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
- Nephr - kidney
- Ot - ear
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
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
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

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**
  - \( \text{C}_{29}\text{H}_{53}\text{NO}_5 \)  
  - Ro 18-0647  
  - Tetrahydrolipstatin  
  - Orlistat  
  - Xenical  
  - Alli

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Research #</th>
<th>Non-official generic</th>
<th>Approved Generic</th>
<th>Trade Name (Brand)</th>
<th>Trade Name (OTC)</th>
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<td>C29H53NO5</td>
<td>Ro 18-0647</td>
<td>Tetrahydrolipstatin</td>
<td>Orlistat</td>
<td>Xenical</td>
<td>Alli</td>
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<td>Terminology</td>
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<td>-alol</td>
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<td>-olol</td>
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<td>-azepam</td>
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<td>-azosin</td>
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<td>-pred</td>
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<tr>
<td>-bactam</td>
<td>-irudin</td>
<td>-pril</td>
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<td>-bamate</td>
<td>-leukin</td>
<td>-profen</td>
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<td>-barb</td>
<td>-lukast</td>
<td>-sartan</td>
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<tr>
<td>-butazone</td>
<td>-mab</td>
<td>-sertron</td>
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<td></td>
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<tr>
<td>-caine</td>
<td>-mantadine</td>
<td>-terol</td>
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<td></td>
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<td>-cef</td>
<td>-monam</td>
<td>-thiazide</td>
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<td></td>
</tr>
<tr>
<td>-cillin</td>
<td>-mustine</td>
<td>-tiazem</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>-conazole</td>
<td>-mycin</td>
<td>-statin</td>
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</tbody>
</table>
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

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<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
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<tbody>
<tr>
<td>• Salicylates</td>
<td>Bayer (aspirin)</td>
<td>ASA</td>
</tr>
<tr>
<td>• Non-NSAID</td>
<td>Tylenol</td>
<td>acetaminophen</td>
</tr>
<tr>
<td>• NSAID</td>
<td>Motrin, Advil</td>
<td>ibuprofen</td>
</tr>
<tr>
<td>• NSAID</td>
<td>Naprosyn</td>
<td>naproxen</td>
</tr>
<tr>
<td>• Opiates</td>
<td>MS Contin</td>
<td>morphine</td>
</tr>
<tr>
<td>• Opiates</td>
<td>Dilaudid</td>
<td>hydromorphone</td>
</tr>
<tr>
<td>• Opiates</td>
<td>Oxycontin</td>
<td>oxycodone</td>
</tr>
</tbody>
</table>
## Analgesics - Salicylates

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer (aspirin)</td>
<td>acetylsalicylic acid</td>
</tr>
<tr>
<td>Ecotrin</td>
<td>enteric coated ASA</td>
</tr>
<tr>
<td>Percogesic</td>
<td>magnesium salicylate</td>
</tr>
<tr>
<td>Combo products</td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motrin, Advil</td>
<td>ibuprofen</td>
</tr>
<tr>
<td>Aleve, Anaprox</td>
<td>naproxen</td>
</tr>
<tr>
<td>Ansaid</td>
<td>flubiprofen</td>
</tr>
<tr>
<td>Feldene</td>
<td>piroxicam</td>
</tr>
<tr>
<td>Indocin</td>
<td>indomethacin</td>
</tr>
<tr>
<td>Toradol</td>
<td>ketorolac</td>
</tr>
</tbody>
</table>
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!!!
<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Contin</td>
<td>Morphine</td>
</tr>
<tr>
<td>Oxycontin</td>
<td>Oxycodone</td>
</tr>
<tr>
<td>Dilaudid</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>Opana</td>
<td>Oxymorphone</td>
</tr>
<tr>
<td>Duragesic</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>Dolophine</td>
<td>Methadone</td>
</tr>
<tr>
<td>Ultram</td>
<td>Tramadol</td>
</tr>
</tbody>
</table>
## Opiates - Combo Products

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percocet</td>
<td>Oxycodone/APAP</td>
</tr>
<tr>
<td>Tylox</td>
<td></td>
</tr>
<tr>
<td>Lorcet, Vicodin</td>
<td>Hydrocodone/APAP</td>
</tr>
<tr>
<td>Tylenol #3</td>
<td>Codeine/APAP</td>
</tr>
</tbody>
</table>
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 despressants
• Special warnings: Abuse, Med Error, ER forms
## Opiates

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxycontin</td>
<td>Oxycodone</td>
</tr>
<tr>
<td>Oxycodone in an extended release tab</td>
<td></td>
</tr>
<tr>
<td>15 – 80 mg tablets</td>
<td></td>
</tr>
<tr>
<td>Roxicodone</td>
<td>Oxycodone</td>
</tr>
<tr>
<td>5 – 30 mg tablets</td>
<td></td>
</tr>
<tr>
<td>1, 20 mg/mL</td>
<td></td>
</tr>
</tbody>
</table>
Opiates

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilaudid</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>• 2, 4, 8 mg tab, 1mg/mL, SC IM and IV</td>
<td></td>
</tr>
<tr>
<td>• Exalgo 8, 12, 16 and 32 mg ER tab</td>
<td></td>
</tr>
<tr>
<td>Opana ER</td>
<td>Oxymorphone</td>
</tr>
<tr>
<td>• 5 – 40 ER tabs</td>
<td></td>
</tr>
<tr>
<td>Duragesic</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>• 12, 25, 50, 75, 100 mcg patch</td>
<td></td>
</tr>
<tr>
<td>Dolophine</td>
<td>Methadone</td>
</tr>
<tr>
<td>• 5, 10 mg tabs 1, 2, and 10 mg/ml sol</td>
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</tbody>
</table>
Opiates - Combo Products

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Percocet, Tylox</td>
<td>Oxycodone/APAP</td>
</tr>
<tr>
<td>• Lorcet, Vicodin</td>
<td>Hydrocodone/APAP</td>
</tr>
<tr>
<td>• Tylenol/Codeine</td>
<td>APAP with Codeine</td>
</tr>
</tbody>
</table>

• 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester</td>
<td>Novocain</td>
<td>procaine</td>
</tr>
<tr>
<td>Ester</td>
<td>Pontocaine</td>
<td>tetracaine</td>
</tr>
<tr>
<td>Amide</td>
<td>Xylocaine</td>
<td>lidocaine</td>
</tr>
<tr>
<td>Amide</td>
<td>Marcaine</td>
<td>bupivacaine</td>
</tr>
</tbody>
</table>
### Local Anesthetics Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester</td>
<td>Novocain</td>
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</tr>
<tr>
<td>Ester</td>
<td>Pontocaine</td>
<td>tetracaine</td>
</tr>
</tbody>
</table>

#### Common AEs
- Dizziness, nervousness, tremor, N/V

#### DI
- APAP
### Local Anesthetics Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amide</td>
<td>Xylocaine</td>
<td>lidocaine</td>
</tr>
<tr>
<td>Amide</td>
<td>Marcaine</td>
<td>bupivacaine</td>
</tr>
</tbody>
</table>

- **Common AEs**
  - Hypotension, N/V, paresthesia
- DI
- APAP
Quizlet Flash Cards

## Antimicrobials - Penicillins

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
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</thead>
<tbody>
<tr>
<td>Veetids</td>
<td>penicillin V-K, PCN VK</td>
</tr>
<tr>
<td>Amoxil</td>
<td>amoxicillin</td>
</tr>
<tr>
<td>Moxatag</td>
<td>amoxicillin</td>
</tr>
<tr>
<td>Augmentin</td>
<td>amoxicillin/clavulanate</td>
</tr>
</tbody>
</table>
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                                      Generic
• Minocin, Dynacin                        minocycline
• Sumycin                                  tetracycline
• Vibramycin, Oracea, Periostat, Monodox  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

<table>
<thead>
<tr>
<th>Brand</th>
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<tbody>
<tr>
<td>Avelox</td>
<td>moxifloxacin</td>
</tr>
<tr>
<td>Cipro</td>
<td>ciprofloxacin</td>
</tr>
<tr>
<td>Floxin</td>
<td>ofloxacin</td>
</tr>
<tr>
<td>Levaquin</td>
<td>levofloxacin</td>
</tr>
</tbody>
</table>
Terminology

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

cycline
-draize
-erg
-estr
-fibrate
-flurane
-gest
-irudin
-leukin
-lukast
-mab
-mantadine
-monor
-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)
Floxacín (ofloxacin)
Levaquin (levofloxacin)
  • Common AEs
    • Nausea, diarrhea, headache, dizziness, vomiting, insomnia
  • DI
    • Antacids, milk/dairy, heavy metals, oral contraceptives
## Antimicrobials - Cephalosporins

<table>
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<th>Brand</th>
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<td>cephalexin</td>
</tr>
<tr>
<td>Duricef</td>
<td>cefadroxil</td>
</tr>
<tr>
<td>Ceftin, Zinacef</td>
<td>cefuroxime</td>
</tr>
<tr>
<td>Vantin</td>
<td>cefpodoxime</td>
</tr>
<tr>
<td>Omnigene</td>
<td>cefdinir</td>
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### Terminology

<table>
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<th>-alol</th>
<th>-cycline</th>
<th>-olol</th>
</tr>
</thead>
<tbody>
<tr>
<td>-andr</td>
<td>-drazone</td>
<td>-olone</td>
</tr>
<tr>
<td>-anserin</td>
<td>-erg</td>
<td>-oxacin</td>
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<tr>
<td>-arabine</td>
<td>-estr</td>
<td>-pamide</td>
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<td>-parin</td>
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<td>-azepam</td>
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<td>-peridol</td>
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<tr>
<td>-azosin</td>
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<td>-pred</td>
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<tr>
<td>-bactam</td>
<td>-irudin</td>
<td>-pril</td>
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<tr>
<td>-bamate</td>
<td>-leukin</td>
<td>-profen</td>
</tr>
<tr>
<td>-barb</td>
<td>-lukast</td>
<td>-sartan</td>
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<tr>
<td>-butazone</td>
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<td>-sertron</td>
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<tr>
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<td>-mantadine</td>
<td>-terol</td>
</tr>
<tr>
<td><strong>-cef</strong></td>
<td>-monam</td>
<td>-thiazide</td>
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<tr>
<td>-cillin</td>
<td>-mustine</td>
<td>-tiazem</td>
</tr>
<tr>
<td>-conazole</td>
<td>-mycin</td>
<td>-statin</td>
</tr>
</tbody>
</table>
Antimicrobials - Cephalosporins

Keflex (cephalexin)
Duricef (cefdroxil)
Ceftin, Zinacef (cefuroxime)
Vantin (cefpodoxime)
Omnicef (cefdinir)

• Common AEs
  • Diarrhea, secondary infection, nausea, headache, rash

• DI
  • Antacids, milk/diary, heavy metals, oral contraceptives

• Pediatric formulations available
Antimicrobials - Sulfas

Brand | Generic
--- | ---
Bactrim, Septra | SMP/TMX
• trimethoprim/sulfamethoxazole
Antimicrobials - Sulfas

Bactrim (trimethoprim/sulfamethoxazole)
Septra (trimethoprim/sulfamethoxazole)

• Common AEs
  • N/V, anorexia, sensitivity reactions
## Antimicrobials - Macrolides

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ery-Tab</td>
<td>erythromycin base</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>erythromycin stearate</td>
</tr>
<tr>
<td>Zithromax, Zmax</td>
<td>azithromycin</td>
</tr>
<tr>
<td>Dificid</td>
<td>fidaxomicin</td>
</tr>
<tr>
<td>Terminology</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td></td>
</tr>
<tr>
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<td>-cycline</td>
</tr>
<tr>
<td>-andr</td>
<td>-drazine</td>
</tr>
<tr>
<td>-anserin</td>
<td>-erg</td>
</tr>
<tr>
<td>-arabine</td>
<td>-estr</td>
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<tr>
<td>-ase</td>
<td>-fibrate</td>
</tr>
<tr>
<td>-azepam</td>
<td>-flurane</td>
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<tr>
<td>-azosin</td>
<td>-gest</td>
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<td>-bactam</td>
<td>-irudin</td>
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<td>-bamate</td>
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<td>-barb</td>
<td>-lukast</td>
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<tr>
<td>-butazone</td>
<td>-mab</td>
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<tr>
<td>-caine</td>
<td>-mantadine</td>
</tr>
<tr>
<td>-cef</td>
<td>-monam</td>
</tr>
<tr>
<td>-cillin</td>
<td>-mustine</td>
</tr>
<tr>
<td>-conazole</td>
<td>-mycin</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diflucan</td>
<td>fluconazole</td>
</tr>
<tr>
<td>Sporanox</td>
<td>itraconazole</td>
</tr>
<tr>
<td>Nizoral</td>
<td>ketoconazole</td>
</tr>
<tr>
<td>Lamisil</td>
<td>terbinafine</td>
</tr>
<tr>
<td>Mycelex</td>
<td>clotrimazole</td>
</tr>
<tr>
<td>Mycostatin</td>
<td>nystatin</td>
</tr>
<tr>
<td>-alol</td>
<td>-cycline</td>
</tr>
<tr>
<td>-andr</td>
<td>-drazine</td>
</tr>
<tr>
<td>-anserin</td>
<td>-erg</td>
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<td>-arabine</td>
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<td>-ase</td>
<td>-fibrate</td>
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<td>-azepam</td>
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<td>-barb</td>
<td>-lukast</td>
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<td>-mantadine</td>
</tr>
<tr>
<td>-cef</td>
<td>-monam</td>
</tr>
<tr>
<td>-cillin</td>
<td>-mustine</td>
</tr>
<tr>
<td>-conazole</td>
<td>-mycin</td>
</tr>
</tbody>
</table>
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 .....
<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gyne-Lotrimin</td>
<td>clotrimazole</td>
</tr>
<tr>
<td>Monistat 1, 3,</td>
<td>miconazole</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Terazol 3, 7</td>
<td>terconazole</td>
</tr>
</tbody>
</table>
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…
<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiviral</td>
<td>Valtrex</td>
<td>valacyclovir</td>
</tr>
<tr>
<td>Antiviral/prot inhib.</td>
<td>Viracept</td>
<td>nelfinavir</td>
</tr>
<tr>
<td>Antimycobacterial</td>
<td>Nydrazid</td>
<td>isoniazid</td>
</tr>
<tr>
<td>Antipprotozoal</td>
<td>Flagyl</td>
<td>metronidazole</td>
</tr>
<tr>
<td>Anthelmintic</td>
<td>Vermox</td>
<td>mebendazole</td>
</tr>
</tbody>
</table>
### Immunobiologic Agents & Vaccines

<table>
<thead>
<tr>
<th>Brand</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daptacel, Infanrix, Tripedia</td>
<td>Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td)</td>
</tr>
<tr>
<td>Liquid Pedvax HIB, ActHIB, HibTITER</td>
<td>Haemophilus influenzae type b (Hib)</td>
</tr>
<tr>
<td>Havrix, VAQTA</td>
<td>Hepatitis A (HepA)</td>
</tr>
<tr>
<td>Engerix-B, Recombivax HB, Twinrix</td>
<td>Hepatitis B (HepB)</td>
</tr>
<tr>
<td>FluMist</td>
<td>Influenza, live attenuated (LAIV)</td>
</tr>
<tr>
<td>Afluria, Fluarix, FluLaval, Fluvirin, Fluzone</td>
<td>Influenza, trivalent inactivated (TIV)</td>
</tr>
<tr>
<td>Attenuvax, M-M-R II, Mumpsvax, Meruvax II</td>
<td>Measles, mumps, rubella (MMR)</td>
</tr>
<tr>
<td>Menomune</td>
<td>Meningococcal, conjugated (MCV4)</td>
</tr>
<tr>
<td>Prevnar</td>
<td>Pneumococcal conjugate (PCV)</td>
</tr>
<tr>
<td>Pneumovax 23</td>
<td>Pneumococcal polysaccharide (PPV)</td>
</tr>
<tr>
<td>Varivax</td>
<td>Varicella (Var)</td>
</tr>
<tr>
<td>Comvax</td>
<td>Hib+HepB (combination)</td>
</tr>
<tr>
<td>Pediarix</td>
<td>DTaP+HepB+IPV (combination)</td>
</tr>
<tr>
<td>ProQuad</td>
<td>MMR+Var (combination)</td>
</tr>
<tr>
<td>TriHIBit</td>
<td>DTaP+Hib (combination)</td>
</tr>
<tr>
<td>Guardasil, Ceravirix</td>
<td>HPV</td>
</tr>
</tbody>
</table>
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          Generic
• Adrucil       fluorouracil
• Rheumatrex    methotrexate
Antineoplastics

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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mustargen</td>
<td>mechlorethamine</td>
</tr>
<tr>
<td>BiCNU</td>
<td>carmustine</td>
</tr>
</tbody>
</table>
Antineoplastics

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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncovin</td>
<td>vincristine</td>
</tr>
<tr>
<td>Velban</td>
<td>vinblastine</td>
</tr>
</tbody>
</table>
Antineoplastics

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

• Brand Name
  • Lupron
  • Nolvadex

• Generic Name
  • leuprolide
  • 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.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blenoxane</td>
<td>bleomycin</td>
</tr>
<tr>
<td>Cerubidine</td>
<td>daunorubicin</td>
</tr>
<tr>
<td>Adriamycin</td>
<td>doxorubicin</td>
</tr>
</tbody>
</table>
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.
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       Generic
• Inderal    propranolol
• Tenormin   atenolol
• Corgard    nadolol
• Lopressor  metoprolol
• Toprol-XL  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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calan</td>
<td>verapamil</td>
</tr>
<tr>
<td>Norvasc</td>
<td>amlodipine</td>
</tr>
<tr>
<td>Procardia</td>
<td>nifedipine</td>
</tr>
<tr>
<td>Cardizem</td>
<td>diltiazem</td>
</tr>
</tbody>
</table>

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

Diuretics
• Decrease BP by decreasing blood volume and sodium retention.

Brand          Generic
• Lasix         furosemide
• Bumex         bumetanide
• Hydrodiuril   hydrochlorothiazide
• Aldactone     spironolactone
• Hygroton      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.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capoten</td>
<td>captopril</td>
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<tr>
<td>Vasotec</td>
<td>enalapril</td>
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<tr>
<td>Zestril</td>
<td>lisinopril</td>
</tr>
<tr>
<td>Cozaar</td>
<td>losartan</td>
</tr>
<tr>
<td>Diovan</td>
<td>valsartan</td>
</tr>
<tr>
<td>Avapro</td>
<td>irbesartan</td>
</tr>
<tr>
<td>Micardis</td>
<td>telmisartan</td>
</tr>
</tbody>
</table>

• AEs: Cough
Cardiovascular Agents

Vasodilators

• Act to lower blood pressure by relaxing blood vessels.

Brand  Generic
• Apresoline  hydralazine
• Loniten  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

<table>
<thead>
<tr>
<th>Component</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>&lt;200</td>
</tr>
<tr>
<td>HDL</td>
<td>&gt;40</td>
</tr>
<tr>
<td>LDL</td>
<td>&lt;130</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>&lt;150</td>
</tr>
</tbody>
</table>
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, atentolol, 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 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 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
<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steroid</td>
<td>Westcort</td>
<td>hydrocortisone cream</td>
<td>Topical</td>
</tr>
<tr>
<td>Antihistamine</td>
<td>Benadryl</td>
<td>diphenhydramine</td>
<td>PO, topical</td>
</tr>
<tr>
<td>Anti-infective</td>
<td>Silvadene</td>
<td>silver sulfadiazine</td>
<td>Topical</td>
</tr>
<tr>
<td></td>
<td>cream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-infective</td>
<td>Vibramycin</td>
<td>doxycycline hyclate</td>
<td>Oral</td>
</tr>
<tr>
<td>Anti-infective</td>
<td>Floxin</td>
<td>ofloxacin</td>
<td>Oral</td>
</tr>
<tr>
<td>Antimetabolite</td>
<td>Efudex</td>
<td>fluorouracil cream</td>
<td>Topical</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enzyme</td>
<td>Creon</td>
<td>pancrelipase</td>
</tr>
<tr>
<td>Enzyme</td>
<td>Pancrease</td>
<td>pancrelipase</td>
</tr>
<tr>
<td>Enzyme</td>
<td>Ultrace</td>
<td>pancrelipase</td>
</tr>
<tr>
<td>Antidiarrheal</td>
<td>Imodium</td>
<td>loperamide</td>
</tr>
<tr>
<td>Antidiarrheal</td>
<td>Lomotil</td>
<td>diphenoxylat+atropine</td>
</tr>
<tr>
<td>Antidiarrheal</td>
<td>Pepto-Bismol</td>
<td>bismuth subsalicylate</td>
</tr>
<tr>
<td>Antiemetic</td>
<td>Tigan</td>
<td>trimethobenzamide**</td>
</tr>
<tr>
<td>Antiemetic</td>
<td>Compazine</td>
<td>prochlorperazine</td>
</tr>
<tr>
<td>Antiemetic</td>
<td>Zofran</td>
<td>ondansetron</td>
</tr>
</tbody>
</table>
## GI Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antacid/antiulcer</td>
<td>Maalox, Mylanta</td>
<td>Mg/Al hydroxide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>simethicone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antacid/antiulcer</td>
<td>Tagamet</td>
<td>cimetidine</td>
</tr>
<tr>
<td></td>
<td>Zantac</td>
<td>ranitidine</td>
</tr>
<tr>
<td></td>
<td>Pepcid</td>
<td>famotidine</td>
</tr>
<tr>
<td></td>
<td>Axicid</td>
<td>nizatididine</td>
</tr>
<tr>
<td>PP Inhibitors</td>
<td>Prilosec</td>
<td>omeprazole</td>
</tr>
<tr>
<td></td>
<td>Prevacid</td>
<td>lansoprazole</td>
</tr>
<tr>
<td>Laxative</td>
<td>Kristalose</td>
<td>lactulose</td>
</tr>
<tr>
<td></td>
<td>Miralax</td>
<td>PEG</td>
</tr>
<tr>
<td></td>
<td>Senna</td>
<td>sennosides</td>
</tr>
<tr>
<td>Stool softener</td>
<td>Colace</td>
<td>docusate sodium</td>
</tr>
</tbody>
</table>
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

• Glysosuria =

• Urologist =

• Anephric =

• Nephrotoxic =
# Urinary Tract Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
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<tbody>
<tr>
<td>BPH</td>
<td>Flomax</td>
<td>tamsulosin</td>
</tr>
<tr>
<td>BPH</td>
<td>Uroxatral</td>
<td>alfuzosin</td>
</tr>
<tr>
<td>BPH</td>
<td>Proscar</td>
<td>finasteride</td>
</tr>
<tr>
<td>BPH</td>
<td>Avodart</td>
<td>dutasteride</td>
</tr>
</tbody>
</table>

- **Overactive Bladder**
  - Detrol LA: tolterodine
  - Enablex: darifenacin
  - Vesicar: solifenacin

- **Urinary tract analgesic**
  - Pyridium: phenazopyridine
## Hematological Drugs

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematopoietic</td>
<td>Slow Fe</td>
<td>ferrous sulfate</td>
</tr>
<tr>
<td>Hematopoietic</td>
<td>Rubramin</td>
<td>cyanocobalamin, B12</td>
</tr>
<tr>
<td>Hemostatic</td>
<td>Amicar</td>
<td>aminocaproic acid</td>
</tr>
<tr>
<td>Hemostatic</td>
<td>Cyklokapron</td>
<td>tranexamic acid</td>
</tr>
<tr>
<td>Hemostatic/top</td>
<td>Surgicel</td>
<td>oxidized cellulose</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyroid</td>
<td>Armour Thyroid</td>
<td>thyroid desiccated</td>
</tr>
<tr>
<td>Thyroid</td>
<td>Synthroid</td>
<td>levothyroxine/T4</td>
</tr>
<tr>
<td>Thyroid</td>
<td>Cytomel</td>
<td>liothyronine/T3</td>
</tr>
<tr>
<td>Parathyroid</td>
<td>Miacalcin</td>
<td>calcitonin-salmon</td>
</tr>
<tr>
<td>Pituitary</td>
<td>Clomid</td>
<td>clomiphene</td>
</tr>
<tr>
<td>ovulatory stimulant</td>
<td>Pitocin</td>
<td>oxytocin</td>
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</tbody>
</table>
## Hormones & Modifiers Adrenal

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
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</thead>
<tbody>
<tr>
<td>Adrenal/sympathomimetic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrenalin</td>
<td>epinephrine</td>
<td></td>
</tr>
<tr>
<td>Cortef</td>
<td>hydrocortisone</td>
<td></td>
</tr>
<tr>
<td>Medrol</td>
<td>methylprednisolone</td>
<td></td>
</tr>
<tr>
<td>Sterapred</td>
<td>prednisone</td>
<td></td>
</tr>
<tr>
<td>Kenalog</td>
<td>triamcinolone</td>
<td></td>
</tr>
<tr>
<td>Sterapred</td>
<td>prednisolone**</td>
<td></td>
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</tbody>
</table>
## Insulins

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humulin R</td>
<td>regular</td>
<td>SQ, IV</td>
</tr>
<tr>
<td>Novolin R</td>
<td>regular</td>
<td>SQ, IV</td>
</tr>
<tr>
<td>Humulog</td>
<td>lispro</td>
<td>SQ</td>
</tr>
<tr>
<td>Humulin N</td>
<td>NPH</td>
<td>SQ</td>
</tr>
<tr>
<td>Lantus</td>
<td>glargine</td>
<td>SQ</td>
</tr>
<tr>
<td>Novolog</td>
<td>insulin aspart</td>
<td>SQ</td>
</tr>
<tr>
<td>Levimir</td>
<td>detemir</td>
<td>SQ</td>
</tr>
<tr>
<td>Brand</td>
<td>Generic</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Diabeta</td>
<td>glyburide</td>
<td></td>
</tr>
<tr>
<td>Glucotrol</td>
<td>glipizide</td>
<td></td>
</tr>
<tr>
<td>Glucophage, Fortamet</td>
<td>metformin</td>
<td></td>
</tr>
</tbody>
</table>
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.
The Female Reproductive System

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• 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.
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

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand/Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androgen</td>
<td>Android/methyltestosterone</td>
</tr>
<tr>
<td>Phosphodiesterase inh.</td>
<td>Cialis/tadalafil</td>
</tr>
<tr>
<td>Phosphodiesterase inh.</td>
<td>Viagra/sildenafil</td>
</tr>
<tr>
<td>Oral contraceptive</td>
<td>Ortho Novum</td>
</tr>
<tr>
<td></td>
<td>norethindrone &amp; ethinyl estradiol</td>
</tr>
<tr>
<td>Oral contraceptive</td>
<td>Trinessa</td>
</tr>
<tr>
<td></td>
<td>norgestimate &amp; ethinyl estradiol</td>
</tr>
</tbody>
</table>
# Reproductive System

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral contraceptive</td>
<td>Yasmin 28</td>
<td>drospirenone &amp; ethinyl estradiol</td>
</tr>
<tr>
<td>Oral contraceptive</td>
<td>Ortho Tricyclen Lo</td>
<td>norgestimate &amp; ethinyl estradiol</td>
</tr>
<tr>
<td>Contraceptive patch</td>
<td>Ortho Evra Patch</td>
<td>norelgestromin &amp; ethinyl estradiol</td>
</tr>
<tr>
<td>Estrogen replace</td>
<td>Vagifem</td>
<td>estradiol</td>
</tr>
<tr>
<td>Estrogen replace</td>
<td>Premarin</td>
<td>conjugated estrogens</td>
</tr>
<tr>
<td>Progestin</td>
<td>Provera</td>
<td>medroxyprogesterone</td>
</tr>
</tbody>
</table>
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
- Spermatocide =
- Prostatectomy =
- Orchidectomy =
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 =
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)
# Musculoskeletal Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoporotic</td>
<td>Actonel</td>
<td>risedronate</td>
</tr>
<tr>
<td>Osteoporotic</td>
<td>Fosamax</td>
<td>alendronate</td>
</tr>
<tr>
<td>Centrally acting antispasmodics</td>
<td>Valium</td>
<td>diazepam</td>
</tr>
<tr>
<td>Muscle relaxant</td>
<td>Soma</td>
<td>carisoprodol</td>
</tr>
<tr>
<td>Muscle relaxant</td>
<td>Flexeril</td>
<td>cyclobenzaprine</td>
</tr>
</tbody>
</table>
Musculoskeletal Agents - Anti-gout

Brand
• Colcrys

Generic
colchicine

Uricosuric
• Benemid

probenecid

Xanthine oxidase inhibitor
• Zyloprim
• Uloric

allopurinol
febuostat
## Musculoskeletal Agents

<table>
<thead>
<tr>
<th>Type</th>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease-modifying</td>
<td>Rheumatrex</td>
<td>methotrexate</td>
</tr>
<tr>
<td></td>
<td>Enbrel</td>
<td>entercept</td>
</tr>
<tr>
<td>Gold preparation</td>
<td>Solganal</td>
<td>aurothioglucose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(suspended in oil)</td>
</tr>
</tbody>
</table>
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
Encephalitis =
  inflammation of the brain

Neuralgia =
  severe pain in a nerve

Neuroma =
  tumor or nerve cells

Neuropathy =

Meningitis =

Dysphagia =

The Nervous System
# Neurological Agents

**Cognitive symptom agent**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognex</td>
<td>tacrine</td>
</tr>
<tr>
<td>Aricept</td>
<td>donepezil</td>
</tr>
<tr>
<td>Namenda</td>
<td>memantine</td>
</tr>
</tbody>
</table>
# Neurological Agents

## Antidepressant

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pamelor</td>
<td>nortriptyline</td>
</tr>
<tr>
<td>Norpramin</td>
<td>desipramine</td>
</tr>
<tr>
<td>Elavil</td>
<td>amitriptyline</td>
</tr>
<tr>
<td>Wellbutrin</td>
<td>bupropion</td>
</tr>
<tr>
<td>Remeron</td>
<td>mirtazapine</td>
</tr>
<tr>
<td>Deseryl</td>
<td>trazadone</td>
</tr>
</tbody>
</table>
# Neurological Agents

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSRI</td>
<td></td>
</tr>
<tr>
<td>• Paxil</td>
<td>paroxetine</td>
</tr>
<tr>
<td>• Zoloft</td>
<td>sertraline</td>
</tr>
<tr>
<td>• Prozac</td>
<td>fluoxetine</td>
</tr>
<tr>
<td>• Lexapro</td>
<td>escitalopram</td>
</tr>
<tr>
<td>• Celexa</td>
<td>citalopram</td>
</tr>
</tbody>
</table>
Neurological Agents

Brand | Generic
--- | ---
SNRI
• Cymbalta | duloxetine
• Effexor XR | venlafaxine
• Pristiq | devenlafaxine
# Neurological Agents

## Antiepileptic

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
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</thead>
<tbody>
<tr>
<td>Dilantin</td>
<td>phenytoin</td>
</tr>
<tr>
<td>Luminal</td>
<td>phenobarbital</td>
</tr>
<tr>
<td>Depakene</td>
<td>valproic acid</td>
</tr>
<tr>
<td>Depakote</td>
<td>divalproex sodium</td>
</tr>
<tr>
<td>Tegretol</td>
<td>carbamazepine</td>
</tr>
<tr>
<td>Lamictal</td>
<td>lamotrigine</td>
</tr>
<tr>
<td>Keppra</td>
<td>levetiracetam</td>
</tr>
</tbody>
</table>
Neurological Agents

Brand | Generic
--- | ---

Antimigraine

- Bayer Aspirin | aspirin
- Imitrex | sumatriptan
- Motrin | ibuprofen
# Neurological Agents

## Antipsychotics

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risperdal</td>
<td>risperidone</td>
</tr>
<tr>
<td>Abilify</td>
<td>aripiprazole</td>
</tr>
<tr>
<td>Clozaril</td>
<td>clozapine</td>
</tr>
<tr>
<td>Zyprexa</td>
<td>olanzapine</td>
</tr>
<tr>
<td>Seroquel (XR)</td>
<td>Queitapine</td>
</tr>
<tr>
<td>Geodon</td>
<td>Ziprasidone</td>
</tr>
</tbody>
</table>
# Neurological Agents

**AD(H)D**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerta</td>
<td>methylphenidate CII</td>
</tr>
<tr>
<td>Metylin</td>
<td>methylphenidate CII</td>
</tr>
<tr>
<td>Ritalin</td>
<td>methylphenidate CII</td>
</tr>
<tr>
<td>Quillivant XR</td>
<td>methylphenidate CII</td>
</tr>
<tr>
<td>Adderall</td>
<td>amphetamine salts CII</td>
</tr>
<tr>
<td>Vyvanse</td>
<td>lisdexamfetamine CII</td>
</tr>
</tbody>
</table>
Neurological Agents

Antianxiety

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ativan</td>
<td>lorazepam CIV</td>
</tr>
<tr>
<td>Klonopin</td>
<td>clonazepam CIV</td>
</tr>
<tr>
<td>Valium</td>
<td>diazepam CIV</td>
</tr>
<tr>
<td>Xanax</td>
<td>alprazolam CIV</td>
</tr>
</tbody>
</table>
Neurological Agents

Hypnotics

Brand          Generic
• Benadryl     diphenhydramine (OTC)
• Unisom       doxylamine (OTC)
• Desyrel      trazadone

Benzodiazpines

• none         flurazepam   CIV
• Ativan       lorazepam    CIV
• Restoril     temazepam    CIV
• Halicin      triazolam    CIV
• Ambien       zolpidem     CIV
# Alcohol or Drug Dependency

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment for alcoholism</td>
<td></td>
</tr>
<tr>
<td>• Antabuse</td>
<td>disulfiram</td>
</tr>
<tr>
<td>• ReVia</td>
<td>naltrexone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment for cocaine addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Norpramin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Narcotic detoxification</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dolophine</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>Neurological Agents - Antiparkinsonian</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand</strong></td>
<td><strong>Generic</strong></td>
</tr>
<tr>
<td>• Sinemet</td>
<td>carbidopa/levodopa</td>
</tr>
<tr>
<td>• Eldepryl</td>
<td>selegiline</td>
</tr>
<tr>
<td>• Symmetrel</td>
<td>amantadine</td>
</tr>
<tr>
<td><strong>Antiparkinsonian/dopamine agonist</strong></td>
<td></td>
</tr>
<tr>
<td>• Permax</td>
<td>pergolide</td>
</tr>
<tr>
<td>• Parlodel</td>
<td>bromocriptine</td>
</tr>
<tr>
<td><strong>Antiparkinsonian/anticholinergic</strong></td>
<td></td>
</tr>
<tr>
<td>• Cogentin</td>
<td>benztropine</td>
</tr>
</tbody>
</table>
# Neurological Agents

## Immunomodulator (multiple sclerosis)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avonex</td>
<td>interferon beta-1a</td>
</tr>
<tr>
<td>Betaseron</td>
<td>interferon beta-1b</td>
</tr>
<tr>
<td>Copaxone</td>
<td>glatiramer acetate</td>
</tr>
<tr>
<td>Rebif</td>
<td>interferon beta-1a</td>
</tr>
</tbody>
</table>
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

- **Diplopa =**
  - double vision
# Color Coding of Topical Ophthalmic

<table>
<thead>
<tr>
<th>Class</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-infectives</td>
<td>Tan</td>
</tr>
<tr>
<td>Anti-inflammatories/steroids</td>
<td>Pink</td>
</tr>
<tr>
<td>Mydriatics and cycloplegics</td>
<td>Red</td>
</tr>
<tr>
<td>Nonsteroidal anti-inflammatories</td>
<td>Gray</td>
</tr>
<tr>
<td>Miotics</td>
<td>Dark Green</td>
</tr>
<tr>
<td>Beta-blockers</td>
<td>Yellow</td>
</tr>
<tr>
<td>Beta-blocker combinations</td>
<td>Dark Blue</td>
</tr>
<tr>
<td>Adrenergic agonists</td>
<td>Purple</td>
</tr>
<tr>
<td>Carbonic anhydrase inhibitors</td>
<td>Orange</td>
</tr>
<tr>
<td>Prostaglandin analogues</td>
<td>Turquoise</td>
</tr>
</tbody>
</table>
Ophthalmic Agents

Brand Antibiotic
• Garamycin
• Sodium Sulamyd
• Chibroxin
• Ciloxan
• Vigamox

Generic
• gentamicin
• sodium sulfacetamide
• norfloxacin
• ciprofloxacin
• moxifloxacin

Antiviral
• Vira-a
• Viroptic

generic
• vidarabine
• trifluridine
# Ophthalmic Agents

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antihistamine</strong></td>
<td></td>
</tr>
<tr>
<td>• Livostin</td>
<td>levocabastine</td>
</tr>
<tr>
<td>• Patanol</td>
<td>olopatadine</td>
</tr>
<tr>
<td>• Emadine</td>
<td>emedastine</td>
</tr>
<tr>
<td>• Zaditor</td>
<td>ketotifen</td>
</tr>
</tbody>
</table>

| **Ophthalmic cortico-steroids** |                   |
| • Pred Mild                  | prednisolone 0.12%|
| • Pred Forte                 | prednisolone 1.0%|

| **NSAID** |                   |
| • Ocufen  | flurbiprofen      |
| • Acular  | ketorolac         |
# Ophthalmic Agents

<table>
<thead>
<tr>
<th>Elevated IOP</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timoptic</td>
<td>timolol</td>
</tr>
<tr>
<td>Betoptic</td>
<td>betaxolol</td>
</tr>
<tr>
<td>Cosopt</td>
<td>dorzolamide/timolol</td>
</tr>
<tr>
<td>Xalatan</td>
<td>latanoprost</td>
</tr>
<tr>
<td>Travatan Z</td>
<td>travoprost</td>
</tr>
<tr>
<td>Isopto Atropine</td>
<td>atropine</td>
</tr>
</tbody>
</table>
# Ophthalmalic Agents

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mydriatic</td>
<td></td>
</tr>
<tr>
<td>• Mydfrin</td>
<td>phenylephrine</td>
</tr>
<tr>
<td>Topical anesthetic</td>
<td></td>
</tr>
<tr>
<td>• Alcaine</td>
<td>proparacaine</td>
</tr>
<tr>
<td>Ocular lubricant</td>
<td></td>
</tr>
<tr>
<td>• Lacrisert</td>
<td>hydroxypropyl cellulose 5mg.</td>
</tr>
</tbody>
</table>

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
<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atarax/Vistaril</td>
<td>hydroxyzine</td>
</tr>
<tr>
<td>Phenergan</td>
<td>promethazine</td>
</tr>
<tr>
<td>Benadryl</td>
<td>diphenhydramine</td>
</tr>
<tr>
<td>Claritin</td>
<td>loratadine</td>
</tr>
<tr>
<td>Zyrtec</td>
<td>cetirizine</td>
</tr>
</tbody>
</table>
## Respiratory Agents

### Antihistamines - Allergy

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal Steroids</td>
<td></td>
</tr>
<tr>
<td>• Flonase</td>
<td>fluticasone</td>
</tr>
<tr>
<td>• Nasacort</td>
<td>triamcinolone</td>
</tr>
<tr>
<td>• Nasonex</td>
<td>mometasone</td>
</tr>
</tbody>
</table>
## Respiratory Agents - Decongestants

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decongestant</td>
<td></td>
</tr>
<tr>
<td>• Sudafed</td>
<td>pseudoephedrine</td>
</tr>
<tr>
<td>• Sudafed PE</td>
<td>phenylephrine</td>
</tr>
</tbody>
</table>
Respiratory Agents - Anti-tussives
Non-Narcotic

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delsym</td>
<td>dextromethorphan (DM)</td>
</tr>
<tr>
<td>Mucinex-DM</td>
<td>DM/guaifenesin extended release</td>
</tr>
<tr>
<td>Tessalon Perles</td>
<td>benzonatate</td>
</tr>
<tr>
<td>Brand</td>
<td>Generic</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Tussionex</td>
<td>hydrocodone/chlorpheniramine CIII</td>
</tr>
</tbody>
</table>

Expectorant/antitussive

<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vicodin Tuss</td>
<td>guaifenesin/hydrocodone  CIII</td>
</tr>
<tr>
<td>Robitussin AC</td>
<td>guaifenesin/codeine  CV</td>
</tr>
</tbody>
</table>
Respiratory Agents
Expectorants and Mucolytics

Brand | Generic
---- | ----
Expectorant | guaifenesin
• Robitussin | 
Mucolytic | acetylcysteine
• Mucomyst | 
Bronchodilators

Brand
Bronchodilator/ sympathomimetic

Proventil HFA, ProAir, Ventolin
albuterol

Bronchodilator/xanthine derivative
Theo- Dur
theopylline
<table>
<thead>
<tr>
<th>Brand</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchial corticosteroid</td>
<td>beclomethasone</td>
</tr>
<tr>
<td>• QVAR</td>
<td>beclomethasone</td>
</tr>
<tr>
<td>Anticholinergic</td>
<td>ipratropium</td>
</tr>
<tr>
<td>• Atrovent</td>
<td>ipratropium</td>
</tr>
<tr>
<td>• Combivent Respimat</td>
<td>ipratropium/albuterol</td>
</tr>
<tr>
<td>Bronchodilator/corticosteroid</td>
<td>fluticasone/salmeterol</td>
</tr>
<tr>
<td>• Advair</td>
<td>fluticasone/salmeterol</td>
</tr>
<tr>
<td>• Symbicort</td>
<td>budesonide/formoterol</td>
</tr>
</tbody>
</table>