



- I. General Principles of Medication Administration
 - A. Five Rights of Medication Administration
 - 1. Right: patient, time, route, drug, dose.
 - 2. Know how to assess each of the five rights.
 - B. Three Checks
 - 1. Check MAR to order sheet,
 - 2. Check MAR to medications
 - 3. Check MAR to medications at patient bedside prior to administering drugs
 - C. Patient Refusal of Medication Doses
 - 1. Nursing Action
 - D. Interpreting Drug Orders
 - 1. Legal drug order requirements
 - 2. Nursing Responsibility
 - E. Patient self-administration of drugs
 - 1. Patient teaching
 - 2. Assessment and documentation of teaching
 - F. Controlled drugs
 - 1. Orders
 - 2. Handling and Storage
 - 3. Administration
 - 4. Wasting
 - 5. Documentation
 - 6. Patient assessment after administration
 - G. PRN drugs
 - 1. Nursing judgement
 - 2. Assessment of patient prior and after administration
 - 3. Documentation
 - H. Routes of administration (PO, IM, SC, Z-track, IV, Inhalation, Vaginal, Rectal, Topical (Buccal, SL, Ophthalmic, Dermal))
 - 1. Proper technique
 - 2. Patient assessment prior and after administering
 - 3. Nurse responsibilities
 - 4. Patient teaching prior to administering
 - I. Parenteral Medication Administration (IV and injectables)
 - 1. Injections
 - a. IM
 - 1) Sites and Landmarks – Ventrogluteal, Vastus Lateralis, Dorsogluteal, Deltoid,
 - 2) Angle of injections
 - 3) Needle and syringe selection
 - 4) Maximum amount at each site
 - 5) Aspiration and massage
 - b. SC
 - 1) Sites and Landmarks
 - 2) Angle of injections
 - 3) Needle and syringe selection
 - 4) Maximum amount
 - 5) No aspiration and massage
 - J. Safety
 - 1. Allergy checks
 - a. Assessment and documentation of allergies
 - b. Identification of allergy signs and symptoms
 - 2. Aseptic technique
 - a. Nursing responsibilities
 - b. Nursing action in cases of contamination
 - K. Pediatric Variations
 - L. Geriatric Variation
 - M. Medication forms (ex. Enteric-coated, sustained-release, suspensions, elixirs)
 - 1. Crushing vs. not crushing
 - 2. Preparation, administration, and measurement
 - N. Insulins
 - 1. Mixing and measuring
 - 2. Nurse responsibilities and double-checking doses
 - 3. Sliding Scale-current recommendation
- II. Dosage Calculations
 - A. Abbreviations and Terminology
 - 1. JCAHO Recommendations
 - B. Conversions
 - 1. L to ml; ml to L
 - 2. Pounds to kg; kg to pounds
 - 3. Mcg to mg to grams; grams, to mg to mcg
 - C. Oral medication calculations
 - 1. tabs, caps, liquids
 - 2. Interpret drug labels
 - D. IV medications
 - 1. Flow rates of IV solutions
 - 2. Convert L to ml.
 - E. Parenteral dosage calculations
 - 1. Injections
 - F. Reconstituting solutions from powders
 - 1. Using labels and conversions listed above.
 - G. Zero Rules

1. ALWAYS put a zero before a decimal point (ex: 0.5)
2. **NEVER** put a zero after a decimal point (ex. 5.0)

III. Drug Classification Knowledge

In preparation for this section of the exam, know the following for each drug classification:

- Therapeutic effects
- Common side effects
- Life-threatening effects
- Serum drug levels (if applicable)
- Antidote (if applicable)
- Patient teaching
- Contraindications (disease processes, other drugs, and foods)

A. Central Nervous System

1. Opioid analgesics (Narcotics)
 - a. Demerol and Morphine
2. Non-opioid analgesics, Antipyretics, and Anti-inflammatory Drugs (NSAID's – *nonsteroidal anti-inflammatory drugs*)
 - a. Ibuprofen, Acetaminophen, ASA
3. Antiseizure
 - a. Phenobarbital, Dilantin, Valium
4. Antiparkinson Drugs
 - a. Levodopa, Levodopa-Carbidopa (Sinemet)
5. Centrally-Acting Skeletal Muscle Relaxants
 - a. Baclofen, Flexeril, Valium
6. Antidepressants
 - a. Lithium, MAO Inhibitors, Tricyclic Antidepressants (Elavil)
7. Sedative-Hypnotics, Antianxiety drugs
 - a. Barbiturates (Secobarbital)
8. Antipsychotics
 - a. General information regarding antipsychotics.

B. Autonomic Nervous System

1. Adrenergic Agonists
 - a. epinephrine, Isoproterenol, Dopamine, Dobutamine
2. Antiadrenergic agents
 - a. Beta-blockers (the drugs that end in "olol") like atenolol, propranolol
3. Anticholinergic drugs
 - a. Atropine

C. Endocrine System

1. Antidiabetic Agents
 - a. Insulins (peak, onset, duration)
 - 1) Lispro

- 2) Aspart
- 3) Glargine
- 4) NPH

b. Oral Hypoglycemics

2. Hormones

- a. Estrogen

3. Thyroid Replacement

- a. Synthroid

4. Corticosteroids

- a. Prednisone

D. Antiinfectives

1. Aminoglycosides

- a. Ciprofloxacin (Cipro), Gentamycin

2. Beta Lactams: Penicillins and Cephalosporins

- a. Ampicillin
- b. Rocephin

3. Antituberculars

- a. INH, Rifampin

E. Immune

1. Immunostimulant Drugs

- a. Epogen (Stimulates RBC production)
- b. Neupogen (Stimulates leukocyte production)

2. Immunosuppressants

- a. Corticosteroids – Prednisone

F. Respiratory System

1. Bronchodilators (po and inhalation)

- a. Theophylline (Theodur), Albuterol (Proventil, Ventolin), Beclomethasone (Vanceril)

G. Cardiovascular System

1. Drugs for Congestive Heart Failure (CHF)

- a. Digoxin

2. Antidysrhythmics

- a. Quinidine, Lidocaine

3. Antianginals

- a. nitrates – nitroglycerine

4. Antihypertensives

- a. ACE Inhibitors – all the drugs that end in "pril" (captopril, lisinopril)
- b. Beta-blockers – all the drugs that end in "olol" (metoprolol)
- c. Calcium Channel Blockers (Norvasc)

5. Diuretics

- a. Loop diuretic - Lasix

6. Anticoagulants

- a. Heparin - parenteral
- b. Coumadin - oral

H. Digestive System

1. Antiulcer drugs

- a. Antacids
 - b. Cytoprotective agents – sulcralfate (Carafate)
 - c. H2 Antagonists – cimetadine (Tagamet)
2. Laxatives
- a. bisocodyl (Dulcolax)
 - b. metamucil
3. Antidiarrheals
- a. Lomotil
4. Antiemetics
- a. Prochlorperazine (Compazine)

GENERAL OVERVIEW

- Know appropriate use of zeros when writing medication doses
- Know approved abbreviations
- Indications for z-track im injections and correct admin method
- Role of nurse in med administration and education
- Advantage of sublingual med administration
- Reversal agent for narcotics, coumadin, and heparin
- Know peak , onset, and duration of humalog, lantus, regular, and nph insulin
- Appropriate administration of inhalers; both bronchodilators and steroid
- Appropriate dosing for sublingual nitroglycerin
- What should be assessed before administering digoxin
- Management of a patient on coumadin

- Know common side effects and nursing considerations for the following medications:
 - Albuterol
 - Dilantin
 - Phenobarbitol
 - Anticholinergics
 - Muscle relaxers
 - Tricyclic antidepressants
 - Glucocorticosteroids
 - Stimulant laxatives
 - Furosemide
 - Ssri's
 - Nsaid's
 - Maoi
 - Antipsychotics
- There will be some questions involving basic drug calculations