

## 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. monoxycarboic 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