PHARMACOLOGY COMPETENCIES AND TOPICS (75 items)

Understand the principles and practice of pharmaceutical prescribing, to be able to safely and effectively manage patient care. (See list of drugs)

- know indications for prescription of drugs
- know contraindications for individual drugs
- know adverse effects of drugs
- know potential drug-drug interactions (including the OTC drugs on the list at the end of the primary drug list)
- know how to safely prescribe drugs and identify factors that affect toxicity
- understand the mechanisms of action of classes of drugs, and of specific drugs
- know multidrug protocols for common conditions (e.g., diabetes, CAD, etc.)
- be able to perform physical assessments and/or know appropriate lab tests to monitor drug efficacy and assess drug toxicity
- know appropriate dosing procedures (e.g., know how to safely take patients off drugs and how to adjust dosages in response to monitoring results, etc.)
- be able to instruct patients on appropriate use and administration of prescription drugs
- know the principles of pharmacodynamics and pharmacokinetics

1. **Drugs acting on the cardiovascular system** (9%-11%)
   A. drugs used to treat hypertension
   B. vasodilators and drugs used to treat angina
   C. cardiac glycosides and drugs used to treat congestive heart failure
   D. drugs used to treat arrhythmias
   E. diuretics
   F. drugs used to treat hyperlipidemia
   G. drugs used to treat occlusive vascular disorders

2. **Drugs acting on the endocrine system** (8%-10%)
   A. drugs used to treat thyroid disorders
   B. gonadal hormones and inhibitors
   C. hormonal birth control
   D. other hormones
   E. drugs used to treat hypoglycemia, diabetes mellitus, and diabetes insipidus

3. **Drugs acting on the blood and lymph system** (3%-4%)
   A. drugs used to treat anemias
   B. drugs used to treat coagulation disorders
4. **Drugs acting on the dermatologic system (3%-4%)**
   A. drugs used to treat acne
   B. drugs used to treat psoriasis
   C. drugs used to treat eczema
   D. drugs used to treat tinea and seborrhea
   E. topical corticosteroids
   F. topical metabolites
   G. drugs used to treat skin infections

5. **Drugs used to treat disorders of the eye, ear, and nose (2%-3%)**
   A. drugs used to treat eye disorders
   B. drugs used to treat ear disorders
   C. drugs used to treat nose disorders

6. **Drugs acting on the gastrointestinal/hepatic system (6%-8%)**
   A. drugs used to treat acid/peptic ulcer disease
   B. drugs used to alter motility
   C. drugs used to treat diarrhea
   D. drugs used to treat nausea and emesis
   E. drugs used to treat cholelithiasis
   F. drugs used to treat inflammatory bowel disease and IBS

7. **Drugs acting on the genitourinary system (4%-6%)**
   A. drugs used to treat disorders of the prostate
   B. drugs used to treat erectile dysfunction
   C. drugs used to treat urinary incontinence and retention
   D. antiseptics used to treat urinary tract infections

8. **Drugs acting on the musculoskeletal system (3%-4%)**
   A. drugs used to relax skeletal muscles
   B. drugs used to treat osteoporosis & related bone disorders
   C. drugs used to treat gout

9. **Drugs acting on the nervous system (7%-9%)**
   A. sympathomimetics
   B. drugs used to treat epilepsy
   C. drugs used to treat movement disorders
   D. drugs used to treat sleep disorders
   E. drugs used to treat migraine
   F. local anesthetics
10. **Drugs acting on the respiratory system** (4%-5%)
   A. antihistamines
   B. drugs used to treat asthma and COPD
   C. corticosteroids
   D. drugs used to treat coughs
   E. drugs used to treat anaphylaxis

11. **Drugs used to treat psychological and cognitive disorders** (6%-8%)
    A. antipsychotics
    B. drugs used to treat depression, anxiety, bipolar disorder
    C. drugs used to treat dementia
    D. drugs used to treat ADD/ADHD

12. **Drugs used for pain management, drug addiction, and drug overdose** (7%-9%)
    A. non-steroidal analgesics
    B. opioid analgesics
    C. opioid agonists
    D. opioid antagonists
    E. drugs used to treat neurological pain
    F. drugs used for recreational purposes

13. **Drugs used as antimicrobials & vaccines** (10%-12%)
    A. aminoglycosides
    B. glycopeptides
    C. monoxyacarbolic acid agents
    D. nitroimidazoles
    E. penicillin and cephalosporins
    F. sulfonamides, trimethoprim, and fluoroquinolones
    G. tetracyclines and macrolides
    H. lincosamides
    I. drugs used to treat mycobacteria
    J. antifungal agents
    K. antiviral/antiretroviral therapeutic and prophylactic drugs
    L. antiparasitics and antihelminthics
    M. vaccines
14. **Drugs used for Chemotherapy and Immunosuppression** (8%-9%)
   A. anti-neoplastic agents
   B. disease modifying antirheumatic drugs - DMARDs
   C. immunosuppressants and immunomodulators
   D. TNF inhibitors
   E. monoclonal antibodies
   F. antimetabolites
   G. JAK inhibitors
   H. selective estrogen receptor modulators - SERMs
   I. GnRH analogs

15. **Pharmacodynamics and Pharmacokinetics** (7%-8%)
   A. pharmacodynamics (what a drug does to the body): factors affecting drug distribution, drug concentration, and patient response
   B. pharmacokinetics (what the body does to a drug): factors affecting drug absorption, metabolism, and excretion