
Pharmacology Basics

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Drug Nomenclature

- Chemical-Scientific Name
 - Generic name
 - NOT CAPITALIZED
 - Official Name
 - Brand or Trade name
 - Symbol R with a circle around it
 - Name capitalized
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Drug Classifications

- Body system
 - Therapeutic or clinical use
 - Chemical action
 - Prescription vs non-prescription
 - Illegal or recreational
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Pregnancy Categories

- A-no risk
 - B-minimal risk or no studies done
 - C-risk identified
 - D-well studied definite risk-benefit may out do risk
 - X-positive evidence fetal anomalies-not used
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PRACTICE EXAMPLES

- Use your drug book
 - Find 5 Medications
 - Tell us the scientific, trade and generic names
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What are drugs made of?

- Minerals
- Plant
- Animal
- Synthesis
- Microorganisms



Drug Preparations

- VEHICLES
 - Solid Preparations
 - Capsule
 - Tablet
 - Pill
 - Lozenge
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Drug Preparations

- Solid Preparations
 - Suppository
 - Ointment
 - Powder

 - Tablets or pills may be “scored”
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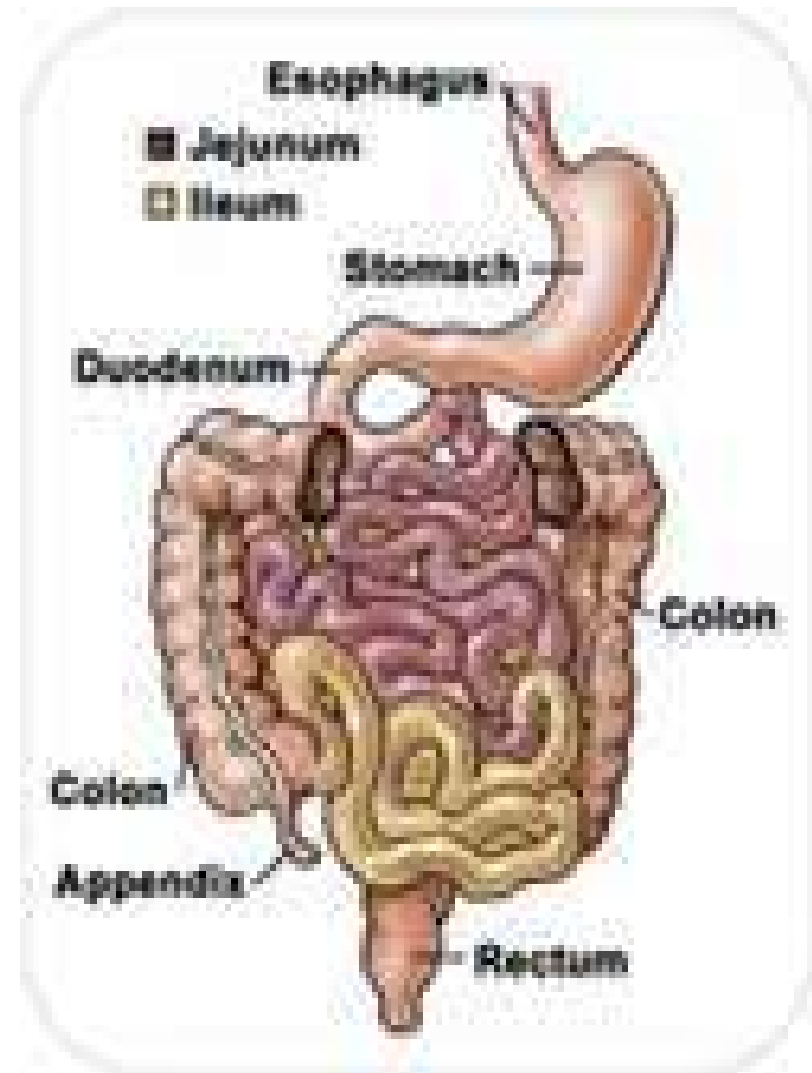
Drug Preparations

- Fluid preparations
 - Oral parenteral or injectable or IV



Pharmacokinetics

- Absorption
- Distribution
- Metabolism
- Excretion



Absorption-movement of a drug into the bloodstream.

- May be via several routes
 - Oral-broken down in aqueous environment
 - Enters GI tract, absorption continues
 - Absorption may be further influenced by gut motility, prior surgery to the intestines, simultaneous intake of food, other drugs, and many other factors.
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Distribution

- Depends on tissue permeability
 - Depends on tissue perfusion
 - Depends on amount of blood flow
 - pH can affect
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Excretion

- Relies mostly on KIDNEYS
 - Also referred to as clearance
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Factors Influencing Drug Action

- Age
 - Body Weight
 - Metabolic Rate
 - Illness
 - Psychological Aspects
 - Placebo effect
 - Tolerance/Dependence
 - Cumulative effect
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Drug Action

- Each drug has a DESIRED effect
- Can also cause undesirable effects-known as side effects

LOOK IN DRUG BOOK- find desired action, list of side effects

Adverse Reactions

■ Allergic Reactions

- ❑ Hives
- ❑ Itching
- ❑ Eddema

■ Anaphylactic reaction

- ❑ Respiratory distress
- ❑ Cardiovascular collapse



Hives

Known medically as urticaria, hives are smooth, raised pink or white bumps that appear on or beneath the skin.



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Risks With Drugs

- Carcinogenicity
 - Teratogen
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Drug Interactions

- Drugs can “mix” or interact with other things
 - Drugs
 - Foods
 - Juices
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Drug Legislation

- Federal Food, Drug and Cosmetic Act 1938
 - Controlled Substances Act, 1970
 - Schedule I
 - Schedule II
 - Schedule III
 - Schedule IV
 - Schedule V
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Drug Development

- Preclinical research
- Clinical research and development
- New drug application review
- Postmarketing surveillance



Common Abbreviations

- Daily
 - BID=twice daily**
 - PRN=as needed
 - Ad lib=as much as needed
 - Mg=milligram
 - ml=milliliter
 - C=with
-

Common Abbreviations

- Tid=three times a day**
 - Stat=NOW
 - NGT=via nasogastric tube
 - Gr=grain
 - Gtt=drops
 - Od=right eye
 - Os=left eye
 - Ou=both eyes
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- Pc=after eating
 - Ac=before eating
 - Q=every
 - Qh=every hour
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Six Rights of Medication Administration

- Right Drug
 - Right Time
 - Right Dose
 - Right Patient
 - Right Route
 - Right Documentation
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Nursing Process in Med Administration

- Assessment data collection
- Nursing diagnosis
- Planning
- Implementation
- Evaluation



Drug Action Across the LifeSpan

- Absorption
 - Distribution
 - Metabolism
 - Excretion
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- Toxicity
 - Pregnancy/Breast-feeding



Patient Education and Medication Therapy

- Noncompliance
 - We learn three basic ways
 - Learning needs to be focused, repetitive
 - Need to address all ways people learn
 - Determine readiness to learn
 - Determine barriers (age, cognition, hearing/vision impairments)
 - SPACE OUT TEACHING
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