- Cyst - bladder
- Gastr - stomach
- Hemat - blood
- Hepat - liver
- My - muscle
- Pector – chest
- Neur - nerve
- Pneum - lung
- Ocul - eye
- Derma - skin
- Ven - vein
- Mast - breast
- Oste - bone
- Nephro - kidney
- Ot - ear

Combining Forms

- Correct pronunciation of medical words is very important.
- In order to make the pronunciation of root words easier, sometimes it is necessary to insert a vowel after the root.
- The combination of a root word and a vowel is known as a **COMBINING FORM**.
- “O” is the most common combining vowels

• **eg: gastr / o = pronounced as GASTRO**

Word root



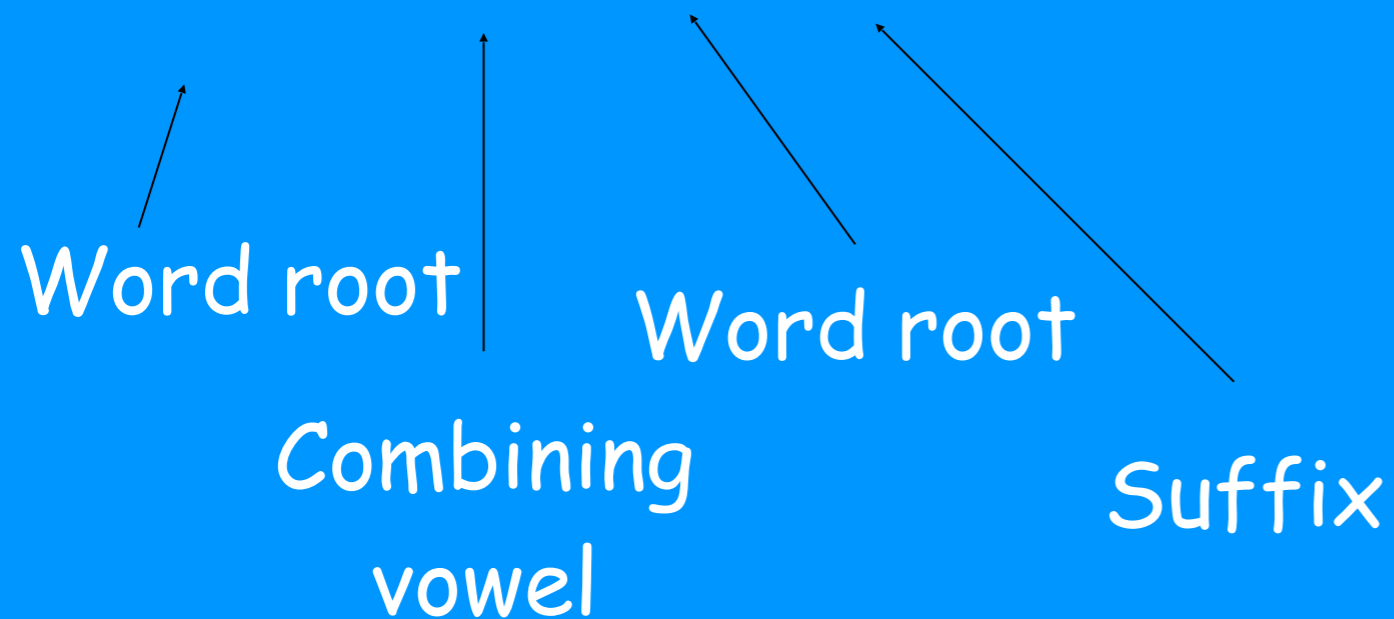
Combining vowel



Combining Words

- When a word has more than one root, a combining vowel is used to link the root to each other.

eg. Oste / o / arthr / itis = Osteoarthritis



Suffixes

- A suffix is added to the END of a word root or combining form to modify its meaning.
- Adding a suffix to the end of a word root, creates a noun or adjective with a different meaning.

Meanings of certain suffixes

- al = pertaining to
 - dent/al (pertaining to teeth)
- er = one who
 - speak/er (one who speaks)
- able = capable of being
 - playable (capable of being played)

Prefixes

A syllable or syllables placed BEFORE a word or word root alter its meaning or create a new word.

- Some prefixes:
- Hyper- (excessive)
- Pre- (before)
- Post- (after)
- Homo- (same)
- Hypo- (under)

Hypoinsulinemia

Hypo / insulin / emia



Prefix
LOW



Word root
INSULIN



Suffix
BLOOD

Notice that there is no combining vowel in this word because the prefix ends with a vowel and the suffix begins with a vowel.

Upon completion of this course, the successful student will be able to:

- For each class of drugs discussed the student should be able to:
 - Recognize generic and brand names
 - In selected cases state maximum doses
 - Identify routes of administration
 - Identify important adverse reactions seen with selected classes of drugs.
 - Identify important drug interactions.
 - Identify generic terms associated with a class of drugs.

Upon completion of this course, the successful student will be able to:

- Explain how a drug produces a pharmacologic effect.
- Explain the importance of bioequivalence.

Upon completion of this course, the successful student will be able to:

- Be able to use abbreviations and medical terminology used in association with drug therapy.
- Know which drugs have special requirements for storage or dispensing.
- Be able to calculate days-supply and dosage for commonly used drugs.
- Know how to use inhalers and aerosol devices.

Topics and Drugs Groups

- Drug names and classes
- Classification schemes
- Analgesics
- Anesthetic agents
- Anti-infectives
- Antineoplastics
- Cardiovascular agents
- Dermatologicals
- Electrolytic agents
- Gastrointestinal & urinary tract agents
- Hematological agents
- Hormones & modifiers
- Immunobiologic agents & vaccines
- Musculoskeletal agents
- Neurological agents
- Ophthalmic & Otic agents
- Psychotropic agents
- Respiratory agents
- Additional common drugs by classification

How Are Drugs Named?

- Example

- $C_{29}H_{53}NO_5$
- Ro 18-0647
- Tetrahydrolipstatin
- Orlistat
- Xenical
- Alli

Chemical Name

Research #

Non-official generic

Approved Generic

Trade Name (Brand)

Trade Name (OTC)

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin
-conazole

-cycline
-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Classifications

Blocker

- Term for an antagonist drug, because antagonists can block an action e.g. neurotransmitters.

Homeostasis

- State of equilibrium of the body.
- Parasympathetic-cholinergic-acetylcholine
- Sympathetic-adrenergic-adrenal secretions

Classifications

Mimetic

- Term for an agonist.
- Agonists imitate or “mimic” the action of the neurotransmitter.

Neurotransmitter

- Substances that carry the impulses from one neuron to another.

Analgesics - Some Common Drugs

- Salicylates
- NSAID
- Non-NSAID
- Opiates

Analgesics - Some Common Drugs

Type	Brand	Generic
•Salicylates	Bayer (aspirin)	ASA
•Non-NSAID	Tylenol	acetaminophen
•NSAID	Motrin, Advil	ibuprofen
•NSAID	Naprosyn	naproxen
•Opiates	MS Contin	morphine
•Opiates	Dilaudid	hydromorphone
•Opiates	Oxycontin	oxycodone

Analgesics - Salicylates

Brand Name

- Bayer (aspirin)
- Ecotrin
- Percogesic
- Combo products

Generic Name

- acetylsalicylic acid
- enteric coated ASA
- magnesium salicylate

Aspirin

- **Strengths**
 - 81 – 650 mg PO, 60 – 600 mg suppositories
- **Dose**
 - 81 mg daily
 - 325 – 600 mg q4h, max 4 g/day
 - 300 – 600 mg q 4-6h
- **Use**
 - Fever (antipyretic), pain, MI prevention
- **Common AEs**
 - Dyspepsia, N/V
- **DI**
 - Plavix, anticoagulants, NSAIDs

Flash Cards

Drug Name

e.g. Zithromax, Z-Pak

Generic Name Azithromycin

Category – Antibiotic

Forms – tablets/paks,
suspension

Adults and Pediatrics

Analgesics - NSAIDs

Brand

- Motrin, Advil
- Aleve, Anaprox
- Ansaid
- Feldene
- Indocin
- Toradol

Generic

ibuprofen
naproxen
flubiprofen
piroxicam
indomethacin
ketorolac

Advil, Motrin - Ibuprofen

- Strengths
 - 200 – 800 mg tablets, 100mg/5 mL
- Dose
 - 200 – 800 mg q4-6h, max 2,400 mg/day
- Use
 - Anti-inflammatory, antipyretic, pain
- Common AEs
 - Dyspepsia, N/V
- DI
 - Aspirin, other NSAIDs, anticoagulants, some BP meds

Aleve, Anaprox- Naproxen

- Strengths
 - 220 – 500 mg tablets
- Dose
 - 220 – 500 mg q8-12h, max 1,500 mg/day
- Use
 - Anti-inflammatory, antipyretic, pain
- Common AEs
 - Dyspepsia, N/V
- DI
 - Aspirin, other NSAIDs, anticoagulants, some BP meds

Analgesics - NSAIDs

- **Ansaid** **flubiprofen**
- **Feldene** **piroxicam**
- **Indocin** **indomethacin**
 - ER, PR, IV
- **Toradol** **ketorolac**
 - Caution Lowest dose, less than 5 days therapy

Non-NSAID

Brand Generic

- Tylenol
 - Acetaminophen
 - Paracetamol
- Combo Products

Acetaminophen

- Strengths
 - 160 mg/5 mL, 325 – 650 mg PO, suppositories
- Dose
 - Pediatric dosed on weight
 - Adult 325 – 600 mg q4h, max 3 g/day
- Use
 - Antipyretic, analgesic
- Common AEs
 - N/V
- DI
 - Ethanol, drugs which induce its metabolism
- Special Warning – Do not exceed 3 g/day!!!

Opiates

Brand Name

- MS Contin
- Oxycontin
- Dilaudid
- Opana
- Duragesic
- Dolophine
- Ultram

Generic Name

Morphine
Oxycodone
Hydromorphone
Oxymorphone
Fentanyl
Methadone
Tramadol

Opiates - Combo Products

Brand Name

- Percocet
- Tylox
- Lorcet, Vicodin
- Tylenol #3

Generic Name

Oxycodone/APAP

Hydrocodone/APAP

Codeine/APAP

Opiates

- Morphine
 - Form 15, 30 mg tabs
 - ER
 - Avinza
 - MS Contin
 - Kadian
 - Solutions 2, 4, 20mg/mL,
 - Suppository 5, 10, 20, 30 mg
 - Inject SC, IM, IV
- Use
 - Pain
- Common AEs
 - Somnolence, constipation, N/V
- DI
 - Ethanol, other depressants
- Special warnings: Abuse, Med Error, ER forms

Opiates

Brand

Generic

- Oxycontin Oxycodone
 - Oxycodone in an extended release tab
 - 15 – 80 mg tablets

- Roxicodone Oxycodone
 - 5 – 30 mg tablets
 - 1, 20 mg/mL

Opiates

Brand

Generic

- Dilaudid Hydromorphone
 - 2, 4, 8 mg tab, 1mg/mL, SC IM and IV
 - Exalgo 8, 12, 16 and 32 mg ER tab
- Opana ER Oxymorphone
 - 5 – 40 ER tabs
- Duragesic Fentanyl
 - 12, 25, 50, 75, 100 mcg patch
- Dolophine Methadone
 - 5, 10 mg tabs 1, 2, and 10 mg/ml sol

Opiates - Combo Products

Brand

- Percocet, Tylox
- Lorcet, Vicodin
- Tylenol/Codeine

Generic

- Oxycodone/APAP
- Hydrocodone/APAP
- APAP with Codeine

- DI
 - APAP and Opiate
- Common AEs
 - Somnolence, constipation, N/V
- Special Note: Watch for changes in the APAP dose in these products.

Ultram - Tramadol

- Strengths
 - 50 mg PO, 100, 200, 300 ER tabs
- Dose
 - Max 300 mg/day
- Use
 - Pain
- Common AEs
 - Dizziness, Nausea, Constipation
- DI
 - Ethanol
- Special Caution— Prone to abuse

Local Anesthetics Agents

Type

- Ester
- Ester

- Amide
- Amide

Brand

Novocain
Pontocaine

Xylocaine
Marcaine

Generic

procaine
tetracaine

lidocaine
bupivacaine

Local Anesthetics Agents

Type	Brand	Generic
• Ester	Novocain	procaine
• Ester	Pontocaine	tetracaine
• Common AEs		
• Dizziness, nervousness, tremor, N/V		
• DI		
• APAP		

Local Anesthetics Agents

Type

- Amide
- Amide

Brand

- Xylocaine
- Marcaine

Generic

- lidocaine
- bupivacaine

- Common AEs

- Hypotension, N/V, paresthesia

- DI

- APAP

Quizlet Flash Cards

<http://quizlet.com/15607859/top-200-drugs-2012-brandgeneric-flash-cards/>

Antimicrobials - Penicillins

Brand

- Veetids
- Amoxil
- Moxatag
- Augmentin

Generic

penicillin V-K, PCN VK
amoxicillin
amoxicillin
amoxicillin/clavulanate

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin
-conazole

-cycline
-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Antimicrobials - Penicillins

Veetids (penicillin V-K)

Amoxil, Moxtag (amoxicillin)

- Common AEs
 - Sensitivity reactions, N/V, dyspepsia
- DI
 - Oral contraceptives
- Augmentin (amoxicillin/clavulanate)
 - Sensitivity reactions, diarrhea, nausea, rash, hives
- DI
 - Oral contraceptives

Antimicrobials - Tetracyclines

Brand

- Minocin, Dynacin
- Sumycin
- Vibramycin, Oracea, Periostat, Monodox

Generic

minocycline

tetracycline

doxycycline

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin
-conazole

-cycline

-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Antimicrobials - Tetracyclines

Minocin, Dynacin (minocycline)

Vibramycin, Monodox, Oracea, Periostat (doxycycline)

- Common AEs

- Tooth discoloration (<8 yo), photosensitivity, secondary infection

- DI

- Antacids, milk/diary, heavy metals, oral contraceptives

Sumycin (tetracycline)

- Common AEs

- Tooth discoloration (<8 yo), sensitivity reactions, N/V, dyspepsia

- DI

- Antacids, milk/diary, heavy metals, oral contraceptives

Antimicrobials - Quinolones

Brand

- Avelox
- Cipro
- Floxin
- Levaquin

Generic

moxifloxacin
ciprofloxacin
ofloxacin
levofloxacin

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin
-conazole

-cycline
-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Antimicrobials - Quinolones

Avelox (moxifloxacin)

Cipro, Cipro XR (ciprofloxacin)

Floxacin (ofloxacin)

Levaquin (levofloxacin)

- Common AEs
 - Nausea, diarrhea, headache, dizziness, vomiting, insomnia
- DI
 - Antacids, milk/diary, heavy metals, oral contraceptives

Antimicrobials - Cephalosporins

Brand

- Keflex
- Duricef
- Ceftin, Zinacef
- Vantin
- Omnicef

Generic

cephalexin
cefadroxil
cefuroxime
cefpodoxime
cefdinir

Terminology

-alol	-cycline	-olol
-andr	-drazine	-olone
-anserin	-erg	-oxacin
-arabine	-estr	-pamide
-ase	-fibrate	-parin
-azepam	-flurane	-peridol
-azosin	-gest	-pred
-bactam	-irudin	-pril
-bamate	-leukin	-profen
-barb	-lukast	-sartan
-butazone	-mab	-sertron
-caine	-mantadine	-terol
-cef	-monam	-thiazide
-cillin	-mustine	-tiazem
-conazole	-mycin	-statin

Antimicrobials - Cephalosporins

Keflex (cephalexin)

Duricef (cefadroxil)

Ceftin, Zinacef (cefuroxime)

Vantin (cefepodoxime)

Omnicef (cefdinir)

- Common AEs
 - Diarrhea, secondary infection, nausea, headache, rash
- DI
 - Antacids, milk/diary, heavy metals, oral contraceptives
- Pediatric formulations available

Antimicrobials - Sulfas

Brand

Bactrim, Septra

- trimethoprim/sulfamethoxazole

Generic

SMP/TMX

Antimicrobials - Sulfas

Bactrim (trimethoprim/sulfamethoxazole)

Septra (trimethoprim/sulfamethoxazole)

- Common AEs
 - N/V, anorexia, sensitivity reactions

Antimicrobials - Macrolides

Brand

- Ery-Tab
- Erythromycin
- Zithromax, Zmax
- Dificid

Generic

erythromycin base
erythromycin stearate
azithromycin
fidaxomicin

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin
-conazole

-cycline
-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Antimicrobials - Macrolides

Ery-Tab (erythromycin base)

Erythromycin (erythromycin stearate)

Zithromax, Zmax (azithromycin)

- Common AEs

- N/V, abdominal pain, diarrhea, anorexia

- DI

- Inhibitor of hepatic enzymes....simvastatin, lovastatin

Dificid (fidaxomicin)

- Common AEs

- N/V, abdominal pain

- DI

Antifungals - Oral

Brand

Diflucan

Sporanox

Nizoral

Lamisil

Mycelex

Mycostatin

Generic

fluconazole

itraconazole

ketoconazole

terbinafine

clotrimazole

nystatin

Terminology

-alol
-andr
-anserin
-arabine
-ase
-azepam
-azosin
-bactam
-bamate
-barb
-butazone
-caine
-cef
-cillin

-conazole

-cycline
-drazine
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monam
-mustine
-mycin

-olol
-olone
-oxacin
-pamide
-parin
-peridol
-pred
-pril
-profen
-sartan
-sertron
-terol
-thiazide
-tiazem
-statin

Antifungals - Oral

Diflucan (fluconazole)

Sporanox (itraconazole)

Nizoral (ketoconazole)

Lamisil (terbinafine)

Mycelex (clotrimazole)

- Common AEs

- Nausea, headache, rash, vomiting, dyspepsia

- DI

- Potent inhibitor of hepatic enzymes

Mycostatin (nystatin)

- Common AEs

- N/V, diarrhea, abdominal pain

- DI

Antifungals - Vaginal

Brand

Gyne-Lotrimin 1, 3, 7

Monistat 1, 3, 7

Terazol 3, 7

Generic

clotrimazole

miconazole

terconazole

Antifungals - Vaginal

- Gyne-Lotrimin 1, 3, 7 clotrimazole
- Monistat 1, 3, 7 miconazole
- Terazol 3, 7 terconazole
- Common AEs
 - Vulvovaginal burning, itching soreness
 - DI
 - Potent inhibitor of hepatic enzymes...

Anti-Infectives – Miscellaneous

Type	Brand	Generic
Antiviral	Valtrex	valacyclovir
Antiviral/prot inhib.	Viracept	nelfinavir
Antimycobacterial	Nydrazid	isoniazid
Antiprotozoal	Flagyl	metronidazole
Anthelmintic	Vermox	mebendazole

Immunobiologic Agents & Vaccines

Brand

Daptacel, Infanrix, Tripedia
Liquid Pedvax HIB, ActHIB, HibTITER
Havrix, VAQTA
Engerix-B, Recombivax HB, Twinrix
FluMist
Afluria, Fluarix, FluLaval, Fluvirin, Fluzone
Attenuvax, M-M-R II, Mumpsvax, Meruvax II
Menomune
Pevnar
Pneumovax 23
Varivax
Comvax
Pediarix
ProQuad
TriHIBit
Guardasil, Ceravirix

Vaccine

Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td)
Haemophilus influenzae type b (Hib)
Hepatitis A (HepA)
Hepatitis B (HepB)
Influenza, live attenuated (LAIV)
Influenza, trivalent inactivated (TIV)
Measles, mumps, rubella (MMR)
Meningococcal, conjugated (MCV4)
Pneumococcal conjugate (PCV)
Pneumococcal polysaccharide (PPV)
Varicella (Var)
Hib+HepB (combination)
DTaP+HepB+IPV (combination)
MMR+Var (combination)
DTaP+Hib (combination)
HPV

Antineoplastics – General Terms

- Neoplasm
 - Abnormal structure and growth rate
 - Lack useful or normal function
- Chemotherapy
 - Drugs used in conjunction with radiation, surgery for therapy
- Malignancy
- Metastasis

Antineoplastics – General Terms

- Drugs
 - Act on growing (proliferating) cells
 - Most dramatic effect on rapidly growing cells
 - Hair, GI mucosa, bone marrow
- Combinations or “Cocktails”
- Given in “Cycles”
- Hormonal therapy
- Radio-sensitizers

Antineoplastics

- Antimetabolites
 - The drug mimics a natural metabolite in the body, which ultimately disrupts cellular reproduction.

Brand

•Adrucil

•Rheumatrex

Generic

fluorouracil

methotrexate

Antineoplastics

- Alkylating Agents

- Interfere with cell division. Derivatives of mustard gas used in World War I. Newer agents with improved properties.

Brand

Mustargen

BiCNU

Generic

mechlorethamine

carmustine

Antineoplastics

Plant Alkaloids: Inhibit mitosis. Naturally occurring or semi-synthetic

Brand

- Oncovin
- Velban

Generic

- vincristine
- vinblastine

Antineoplastics

- Hormones
 - Used to manipulate hormonal activity in the case of tumors that are hormonally dependent or sensitive.

•Brand Name	Generic Name
•Lupron	leuprolide
•Nolvadex	tamoxifen

Antineoplastics

- Anti-Tumor Antibiotics

- Anti-tumor antibiotics act to prevent DNA from functioning normally. This can be effective in killing certain type of cancer cells.

Brand

Blenoxane

Cerubidine

Adriamycin

Generic

bleomycin

daunorubicin

doxorubicin

Cardiovascular System

- The Cardiovascular System distributes blood throughout the body using blood vessels called arteries, capillaries, and veins.
 - Blood transports nutrients to the body's cells and carries waste products away from them.

Cardiovascular System

- Blood is made up of red blood cells, white blood cells, platelets, and plasma.
 - Erythrocytes (red blood cells or RBCs) transport oxygen from the lungs to the body and carbon dioxide from the cells to the lungs.
 - Leukocytes (white blood cells or WBCs) fight bacterial infections by producing antibodies.
 - Platelets (thrombocytes) are an important part of the blood clotting system
 - Plasma is the liquid portion of blood.

Cardiovascular System Cont.

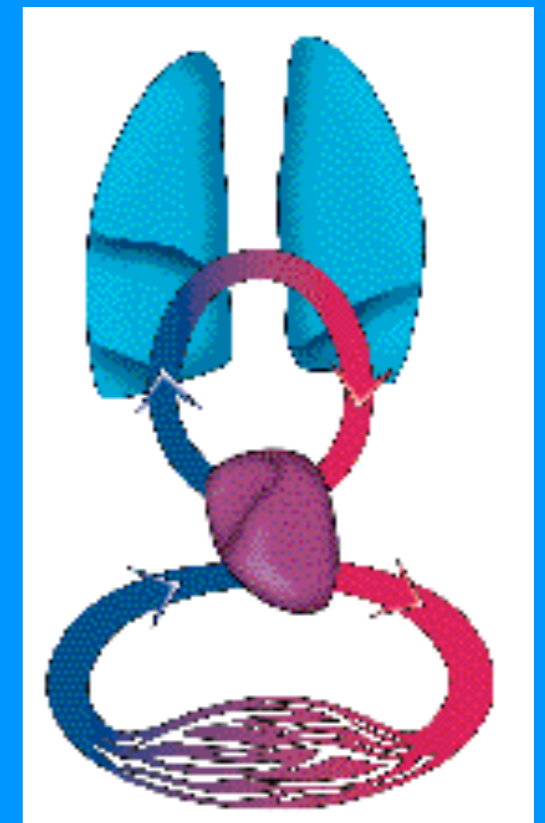
- The heart pumps blood through the cardiovascular system.
 - A sphygmomanometer is used to measure blood pressure.
 - Blood pressure is reported in mm of Hg, as systolic/diastolic, i.e., 120/80.
 - Systolic phase is the increased pressure when blood is forced out of the heart.
 - The diastolic phase, or relaxation phase, is the second number reported in blood pressure monitoring.

Cardiovascular System

- angi = vessel
- aort = aorta
- card = heart
- oxy = oxygen
- pector = chest
- phleb = vein
- stenosis = narrowing
- thromb = clot
- vas(cu) = blood vessel
- ven = vein

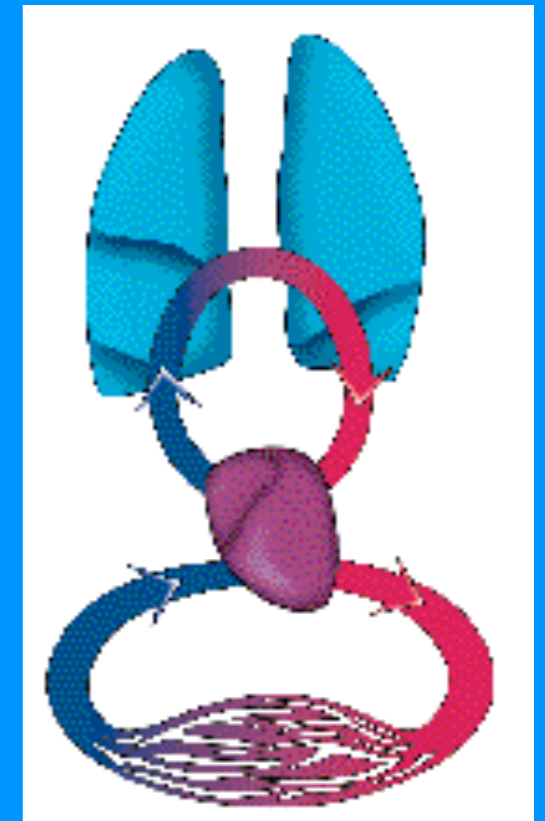
Cardiovascular System

- **Cardiomyopathy =**
 - disease of the heart muscle
- **Myocardial =**
 - concerning heart muscle
- **Tachycardia =**
 - abnormal rapid heart rhythm



Cardiovascular System

- Phlebitis =
 - inflammation of a vein
- Thrombosis =
 - blood clot
- Hypertension =
 - high blood pressure



Cardiovascular Agents

- Categorized by Mechanism of Action
 - Beta blockers
 - Calcium Channel Blockers
 - Diuretics
 - ACE Inhibitors
 - Vasodilators
- Categorized by Condition they are used to treat
 - Antianginals
 - Antiarrhythmics
 - Antihyperlipidemics
 - Antihypertensives
 - Thrombolytics
 - Vasopressors

Cardiovascular Agents

Categorized by Mechanism of Action

- Beta blockers
- Calcium Channel Blockers
- Diuretics
- ACE Inhibitors
- Vasodilators

Cardiovascular Agents

Beta Blockers

- These drugs reduce oxygen demands of the heart muscle. Used to treat HBP, and arrhythmias.

Brand

- Inderal
- Tenormin
- Corgard
- Lopressor
- Toprol-XL

Generic

- propranolol
- atenolol
- nadolol
- metoprolol
- metoprolol succinate

Caution: Do not discontinue abruptly.

AEs: Fatigue

Cardiovascular Agents

Calcium Channel Blockers

- Relax smooth muscle and affect cardiac conduction. Used to treat HBP and some arrhythmias

Brand

- Calan
- Norvasc
- Procardia
- Cardizem

Generic

- verapamil
- amlodipine
- nifedipine
- diltiazem

DI: Simvastatin, Antifungals (e.g. ketoconazole)

Cardiovascular Agents

Diuretics

- Decrease BP by decreasing blood volume and sodium retention.

Brand

- Lasix
- Bumex
- Hydrodiuril
- Aldactone
- Hygroton

Generic

- furosemide
- bumetanide
- hydrochlorothiazide
- spironolactone
- chlorthalidone

- AEs: Hypokalemia, photosensitivity

Cardiovascular Agents

ACE Inhibitors

- Have an effect to relax blood vessels and are used to treat HBP. A subcategory includes the ARBs.

Brand

- Capoten
- Vasotec
- Zestril

Generic

- captopril
- enalapril
- lisinopril

- Cozaar

- losartan

- Diovan

- valsartan

- Avapro

- irbesartan

- Micardis

- telmisartan

- AEs: Cough

Cardiovascular Agents

Vasodilators

- Act to lower blood pressure by relaxing blood vessels.

Brand

- Apresoline
- Loniten

Generic

- hydralazine
- minoxidil

- AEs: Hypertrichosis (hirsutism), tachycardia

Cardiovascular Agents

Categorized by Condition they are used to treat

- Antianginals
- Antiarrhythmics
- Antihyperlipidemics
- Antihypertensives
- Thrombolytics
- Vasopressors

Cardiovascular Agents

Antianginals

- Cardiac (chest) pain related to ischemic heart disease
- Drugs are used to decrease oxygen demands of the heart and improve blood flow.
- Nitrates, beta blockers, Ca channel blockers
 - Nitrostat NTG

 - Inderal propranolol
 - Tenormin atenolol
 - Corgard nadolol
 - Lopressor metoprolol
 - Toprol XL metoprolol succinate

 - Procardia nifedipine

Cardiovascular Agents

Antiarrhythmics

- Arrhythmias are abnormal heart rhythms. These drugs have an effect (suppression or inhibition) on abnormal pacemaker activity in the heart.
- Lanoxin Digoxin
- Betapace Sotalol

DI - Digoxin Antacids and multiple other drugs

Cardiovascular Agents

Antihyperlipidemics

- Used to treat hyperlipidemia, high cholesterol in the blood

Cholesterol <200

HDL >40

LDL <130

Triglycerides <150

Antihyperlipidemic Agents

Statins, Zetia

- Zocor Simvastatin
- Pravachol Pravastatin
- Lipitor Atorvastatin
- Crestor Rosuvastatin
- Mevacor lovastatin
- Livalo Pitavastatin

- Zetia Ezetimide

DI – Altered metabolism, grapefruit juice

Cardiovascular Agents

Antihypertensives

- Drugs used to lower sustained high blood pressure. Act via various mechanisms.
 - Reduce Cardiac Output
 - Reduce blood volume
 - Reduce sodium and water retention
 - Decrease vascular constriction

Antihypertensive Agents

- Reduce Cardiac Output
 - Beta blockers
 - **Propranolol, atenolol, metoprolol**
- Reduce blood volume
 - Diuretics
 - **HCTZ, Lasix, Spironolactone (K sparing)**
- Reduce sodium and water retention
 - ACE Inhibitors
 - **Lisinopril, captopril, enalapril, ramipril**
- Decrease vascular constriction
 - Calcium channel blockers
 - **Norvasc, Nifedipine, verapamil**

Cardiovascular Agents

Thrombolytics

- Dissolve clots and prevent clot formation.
- Prevent strokes and heart attacks
- May cause bleeding, hemorrhage
- Injectable
 - Heparin
 - Lovenox enoxaparin
 - Fragmin dalteparin
- DI – In general ASA, NSAIDs

Thrombolytics

- Oral
 - Coumadin, Jantoven warfarin
 - Xarelto rivaroxaban
 - Pradaxa dabigatran
- DI – In general ASA, NSAIDs

Cardiovascular Agents

Vasopressors

- In hospital setting – acute low blood pressure (shock)
- Treatment
 - Volume replacement
 - **Dobutrex** **dobutamine**

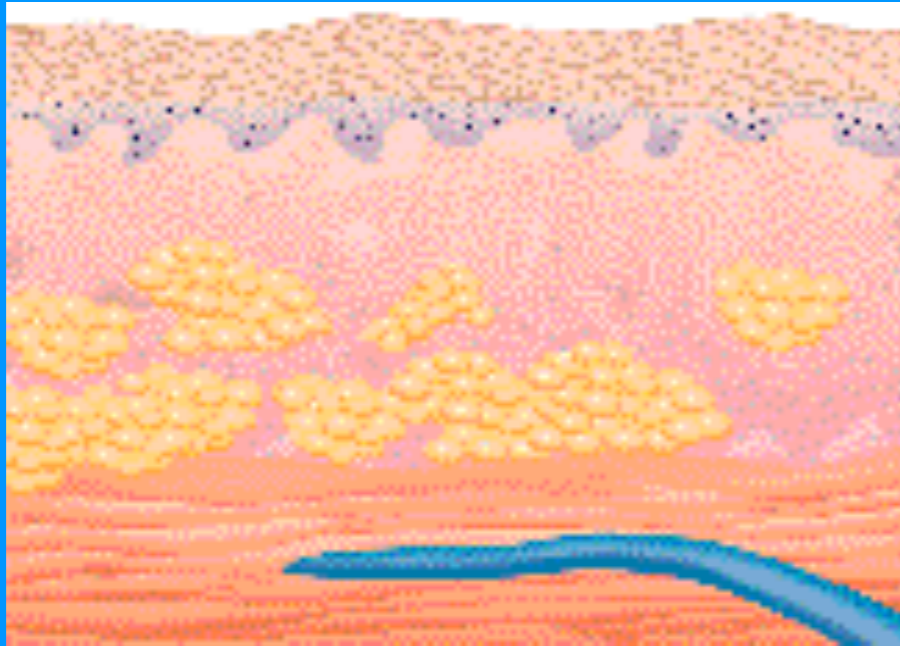
The Integument System

- The Integumentary System refers to the skin and its appendages:
 - Hair
 - Nail
 - Sweat and Sebaceous glands
- It is the body's first line of defense against physical hazards, microbes, drying out and harmful light.

The Integument System

- The skin is composed of the epidermis and dermis.
 - The epidermis has no blood or nerves and is constantly discarding dead cells.
 - The dermis, which is made of living cells, contains capillaries, nerves, and lymphatics. The dermis also contains the sebaceous glands, sweat glands, and hair.

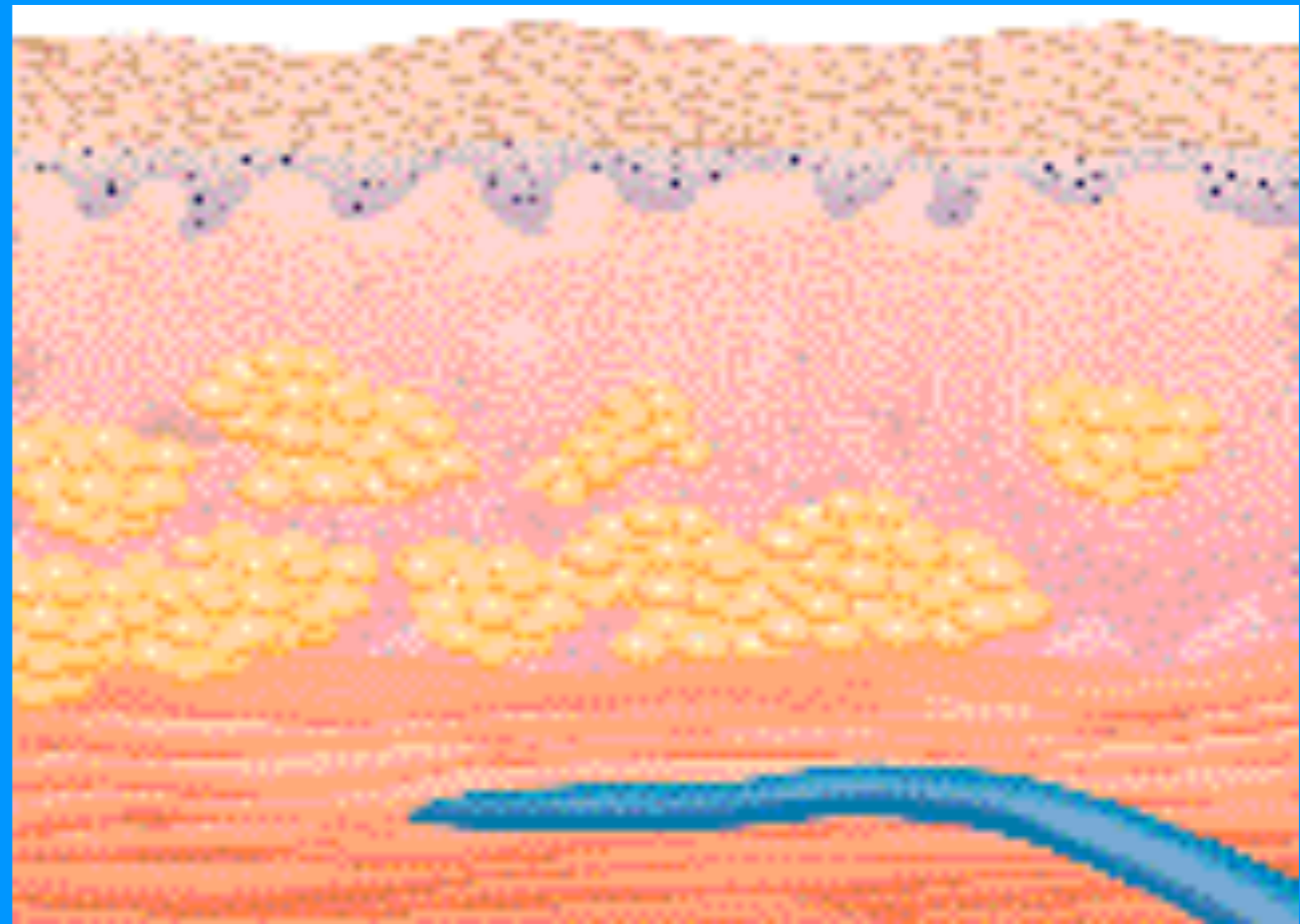
The Integument System



- The subcutaneous layer of tissue is beneath the dermis but is closely interconnected to it. It separates the skin from other organs e.g. the muscular system.

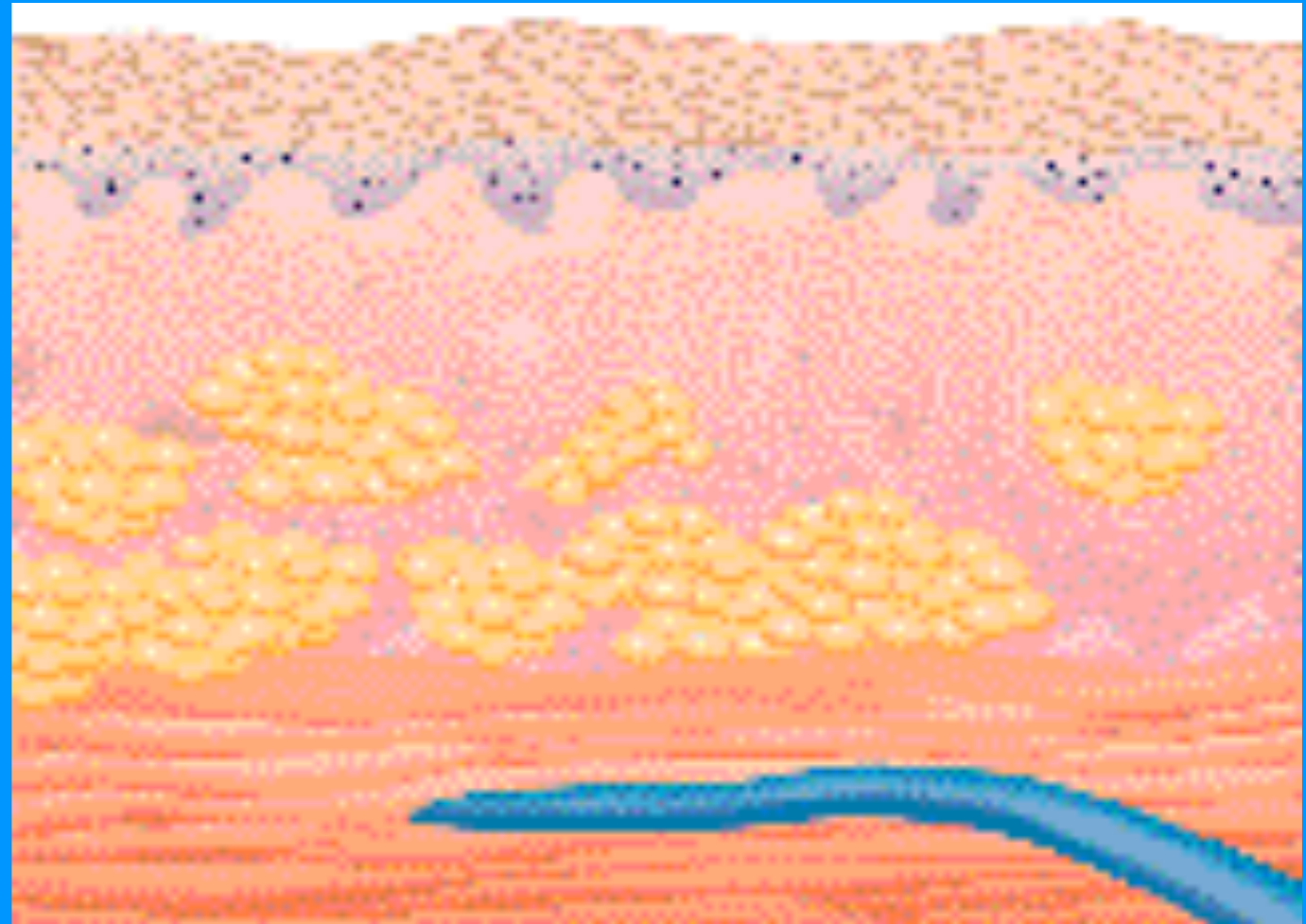
The Integument System

- Necr =
 - death
- Derma =
 - skin
- Cutane =
 - skin
- Mast =
 - breast



The Integument System

- Onych =
 - nail
- Myco =
 - fungal
- Lact =
 - milk



The Integument System

- Dermatitis =
 - skin inflammation
- Erythroderma =
 - abnormal redness of skin
- Lactation =
 - secretion of milk
- Mastectomy =
 - surgical removal of breast

The Integument System

- Onychomycosis =
 - fungal infection of nails
- Pachyderma =
 - abnormal thickness of skin
- Subcutaneous =
 - beneath the skin
- Transdermal =
 - through the skin

Dermatologicals

Conditions

- Eczema
- Psoriasis
- Acne
- Fungal infections
- Viral infections (herpes simplex)
- Allergic reactions, hives, rash, bites

Dermatologicals

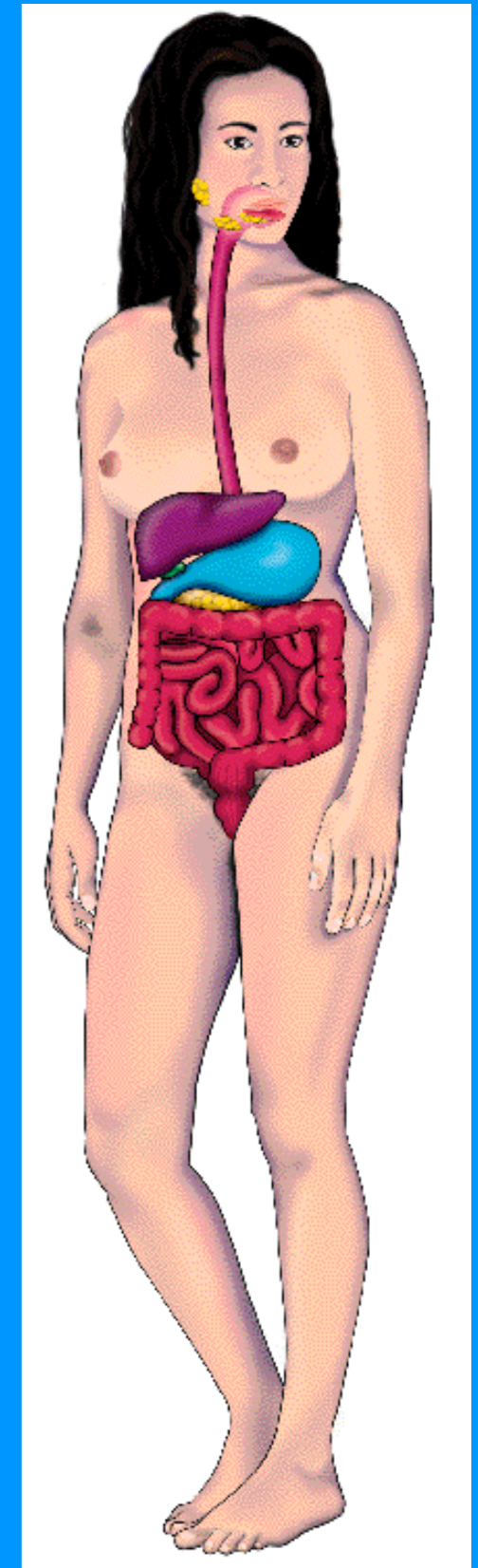
Type	Brand	Generic	Route
Steroid	Westcort	hydrocortisone cream	Topical
Antihistamine	Benadryl	diphenhydramine	PO, topical
Anti-infective	Silvadene cream	silver sulfadiazine	Topical
Anti-infective	Vibramycin	doxycycline hyclate	Oral
Anti-infective	Floxin	ofloxacin	Oral
Antimetabolite	Efudex	fluorouracil cream	Topical

Electrolytic Agents

- Potassium supplement
 - K-Dur Tablets, Klor-Con, KCl
- Rehydralyte Solution
 - Na, K, Cl, citrate
- Infalyte Oral Solution
 - Na, K, Cl, citrate
- Resol Solution
 - Na, K, Cl, citrate, magnesium, phosphate
- Naturalyte Solution
 - Na, K, Cl, citrate
- Pedialyte Solution
 - Na, K, Cl, citrate

Gastrointestinal (GI) Tract

- This system goes from the mouth to the anus. It includes the organs involved in digestion of food and absorption of nutrients.
- Lips
- Tongue
- Teeth
- Salivary glands
- Gallbladder
- Esophagus
- Stomach
- Small Intestine
- Large Intestine
- Liver
- Pancreas



Alimentary Tract

- Chol =
 - bile
- Col =
 - colon
- Duoden =
 - duodenum
- Enter =
 - intestine
- Esophag =
 - esophagus

Alimentary Tract

- Gastr =
 - stomach
- Hepat =
 - liver
- Lapar =
 - abdomen
- Pancreat =
 - pancreas

Gastrointestinal (GI) Tract

- Several organs contribute to the digestion of foods by secreting enzymes into the small intestine when food is present.
- Ducts carry bile from the liver (hepatic duct) and the gallbladder (cystic duct) to the duodenum.

Gastrointestinal Tract

- Gastritis =
 - inflammation of the stomach.
- Gastroenteritis =
 - inflammation of the stomach
- Hepatitis =
 - inflammation of the liver.
- Appendicitis =
 - inflammation of the appendix

Gastrointestinal Tract

- Colitis =
 - inflamed or irritable colon
- Hematemesis =
 - vomiting of blood
- Diarrhea =
 - liquid bowel movement

GI Agents

Type

Enzyme

Enzyme

Enzyme

Antidiarrheal

Antidiarrheal

Antidiarrheal

Antiemetic

Antiemetic

Antiemetic

Brand

Creon

Pancrease

Ultrace

Imodium

Lomotil

Pepto-Bismol

Tigan

Compazine

Zofran

Generic

pancrelipase

pancrelipase

pancrelipase

loperamide

diphenoxylat+atropine

bismuth subsalicylate

trimethobenzamide**

prochlorperazine

ondansetron

GI Agents

•Type	Brand	Generic
•Antacid/antiulcer	Maalox, Mylanta	Mg/Al hydroxide simethicone
•Antacid/antiulcer	Tagamet Zantac Pepcid Axid	cimetidine ranitidine famotidine nizatidine
•PP Inhibitors	Prilosec Prevacid	omeprazole lansoprazole
•Laxative	Kristalose Miralax Senna	lactulose PEG sennosides
•Stool softener	Colace	docusate sodium

The Urinary Tract

- The Urinary Tract is responsible for:
 - Removing dissolved wastes from the blood
 - Maintaining blood volume
 - Regulation of blood pressure
 - Stimulation of RBC production
- and includes the kidneys, ureters, urinary bladder, and urethras.

The Urinary Tract

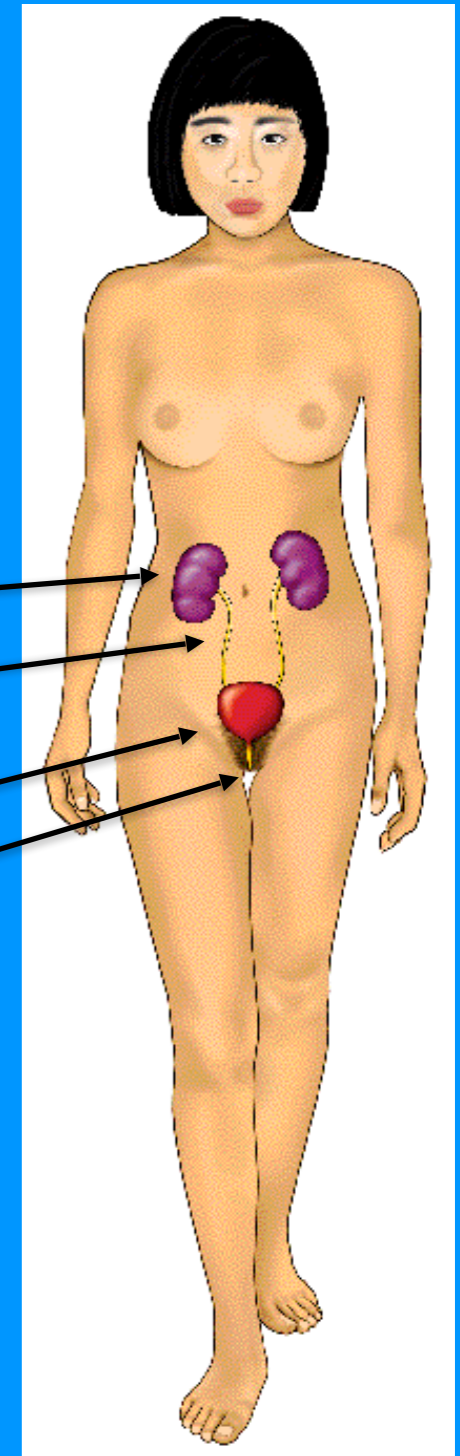
- The Urinary Tract system includes:

- Kidney

- Ureters

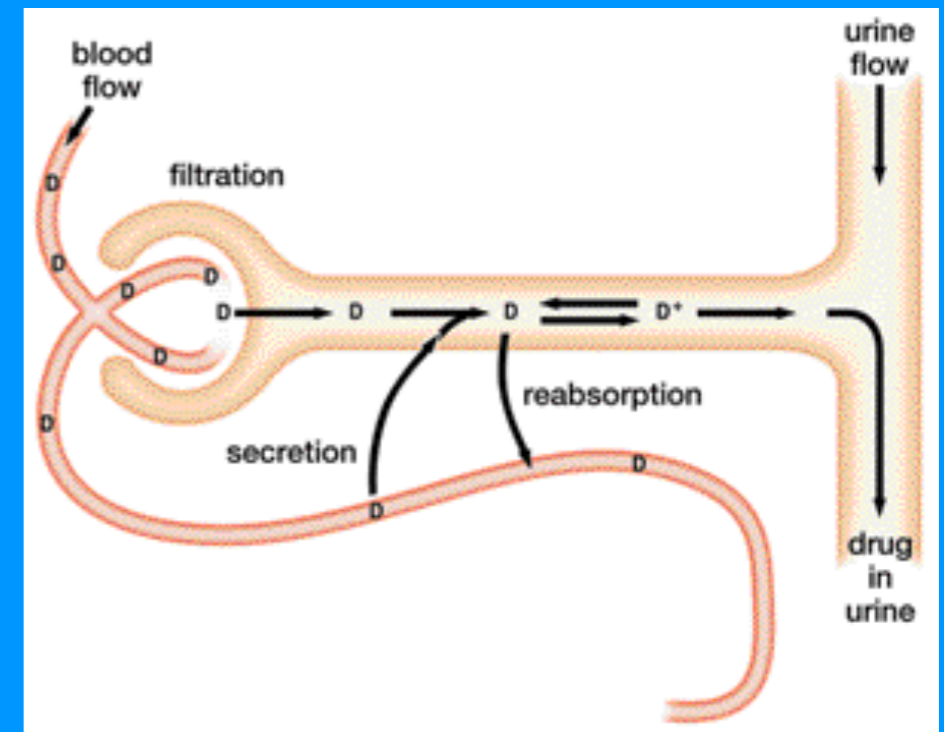
- Urinary bladder

- Urethra



The Urinary Tract

- The functional unit of the kidney is the Nephron of which there are several million in the kidneys.
- As blood flows through the glomerulus, plasma water is filtered the filtrate is then collected in the tubule.



The Urinary Tract

- Urine is the filtrate that moves along the tubule.
- Urine leaves the kidney through the ureters and is collected in the urinary bladder.
- Urine is excreted from the bladder through the urethra.

The Urinary Tract

- Cyst =
 - bladder
- Vesic =
 - bladder
- Ren =
 - kidney
- Nephr =
 - kidney
- Uria =
 - urine
- Pyleo =
 - renal pelvis
- Uro =
 - urine
- Glycos =
 - sugar

The Urinary Tract

- Anuria =
 - inability to produce urine
- Cystitis =
 - inflammation of the bladder
- Nephritis =
 - inflammation of the kidney
- Polyuria =
 - excessive urination

The Urinary Tract

- Uremia =
 - toxic blood condition
- Glycosuria =
- Urologist =
- Anephric =
- Nephrotoxic =

Urinary Tract Agents

Type

- BPH
- BPH
- BPH
- BPH

Brand

Flomax

Uroxatral

Proscar

Avodart

Generic

tamsulosin

alfuzosin

finasteride

dutasteride

- Overactive Bladder

Detrol LA

Enablex

Vesicare

tolterodine

darifenacin

solifenacin

- Urinary tract analgesic

Pyridium

phenazopyridine

Hematological Drugs

Type	Brand	Generic
Hematopoietic	Slow Fe	ferrous sulfate
Hematopoietic	Rubramin	cyanocobalamin, B12
Hemostatic	Amicar	aminocaproic acid
Hemostatic	Cyklokapron	tranexamic acid
Hemostatic/top	Surgicel	oxidized cellulose

The Endocrine System

- Consists of the glands that secrete hormones which assist in regulating body functions.
- Includes:
 - pituitary gland
 - pancreas
 - adrenal glands
 - thyroid gland
 - gonads (ovaries and testes).

The Endocrine System

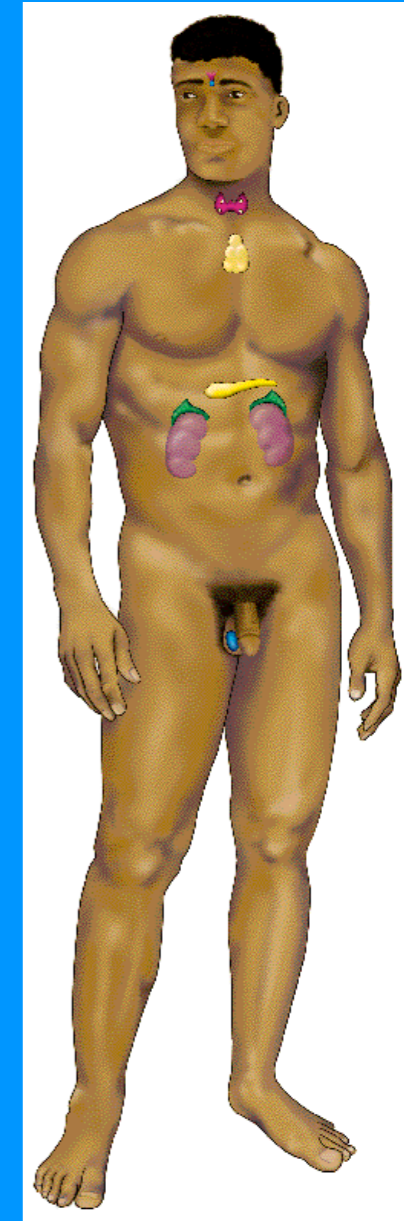
- Pituitary gland: produces multiple hormones and is located at the base of the brain. It controls the body's growth and the activity of the other glands.
- Thyroid gland: located just below the larynx and releases hormones important for regulating body metabolism.

The Endocrine System Cont.

- Parathyroid glands: located on the thyroid gland.
- Thymus gland: located beneath the sternum.
- Pancreas: known for its production of insulin and glucagon.
- Adrenal glands: located on top of the kidneys and produce such hormones as aldosterone, cortisol (hydrocortisone), androgens, and estrogens.
- Medullary region: adrenal glands produce the catecholamines adrenaline (epinephrine) and noradrenaline (norepinephrine).

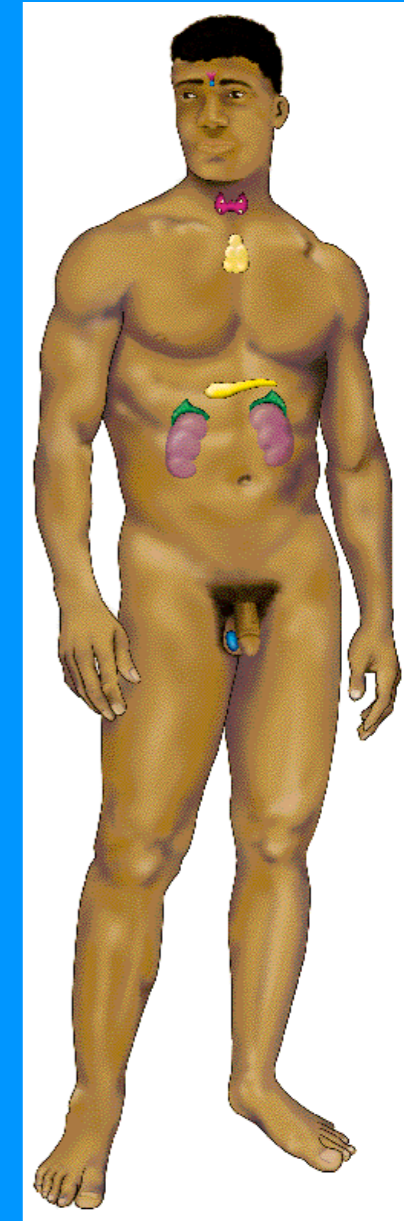
Endocrine System

- Lipid =
 - fat
- Nephr =
 - kidney
- Thym =
 - thymus



Endocrine System

- Adrena=
 - adrenal
- Gluc =
 - sugar
- Panceat =
 - pancreas
- Somat =
 - body



Endocrine System

- Hyperlipidemia
 - high fat/lipids in the blood.
- Hypothyroidism
 - a deficiency of thyroid hormone.
- Somatic
 - pertaining to the body.

Hormones & Modifiers Thyroid, Parathyroid, and Pituitary

Type	Brand	Generic
Thyroid	Armour Thyroid	thyroid desiccated
Thyroid	Synthroid	levothyroxine/T4
Thyroid	Cytomel	liothyronine/T3
Parathyroid	Miacalcin	calcitonin-salmon
Pituitary ovulatory stimulant	Clomid	clomiphene
Pituitary	Pitocin	oxytocin

Hormones & Modifiers Adrenal

Type

Brand

Generic

•Adrenal/sympathomimetic

Adrenalin

epinephrine

•Adrenal/corticosteroid

Cortef

hydrocortisone

Medrol

methylprednisolone

Sterapred

prednisone

prednisolone**

Kenalog triamcinolone

Insulins

Brand	Generic	Route
• Humulin R	regular	SQ, IV
• Novolin R	regular	SQ, IV
• Humalog	lispro	SQ
• Humulin N	NPH	SQ
• Lantus	glargine	SQ
• Novolog	insulin aspart	SQ
• Levimir	detemir	SQ

Oral Anti-diabetic

Brand

- Diabeta
- Glucotrol
- Glucophage, Fortamet

Generic

- glyburide
- glipizide
- metformin

The Female Reproductive System

- The Female Reproductive System
 - produces hormones (e.g. estrogen, progesterone)
 - controls menstruation
 - provides for childbearing
- Contains the vagina, uterus, fallopian tubes, ovaries, and the external genitalia.

The Female Reproductive System

- The mammary glands (located in breast tissue) produce and secrete milk at childbirth.
- The vagina is a muscular tube that leads from an external opening to the cervix and uterus.

The Female Reproductive System

- The uterus is a hollow, pear-shaped organ.
- The fallopian tubes transport eggs from the ovary to the uterus.
- The ovaries are located on each side of the uterus.

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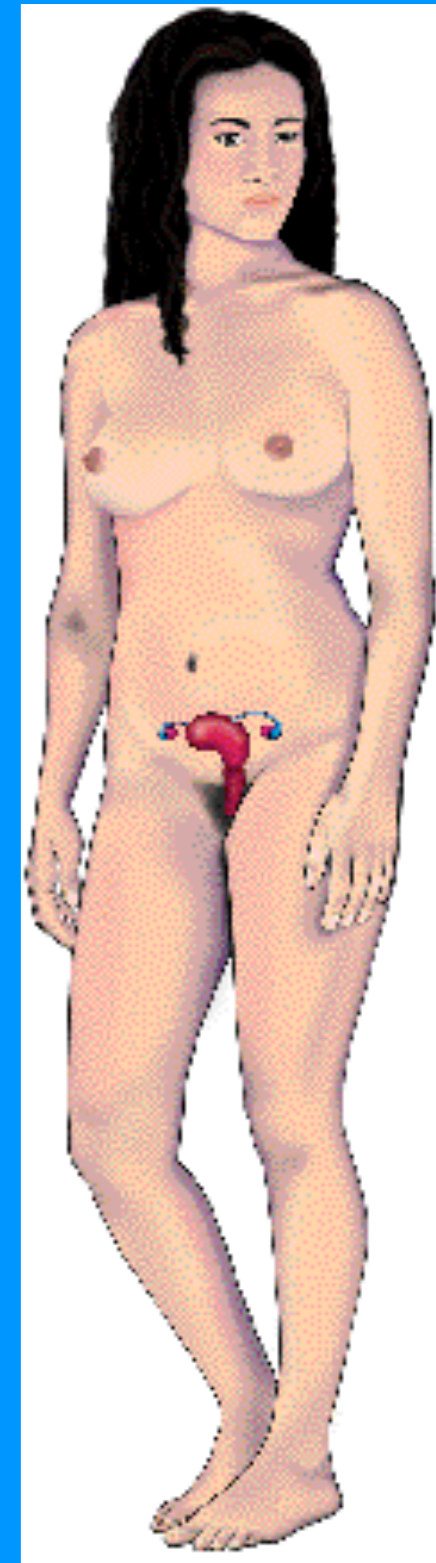
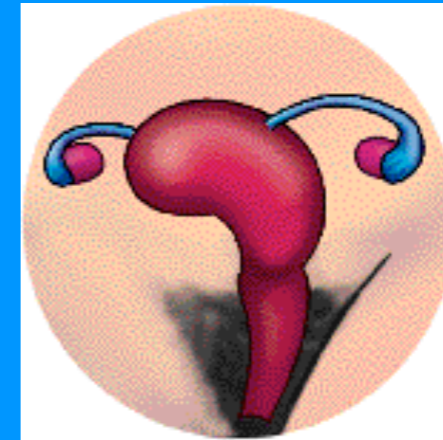
The Female Reproductive System

- The uterus is a hollow, pear-shaped organ.
- The fallopian tubes transport eggs from the ovary to the uterus.
- The ovaries are located on each side of the uterus.

The Female Reproductive System

- Gynec =
 - woman
- Lact =
 - milk
- Mast =
 - breast

- Metr =
 - uterus
- Ovari =
 - ovary
- Uter =
 - uterine



The Female Reproductive System

- Cervic =
 - cervix
- Gynec =
 - female
- Hyster =
 - uterus
- Cyst =
 - bladder
- Oophor =
 - ovary

The Female Reproductive System

- Gynecology =
 - the study of the female reproductive organs
- Amenorrhea =
 - absence of menstruation

The Female Reproductive System

- Dysmenorrhea =
 - menstrual pain
- Endometriosis =
 - abnormal growth of uterine tissue
- Vaginitis =
 - inflammation of the vagina

Reproductive System

Type

Brand/Generic

Androgen

Android/methyltestosterone

Phosphodiesterase inh.

Cialis/tadalafil

Phosphodiesterase inh.

Viagra/sildenafil

Oral contraceptive

Ortho Novum

norethindrone & ethinyl estradiol

Oral contraceptive

Trinessa

norgestimate & ethinyl estradiol

Reproductive System

Type	Brand	Generic
Oral contraceptive	Yasmin 28	drospirenone & ethinyl estradiol
Oral contraceptive	Ortho Tricyclen Lo	norgestimate & ethinyl estradiol
Contraceptive patch	Ortho Evra Patch	norelgestromin & ethinyl estradiol
Estrogen replace	Vagifem	estradiol
Estrogen replace	Premarin	conjugated estrogens
Progestin	Provera	medroxyprogesterone

The Male Reproductive System

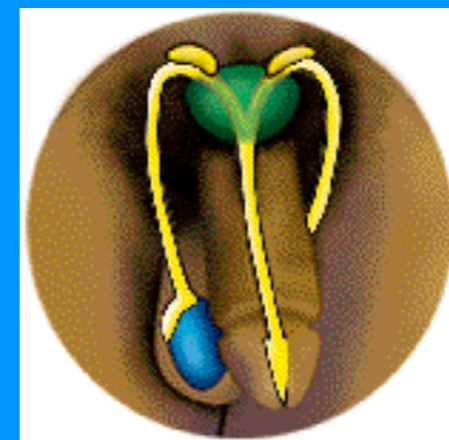
- The Male Reproductive System produces, sustains and transports sperm and produces hormones.
- The testes (also called testicles) are the primary male sex organs.
 - They are oval-shaped organs enclosed in the scrotum.

The Male Reproductive System

- The seminal glands, located at the base of the bladder, produce part of the seminal fluid.
- The Vas Deferens are ducts that allow the passage of the sperm from the testes.
- The prostate gland is located at the upper end of the urethra.

The Male Reproductive System

- The penis (glans penis) is the external organ for urination and sexual intercourse.
- The urethra, by which urine and semen leave the body, is inside the penis.



The Male Reproductive System

- Andr =
 - male
- Test =
 - testes
- Orchi =
 - testes
- Prostat =
 - prostate gland
- Sperm =
 - sperm
- Vas =
 - duct, vessel
- Vasicul =
 - seminal vesicles

The Male Reproductive System

- Prostatitis =
 - inflammation of prostate
- Aspermia =
 - inability to produce semen
- Spermicide =
- Prostatectomy =
- Orchiectomy =

The Muscular System

- Word muscles comes from mus = mouse; cle = little and resembles a mouse moving under a cover.
- The body contains more than 600 muscles which give shape and movement to it.
- The skeletal muscles are striated and are attached to bone by tendon.

The Muscular System

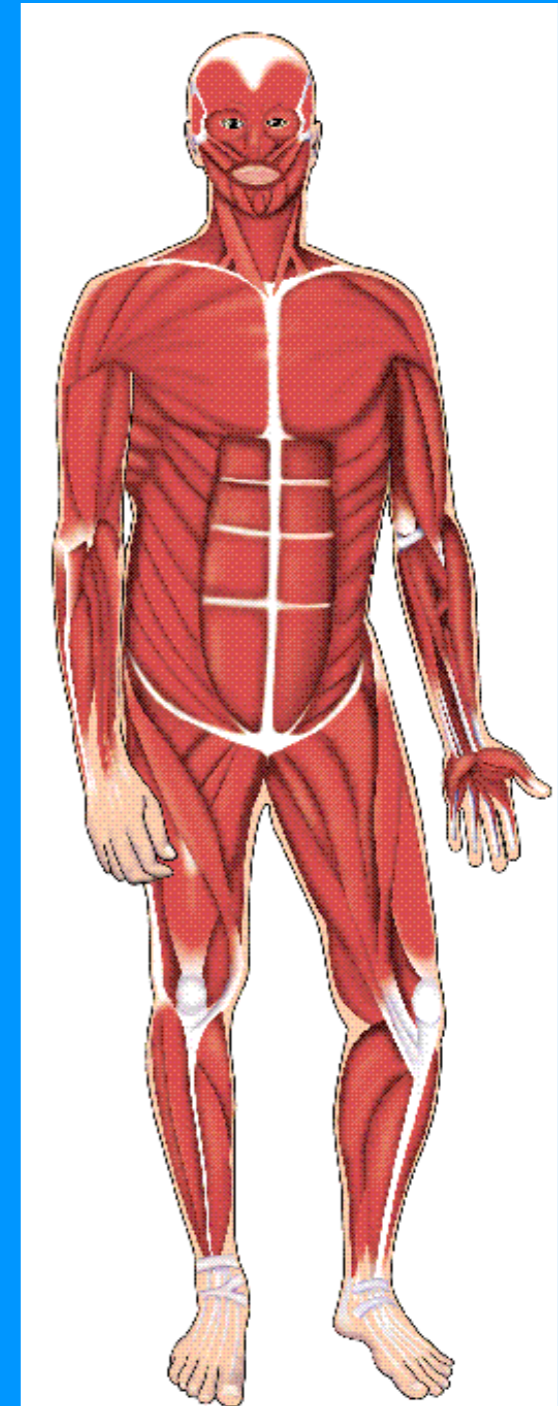
- Voluntary action - the action of most muscles are controlled consciously.
- Some muscles produce an outward (flexor) movement and are called agonist muscles.
- Antagonist muscles are those that contract or bring the limb back to the original position.

The Muscular System

- Two other types of muscle are:
 - Cardiac muscle found in the heart
 - Smooth muscle found in the wall of the gastrointestinal tract and blood vessels.
- Both are Involuntary Muscles which operate automatically.

The Muscular System

- my =
 - muscle
- Fibr =
 - fiber
- Tendin =
 - tendon
- Myalgia =
- Myofibrosis =
- Myopathy =

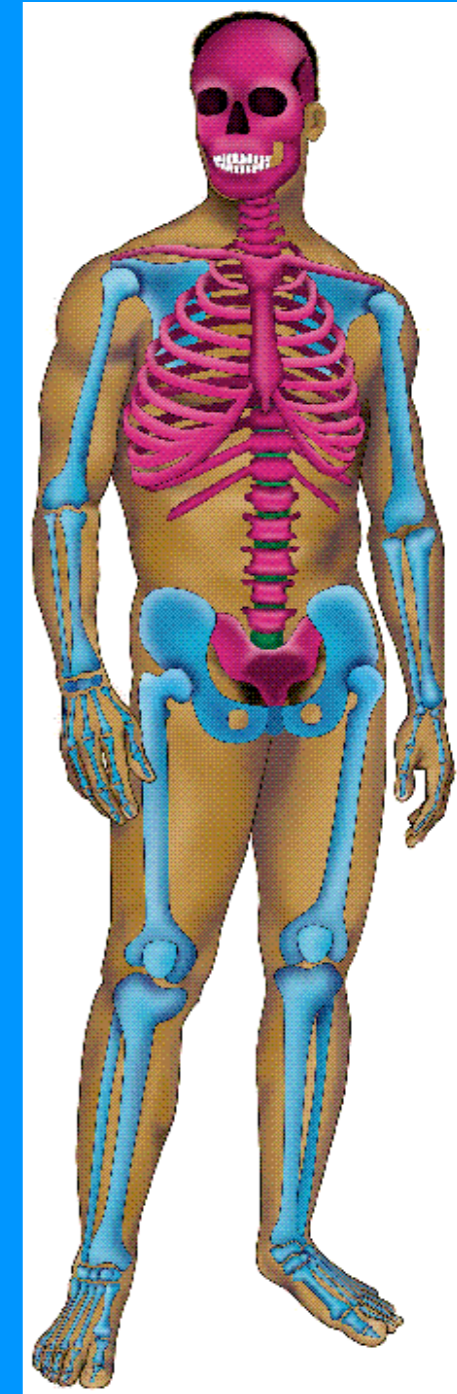


The Muscular System

- Fibromyalgia =
 - chronic pain in the muscles
- Myoplasty =
 - plastic surgery of muscle tissue
- Tendonitis =
 - inflammation of a tendon

The Skeletal System

- Protects soft organs and provides structure and support for the body's organs.
- Contains 206 bones
 - Axial (skull and spinal column)
 - Appendicular (Arms, legs connecting bones)



The Skeletal System

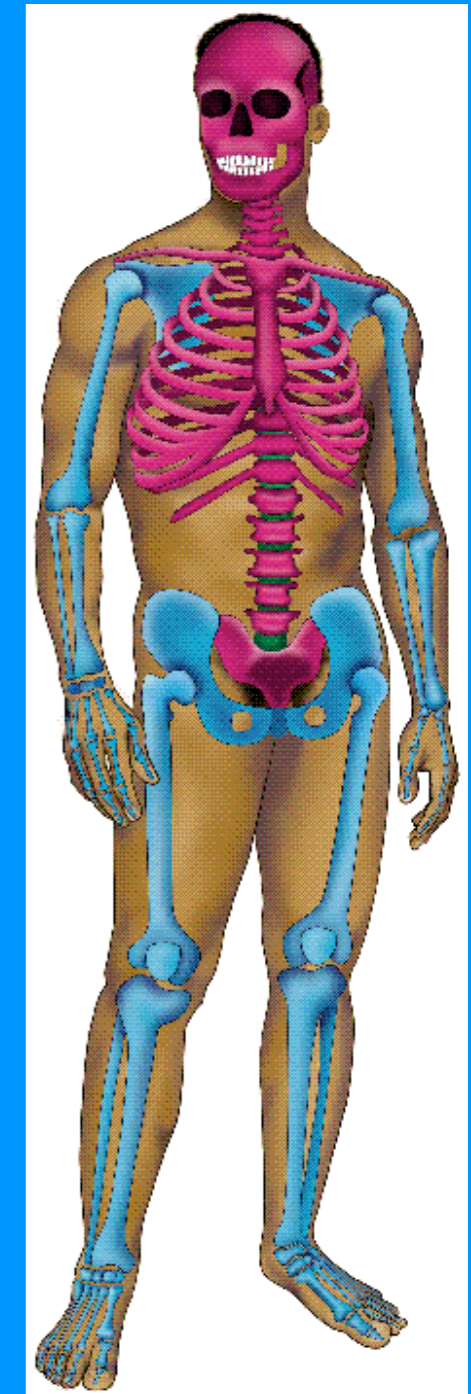
- Ligaments and Cartilage are connective tissue that hold together the skeletal system's joints.
- Joints range from rigid, cranial, to those allowing full motion (e.g., the ball and socket joints of the hips and shoulders).

The Skeletal System

- Bone are also important in:
 - Formation of blood cells
 - Storage and release of minerals, esp. calcium
 - Storage of fat

The Skeletal System

- Arthr =
 - joint
- Calcane =
 - heel bone
- Carp =
 - wrist
- Crani =
 - cranium
- Dactyl =
 - finger or toe
- Femor =
 - thigh bone
- Myel =
 - bone marrow



The Skeletal System

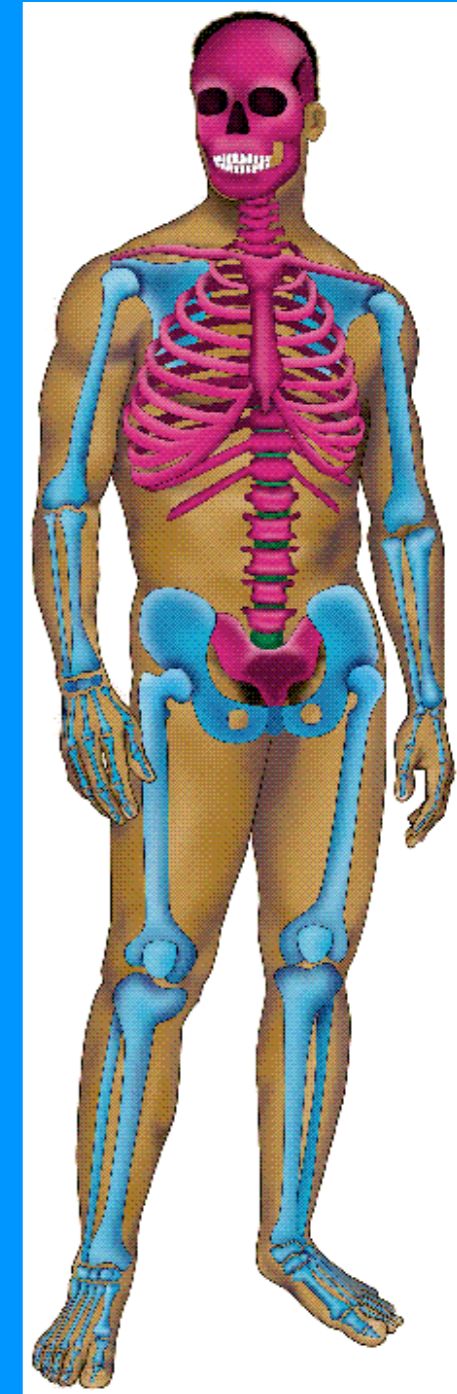
- Oste =
 - bone
- Ped =
 - foot
- Pelv =
 - pelvis
- Spondy =
 - backbone
- Stern =
 - sternum
- Vertebr =
 - vertebrae
- Phalang =
 - fingers/toes
- Chondro =
 - cartilage

The Skeletal System

- Arthralgia =
 - joint pain
- Arthritis =
 - inflammation of a joint
- Carpal =
 - pertaining to the wrist
- Osteoarthritis =
 - degenerative disease of joints
- Osteoporosis =
- Osteomyelitis =

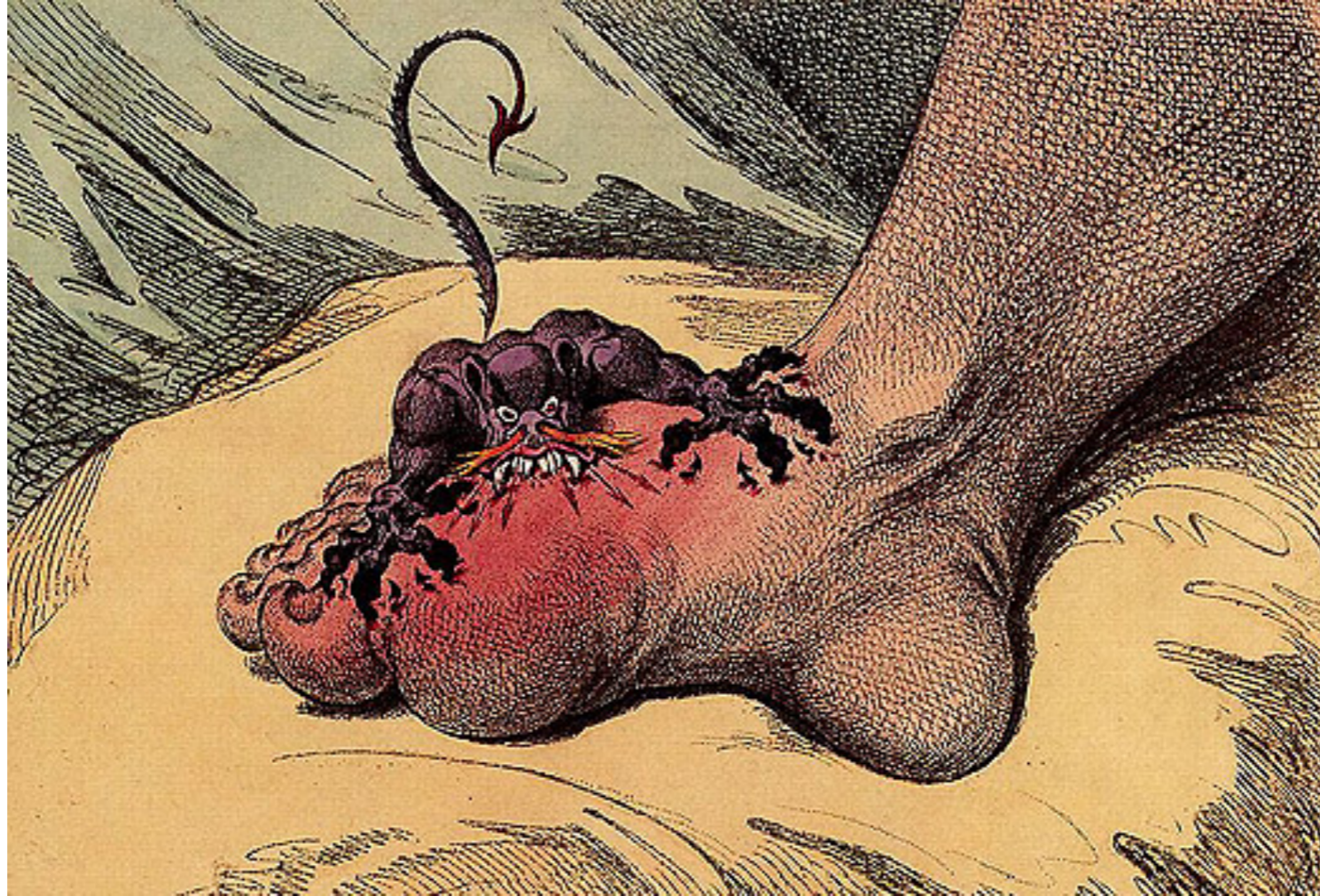
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Musculoskeletal Agents.

•Type	Brand	Generic
•Osteoporotic	Actonel	risedronate
•Osteoporotic	Fosamax	alendronate
•Centrally acting antispasmodics	Valium	diazepam
•Muscle relaxant	Soma	carisoprodol
•Muscle relaxant	Flexeril	cyclobenzaprine



Musculoskeletal Agents - Anti-gout

Brand

- Colcrys

Uricosuric

- Benemid

Xanthine oxidase inhibitor

- Zyloprim
- Uloric

Generic

colchicine

probenecid

allopurinol

febustostat

Musculoskeletal Agents

Type	Brand	Generic
Disease-modifying	Rheumatrex Enbrel	methotrexate entercept
Gold preparation	Solganal	aurothioglucose (suspended in oil)

The Nervous System

- The Nervous System is the most complex of the body organ systems because there are over 100 billion neurons in the brain alone.
- The neuron (nerve cell), the basic functional unit in this system, transmits information from the brain to the entire body.

The Nervous System

- The primary parts are the central nervous system (CNS) and the peripheral nervous system.
- The CNS is comprised of the brain and the spinal cord.

The Nervous System

- There are subdivisions of the peripheral nervous system called the autonomic nervous system and the somatic nervous system.
- The autonomic nervous system controls the automatic functions of the body, e.g., breathing, digestion, glandular function etc.
- The somatic nervous system controls the voluntary actions of the body, e.g., muscle movements.

The Nervous System

- Cereb =

- cerebrum

- Encephal =

- brain

- Mening =

- meninges

- Myel =

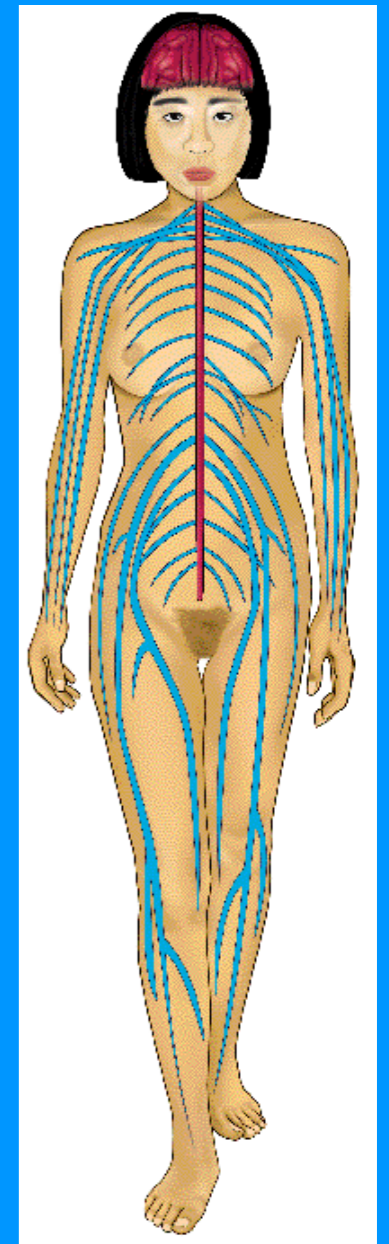
- spinal cord

- Neur =

- nerve

- Phas =

- speech



The Nervous System

- Encephalitis =
 - inflammation of the brain
- Neuralgia =
 - severe pain in a nerve
- Neuroma =
 - tumor or nerve cells
- Neuropathy =
- Meningitis =
- Dysphagia =

Neurological Agents

Cognitive symptom agent

Brand

- Cognex
- Aricept
- Namenda

Generic

tacrine
donepezil
memantine

Neurological Agents

Antidepressant

Brand

- Pamelor
- Norpramin
- Elavil

- Wellbutrin
- Remeron

- Deseryl

Generic

nortriptyline
desipramine
amitriptyline

bupropion
mirtazapine

trazadone

Neurological Agents

Brand

Generic

SSRI

- | | |
|-----------|--------------|
| • Paxil | paroxetine |
| • Zoloft | sertraline |
| • Prozac | fluoxetine |
| • Lexapro | escitalopram |
| • Celexa | citalopram |

Neurological Agents

Brand

Generic

SNRI

- Cymbalta
- Effexor XR
- Pristiq

duloextine
venlafaxine
devenlafaxine

Neurological Agents

Antiepileptic

Brand

- Dilantin
- Luminal
- Depakene
- Depakote
- Tegretol
- Lamictal
- Keppra

Generic

phenytoin
phenobarbital
valproic acid
divalproex sodium
carbamazepine
lamotrigine
levetiracetam

Neurological Agents

Brand

Generic

Antimigraine

- | | |
|-----------------|-------------|
| • Bayer Aspirin | aspirin |
| • Imitrex | sumatriptan |
| • Motrin | ibuprofen |

Neurological Agents

Antipsychotics

Brand

- Risperdal
- Abilify
- Clozaril
- Zyprexa
- Seroquel (XR)
- Geodon

Generic

risperidone
aripiprazole
clozapine
olanzapine
Queitapine
Ziprasidone

Neurological Agents

AD(H)D

Brand

- Concerta
- Methylin
- Ritalin
- Quillivant XR
- Adderall
- Vyvanse

Generic

methylphenidate CII
methylphenidate CII
methylphenidate CII
methylphenidate CII
amphetamine salts CII
lisdexamfetamine CII

Neurological Agents

Antianxiety

Brand

- Ativan
- Klonopin
- Valium
- Xanax

Generic

- lorazepam CIV
- clonazepam CIV
- diazepam CIV
- alprazolam CIV

Neurological Agents

Hypnotics

Brand

- Benadryl
- Unisom
- Desyrel

Generic

- diphenhydramine (OTC)
- doxylamine (OTC)
- trazadone

Benzodiazepines

- none
- Ativan
- Restoril
- Halicion

- flurazepam CIV
- lorazepam CIV
- temazepam CIV
- triazolam CIV

- Ambien

- zolpidem CIV

Alcohol or Drug Dependency

Brand

Generic

Treatment for alcoholism

•Antabuse

disulfiram

•ReVia

naltrexone

Treatment for cocaine addiction

• Norpramin

desipramine

Narcotic detoxification

•Dolophine

methadone CII

Buprenorphine - Naloxone

Suboxone

Zubsolv

- Use - opioid dependence
- Dose - titrated for effectiveness
- Restricted distribution
- DEA # special designation. Eg XM 1234563
- Buprenorphine is an opiate receptor agonist
- Naloxone is an opiate receptor antagonist

Neurological Agents - Antiparkinsonian

Brand

- Sinemet
- Eldepryl
- Symmetrel

Generic

carbidopa/levodopa
selegiline
amantadine

Antiparkinsonian/dopamine agonist

- Permax
 - Parlodel
- pergolide
bromocriptine

Antiparkinsonian/anticholinergic

- Cogentin
- benztropine

Neurological Agents

Immunomodulator (multiple sclerosis)

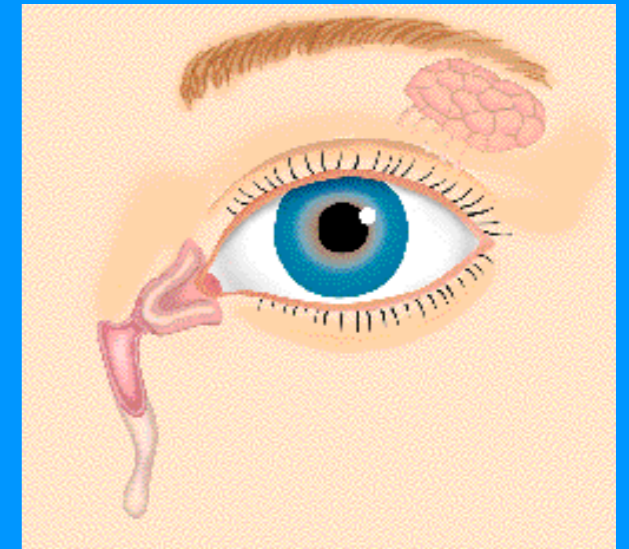
Brand

Generic

- | | |
|------------|---------------------|
| •Avonex | interferon beta-1 a |
| •Betaseron | interferon beta-1 b |
| •Copaxone | glatiramer acetate |
| •Rebif | interferon beta-1 a |

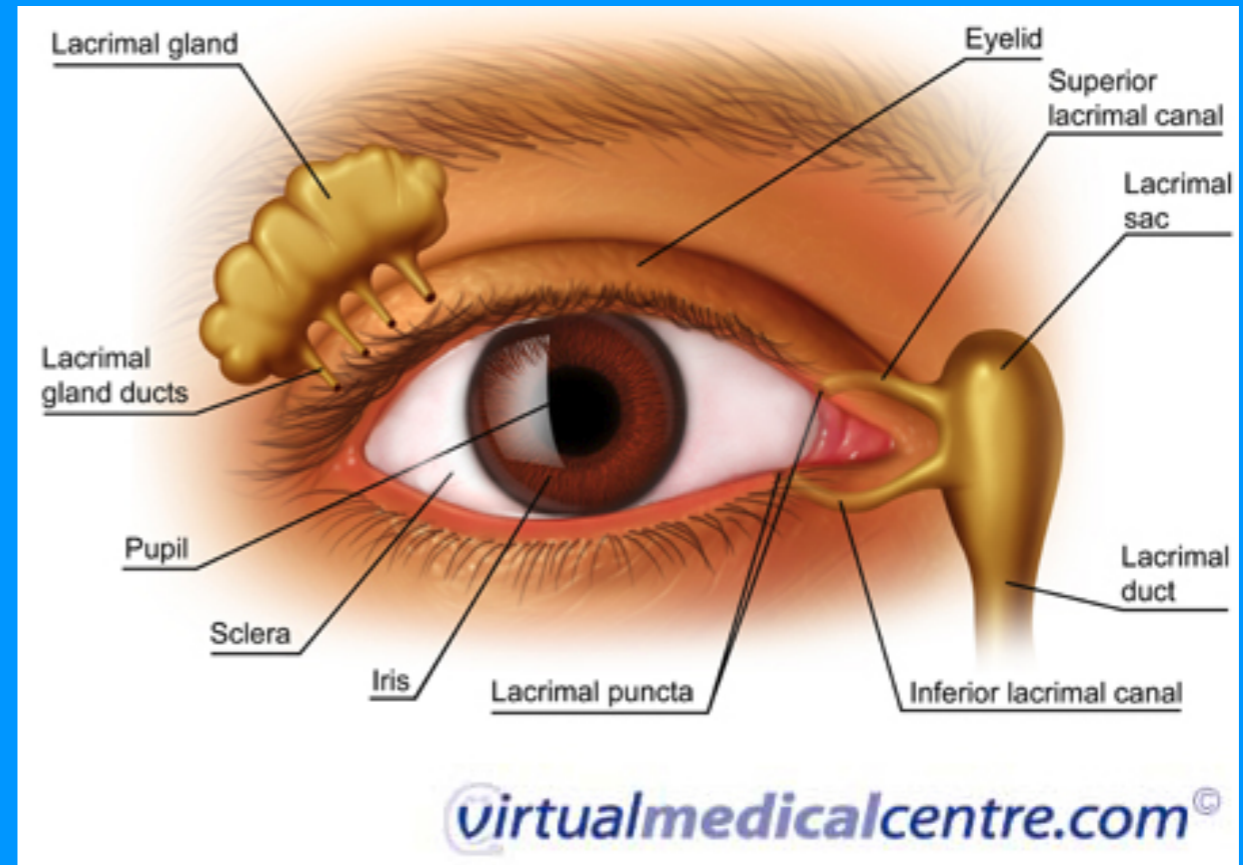
The Eyes

- The Eyes are the organs that provide sight.
- The eyelids protect the eye and assist in its lubrication.
- The conjunctiva is the blood-rich membrane between the eye and the eyelid.



The Eyes

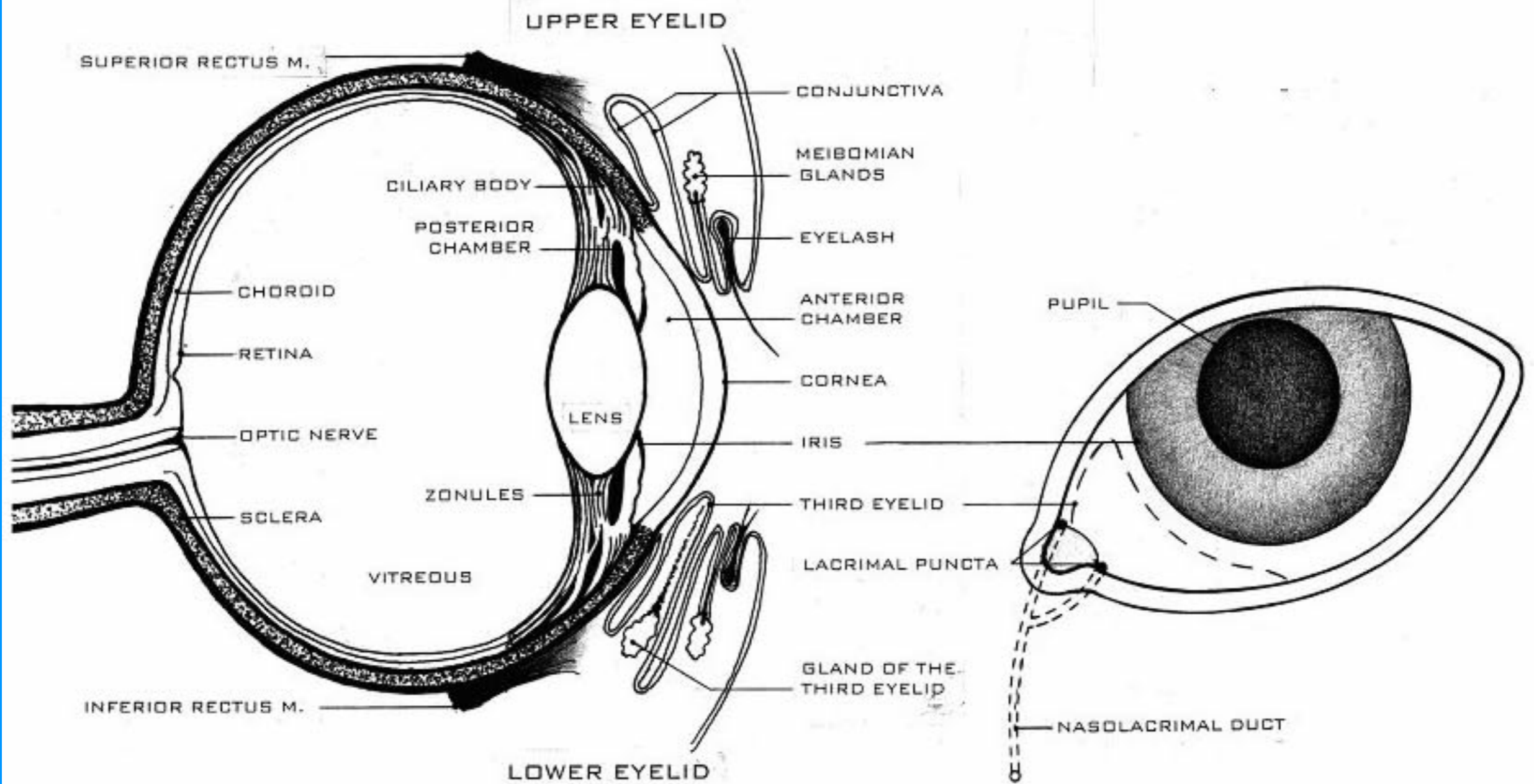
- There are glands that secrete fluids to protect and lubricate the eye; the lacrimal glands above each eye secrete. Meibomian glands secrete sebum.



- Canaliculi (tear ducts) drain excess fluid from the eye.

The Eyes

- The eye has three layers. The outer layer is composed of the sclera and the cornea.
- The sclera is the white part of the eye. The cornea is transparent. The iris and the pupil are visible.
- The middle layer is called the choroid and contains blood vessels that nourish the entire eye.



The Eyes

- In the third layer, the lens focuses light rays on the retina.
- The vitreous humor (one of two fluids in the eye) fills the space between the retina and the lens.
- The optic nerve within the retina transmits the nerve impulses to the brain for interpretation.

The Eyes

- Blephar =
 - eyelid
- Conjunctiv =
 - conjunctiva
- Retin =
 - retina
- Oculo =
 - eye

- Corne =
 - cornea
- Lacrim =
 - tear duct
- Irid =
 - iris
- Opia =
 - vision

The Eyes

- Blepharitis =
 - inflammation of the eyelid
- Conjunctivitis =
 - inflammation of the conjunctiva
- Retinitis =
 - inflammation of the retina
- Diplopia =
 - double vision

Color Coding of Topical Ophthalmic

Class	Color
Anti-infectives	Tan
Anti-inflammatories/steroids	Pink
Mydriatics and cycloplegics	Red
Nonsteroidal anti-inflammatories	Gray
Miotics	Dark Green
Beta-blockers	Yellow
Beta-blocker combinations	Dark Blue
Adrenergic agonists	Purple
Carbonic anhydrase inhibitors	Orange
Prostaglandin analogues	Turquoise

Ophthalmic Agents

Brand

Generic

Antibiotic

- Garamycin
- Sodium Sulamyd

gentamicin
sodium sulfacetamide

- Chibroxin
- Ciloxan
- Vigamox

norfloxacin
ciprofloxacin
moxifloxacin

Antiviral

- Vira-a
- Viroptic

vidarabine
trifluridine

Ophthalmic Agents

Brand

Generic

Antihistamine

- Livostin
- Patanol
- Emadine
- Zaditor

levocabastine
olopatadine
emedastine
ketotifen

Ophthalmic cortico-steroids

- Pred Mild
- Pred Forte

prednisolone 0.12%
prednisolone 1.0%

NSAID

- Ocufen
- Acular

flurbiprofen
ketorolac

Ophthalmic Agents

Brand

Generic

Elevated IOP

- | | |
|-------------------|---------------------|
| • Timoptic | timolol |
| • Betoptic | betaxolol |
| • Cosopt | dorzolamide/timolol |
| • Xalatan | latanoprost |
| • Travatan Z | travoprost |
| • Isopto Atropine | atropine |

Ophthalmic Agents

Brand

Generic

Mydriatic

- Mydrin

phenylephrine

Topical anesthetic

- Alcaine

proparacaine

Ocular lubricant

- Lacrisert

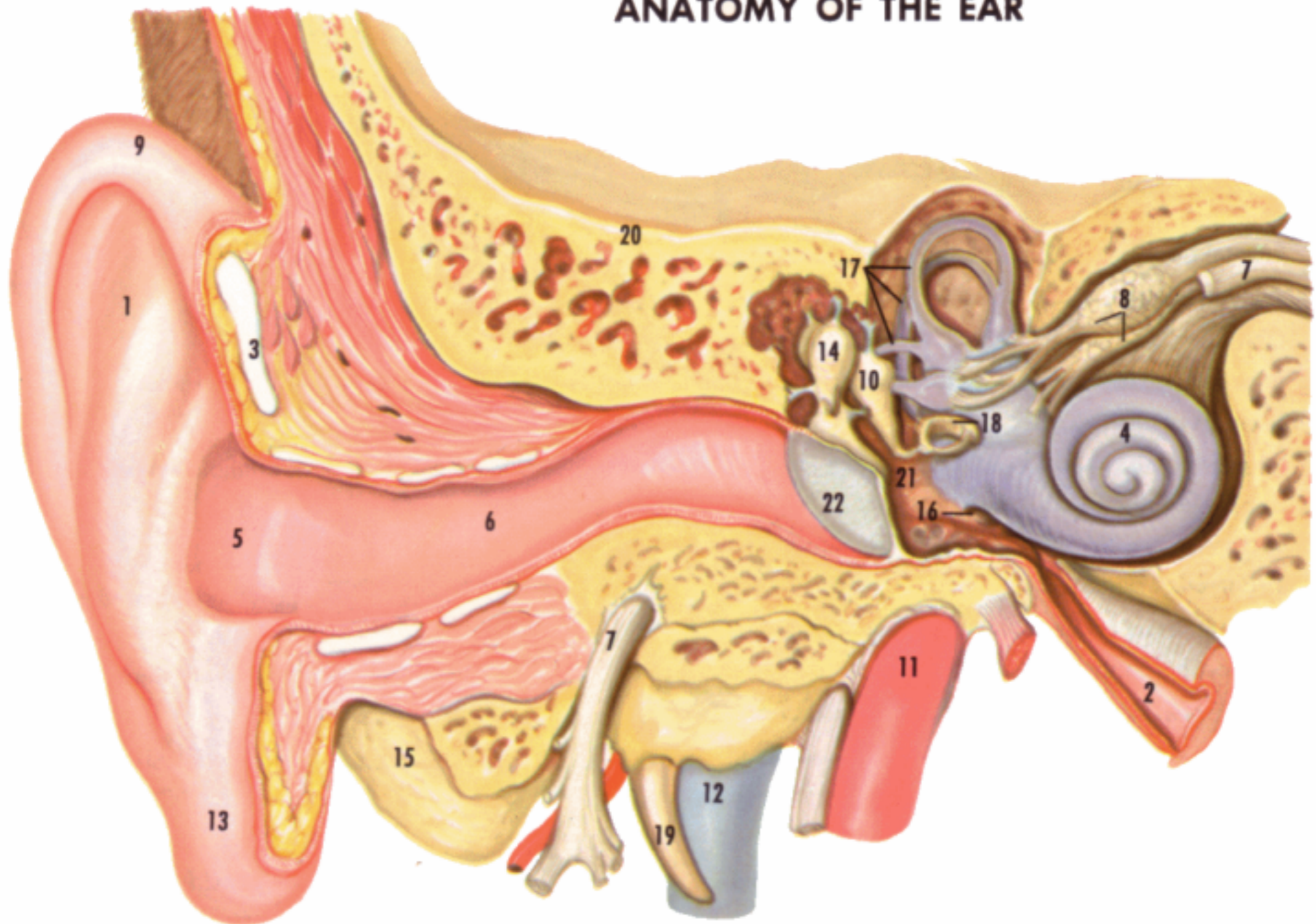
hydroxypropyl cellulose 5mg.

Blink, Gen Teal, Refresh, Systane

The Ears

- The Ears perform hearing, as well as the maintenance of body equilibrium.
- The External ear functions to capture sound waves and channels them inside the ear.
- The tympanic membrane (eardrum) is a funnel-shaped structure with an opening to outside. It contains glands that make earwax (cerumen) that protects the external ear.

ANATOMY OF THE EAR



- 1. Anthelix
- 2. Auditory tube
- 3. Cartilage
- 4. Cochlea
- 5. Concha
- 6. External acoustic meatus

- 7. Facial nerve
- 8. Ganglia of the vestibular nerve
- 9. Helix
- 10. Incus (anvil)
- 11. Internal carotid artery

- 12. Internal jugular vein
- 13. Lobe
- 14. Malleus (hammer)
- 15. Mastoid process
- 16. Round window
- 17. Semicircular canals

- 18. Stapes (stirrup)
- 19. Styloid process
- 20. Temporal bone
- 21. Tympanic cavity
- 22. Tympanic membrane (eardrum)

The Ears

- Malleus, incus, and stapes are three bony structures that transmit sound from a vibrating tympanic membrane to the cochlea and located in the middle ear.
- The eustachian tube connects the middle ear to the nose and throat, serving to equalize the air pressure on both sides of the tympanic membrane.

The Ears

- The labyrinth is the principal structure in the inner ear which consists of the vestibule, the cochlea, and the semicircular canals.
- When sound waves are transmitted to the cochlea, it converts them into nerve impulses that are sent to the brain for interpretation. The semicircular canals and the vestibule are primarily responsible for body equilibrium.

The Ears

- Acous =
 - hearing
- Audi =
 - hearing
- Cerumin =
 - wax-like
- Myring =
 - eardrum
- Ot =
 - ear
- Tympan =
 - eardrum

The Ears

- Otitis media =
 - middle ear inflammation
- Otomycosis =
 - fungal infection of ear
- Ceruminosis =
 - wax build up in ear
- Myringitis =
 - eardrum inflammation

Some Common Otic Agents

Brand Generic

Anti-infective

- Cortisporin Otic Sol.
 - neomycin, polymixin b, hydrocortisone
- Cortisporin Otic Susp.
 - neomycin, polymixin b, hydrocortisone**
- VoSol HC acetic acid, hydrocortisone
- Ciprodex ciprofloxacin/dexamethasone

Ear wax softener

- Cerumenex triethanolamine polypeptide
- Debrox carbamide peroxide

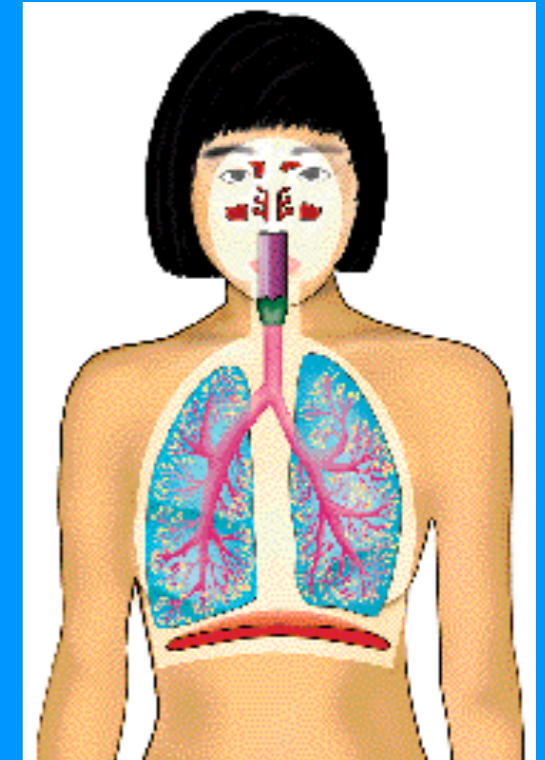
**Brand D/C, generics available

The Respiratory System

- The Respiratory System brings oxygen into the body through inhalation and expels carbon dioxide gas through exhalation. It produces sound for speaking and helps cool the body.
- Respiratory muscles (especially the diaphragm) expand the lungs automatically, causing air to be inhaled into the upper respiratory tract.

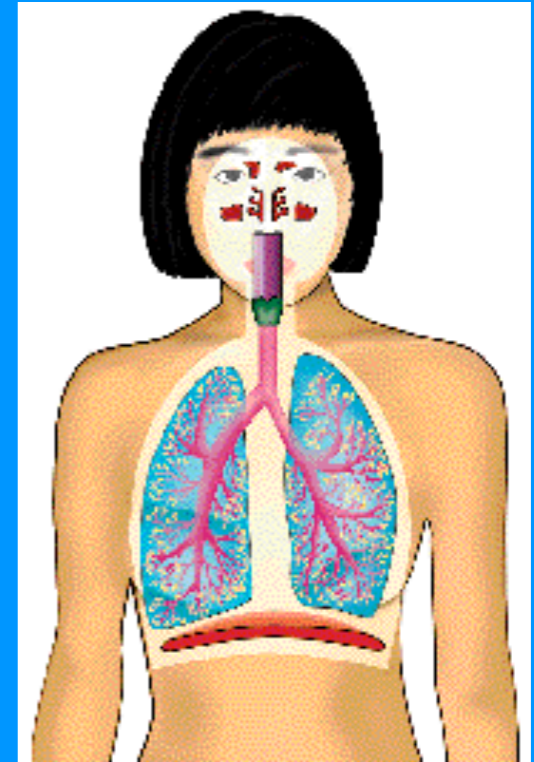
The Respiratory System

- The pleural cavity surrounds the lungs and provides lubrication for respiration.
- The pharynx directs food into the esophagus and air into the trachea.
- The larynx contains the vocal cords.



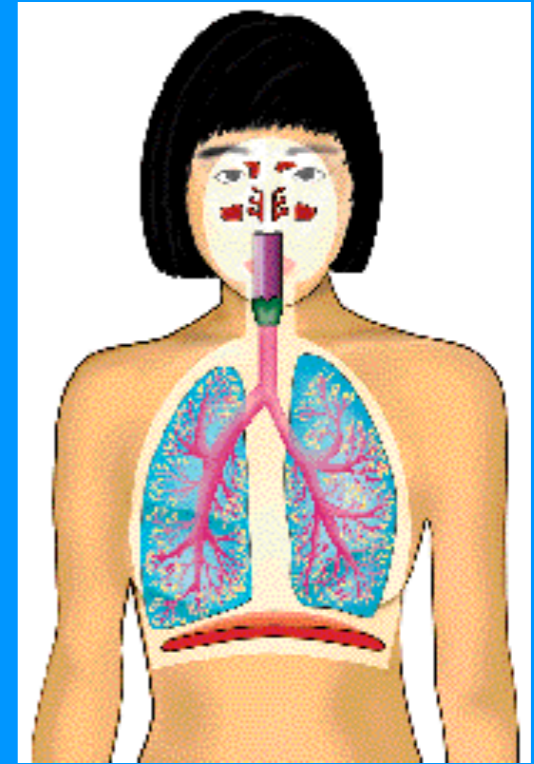
The Respiratory System

- The trachea, or windpipe, connects to the two bronchi (bronchial tubes) that enter the lungs.
- As air enters through the nose, it is warmed, moistened, and filtered. Inside the lungs, the bronchial tubes branch out and lead to the alveolar sacs that are the site of gas exchange within the lungs.



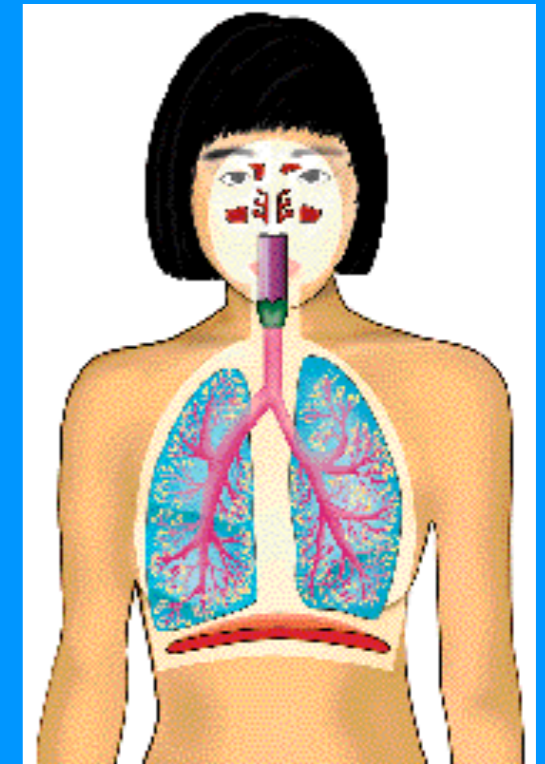
The Respiratory System

Alveoli: are specialized tissues that are responsible for the exchange of gases between the blood and inhaled air.



The Respiratory System

- aer, aero =
 - air, gas
- pneum, pulmon =
 - lung
- Pector =
 - chest
- Bronch =
 - bronchus
- OX =
 - oxygen
- Capnia =
 - carbon dioxide
- Rhin =
 - nose
- Laryng =
 - larynx



The Respiratory System

- Apnea =
 - temporary failure to breath
- Bronchitis =
 - inflammation of the bronchial membrane
- Cynosis =
 - blue discoloration of the skin
- Hypercapnia =
 - excessive carbon dioxide in the blood

The Respiratory System

- Hypoxia =
 - low blood oxygen level
- Pneumonia =
 - infection of the lungs
- Sinusitis =
 - inflammation of the sinuses

Respiratory Agents - Antihistamines - Allergy

Brand

Generic

Antihistamines

- Atarax/Vistaril
- Phenergan
- Benadryl
- Claritin
- Zyrtec

hydroxyzine

promethazine

diphenhydramine

loratadine

cetirizine

Respiratory Agents

Antihistamines - Allergy

Brand

Generic

Nasal Steroids

- Flonase
- Nasacort
- Nasonex

fluticasone
triamcinolone
mometasone

Respiratory Agents - Decongestants

Brand

Generic

Decongestant

- Sudafed

pseudoephedrine

- Sudafed PE

phenylephrine

Respiratory Agents - Anti-tussives

Non-Narcotic

Brand

- Delsym
- Mucinex-DM
- Tessalon Perles

Generic

- dextromethorphan (DM)
- DM/guiafenesin extended release
- benzonatate

Respiratory Agents - Anti-tussives

Narcotic

Brand

Generic

Tussionex

hydrocodone/chlorpheniramine CIII

Expectorant/antitussive

Vicodin Tuss

guaifenesin/hydrocodone CIII

Robitussin AC

guaifenesin/codeine CV

Respiratory Agents

Expectorants and Mucolytics

Brand

Generic

Expectorant

- Robitussin

guaifenesin

Mucolytic

- Mucomyst

acetylcysteine

Bronchodilators

Brand

Generic

Bronchodilator/ sympathomimetic

Proventil HFA, ProAir, Ventolin

albuterol

Bronchodilator/xanthine derivative

Theo- Dur

theophylline

Bronchodilators

Brand

Generic

Bronchial corticosteroid

- QVAR beclomethasone

Anticholinergic

- Atrovent ipratropium
- Combivent Respimat ipatropium/albuterol

Bronchodilator/corticosteroid

- Advair fluticasone/salmeterol
- Symbicort budesonide/formoterol

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