

Chapter 01: Medications

Mizner: Mosby's Pharmacy Technician Exam Review, 4th Edition

MULTIPLE CHOICE

1. Which reference book lists biological products including any biosimilar and interchangeable biological product licensed by the Food and Drug Administration?
 - a. *Purple Book*
 - b. *Red Book*
 - c. Safety Data Sheets
 - d. USP-NF

ANS: A

The *Purple Book* lists biological products including any biosimilar and interchangeable biological product licensed by the Food and Drug Administration. The *Red Book* addresses drug pricing. Safety Data Sheets contain information on the potential hazards for chemical products. The USP-NF contains standards for chemical and biological substances, dosage forms, compounded preparations, excipient, medical devices, and dietary supplements.

DIF: Cognitive Level 1: Knowledge REF: p.11

2. A patient takes pseudoephedrine (Sudafed) for nasal congestion; however, the patient has high blood pressure. This would be considered a drug—_____ interaction.
 - a. food
 - b. disease
 - c. laboratory
 - d. nutrient

ANS: B

Pseudoephedrine (Sudafed) can increase the heart rate and would not be recommended for patients with high blood pressure; therefore, this combination would represent a drug–disease interaction.

DIF: Cognitive Level 1: Knowledge REF: p.11

3. A patient overdoses on an opiate, and naloxone (Narcan) is given as an antidote to combat the effects of the opiate. Naloxone would then be considered a(n):
 - a. antagonist.
 - b. agonist.
 - c. sympathomimetic.
 - d. anxiolytic.

ANS: A

Antagonists can block the effects of another drug. Agonists affect the receptors and activate them. A sympathomimetic mimics the sympathetic nervous system, and anxiolytics stop anxiety symptoms.

DIF: Cognitive Level 3: Application REF: p.12

4. Augmentin is a combination of amoxicillin and clavulanic acid. Clavulanic acid prevents the degradation of amoxicillin by β -lactamases. Clavulanic acid thus serves to ____ the effects of amoxicillin.
- denature
 - degrade
 - reduce
 - potentiate

ANS: D

Clavulanic acid increases or potentiates the effect of amoxicillin against bacteria, β -lactamases, or enzymes that can degrade amoxicillin. All of the other choices indicate that clavulanate reduces the effectiveness of amoxicillin, which is not correct.

DIF: Cognitive Level 3: Application REF: p.61

5. When two drugs are combined and said to be “synergistic,” these drugs together would be ____ effective.
- less
 - more
 - just as
 - none of these

ANS: B

When something is synergistic, there is more effectiveness from the combination of the products.

DIF: Cognitive Level 1: Knowledge REF: p.12

6. Which of the pharmacokinetic processes is matched correctly with its definition?
- Absorption: the means by which the drug travels from the circulatory system across barrier membranes to the site of action.
 - Distribution: the process by which a drug is removed from the body.
 - Metabolism: the process involving the conversion of active drugs to a compound that can be easily removed or the conversion of prodrugs to active drugs.
 - Elimination: the manner by which drug molecules travel from the site of administration, across cell membranes, and into the circulatory system.

ANS: C

Absorption is the manner by which drug molecules travel from the site of administration, across cell membranes, and into the circulatory system. Distribution is the means by which the drug travels from the circulatory system across barrier membranes to the site of action. Metabolism is the process involving the conversion of active drugs to a compound that can be easily removed or the conversion of prodrugs to active drugs. Elimination is the process by which a drug is removed from the body.

DIF: Cognitive Level 1: Knowledge REF: p.10

7. Which of the following is the best definition for a brand name?
- Assigned by the drug manufacturer and is protected through a patent
 - Determined by chemical structure of the drug entity
 - Assigned to a medication and contains a word stem that has been issued by the

U.S. Adopted Names Council

- d. Determined by the botanical origin of the drug entity

ANS: A

A proprietary, brand, or trade name is assigned by the drug manufacturer and is protected through a patent. The chemical name is determined by chemical structure of the drug entity, and the nonproprietary (generic) name is assigned to a medication and contains a word stem that has been issued by the U.S. Adopted Names Council.

DIF: Cognitive Level 1: Knowledge REF: p.15

8. Which of the following is the best definition for a generic name?
- Assigned by the drug manufacturer and is protected through a patent
 - Determined by chemical structure of the drug entity
 - Assigned to a medication and contains a word stem that has been issued by the U.S. Adopted Names Council
 - Determined by the botanical origin of the drug entity

ANS: C

A proprietary, brand, or trade name is assigned by the drug manufacturer and is protected through a patent. The chemical name is determined by chemical structure of the drug entity, and the nonproprietary (generic) name is assigned to a medication and contains a word stem that has been issued by the U.S. Adopted Names Council.

DIF: Cognitive Level 1: Knowledge REF: p.15

9. Suffixes are often useful in determining the drug class of a medication. Which of the following suffixes is correctly matched to its drug class?
- prazole: Proton pump inhibitor for acidic conditions
 - vastatin: H₂ blocker for acidic conditions
 - pril: Cholesterol-lowering medication
 - tidine: ACE inhibitor

ANS: A

The following drug suffixes are matched to their drug classes:

-prazole: Proton pump inhibitor for acidic conditions

-vastatin: Cholesterol-lowering medication

-pril: ACE inhibitor

-tidine: H₂ blocker for acidic conditions

DIF: Cognitive Level 1: Knowledge REF: p.15

10. Ranitidine (Zantac) and loratadine (Claritin) have very similar suffixes, yet are very different in their pharmacologic function. What is the difference?
- Both are antihistamines, but one affects acid and the other allergies.
 - Loratadine (Claritin) is for acidic conditions, and ranitidine (Zantac) is for allergic conditions.
 - Ranitidine (Zantac) is nonsedating, but loratadine (Claritin) is very sedating.
 - Both are antihistamines, and there is no difference in their effects.

ANS: A

Whereas ranitidine (Zantac) is an H₂ blocker that reduces stomach acid, loratadine (Claritin) is an H₁ blocker that alleviates allergy symptoms. Loratadine is nonsedating.

DIF: Cognitive Level 3: Application REF: p.52

11. All the following are ways a patient might distinguish the classes of the medications nystatin (Mycostatin) and atorvastatin (Lipitor) EXCEPT _____.
- both have the ending –statin.
 - the ending that indicates cholesterol lowering is -vastatin, to which nystatin does not conform.
 - myco- is a prefix that means fungus.
 - lipi- is one letter short of lipid, and cholesterol is a type of lipid.

ANS: A

Although Lipitor is often referred to as a “statin,” both drugs have the same suffix yet are for very different conditions. By using -vastatin as the baseline or the prefixes myco- or lipi-, one can determine the medication’s class.

DIF: Cognitive Level 3: Application REF: p.15

12. Which of the following drug interactions is correctly matched to its definition?
- Addition: The combined effect of two drugs; it is equal to the sum of the effects of each drug taken alone
 - Antagonism: The joint action of drugs in which their combined effect is more intense or longer in duration than the sum of the effects of two drugs
 - Potentiation: One drug works against the action of another drug
 - Synergism: One drug increases or prolongs the effect of another drug; the total effect is greater than the sum of the effects of each drug alone

ANS: A

The definitions below are correctly matched:

Addition: The combined effect of two drugs; it is equal to the sum of the effects of each drug taken alone

Antagonism: One drug works against the action of another drug

Potentiation: One drug increases or prolongs the effect of another drug; the total effect is greater than the sum of the effects of each drug alone (e.g., Vistaril and Demerol)

Synergism: The joint action of drugs in which their combined effect is more intense or longer in duration than the sum of the effects of two drugs

DIF: Cognitive Level 1: Knowledge REF: p.12

13. Prefixes are often useful in determining the drug class of a medication. Which of the following prefixes is correctly matched to its drug class?
- sulfa-: sulfonamide antibiotic
 - ceph- or cef-: estrogen
 - estr-: cephalosporin antibiotic
 - profen-: antiinflammatory

ANS: A

The following drug prefixes are matched to their drug classes:

sulfa-: sulfonamide antibiotic

ceph- or cef-: cephalosporin antibiotic

estr-: estrogen

Although -profen would be matched correctly to an antiinflammatory, it is a suffix, not a prefix.

DIF: Cognitive Level 1: Knowledge REF: p.15

14. Which of the following mechanisms of action is correctly matched to its antibiotic class?
- Penicillins prevent bacteria from forming a cell wall.
 - Sulfonamides inhibit protein synthesis in bacteria by binding ribosomes.
 - Cephalosporins interfere with folic acid formation.
 - Tetracyclines prevent bacteria from forming a cell wall.

ANS: A

The following mechanisms of action are correctly matched to their antibiotic classes:

Penicillins prevent bacteria from forming a cell wall.

Sulfonamides interfere with folic acid formation.

Cephalosporins prevent bacteria from forming a cell wall.

Tetracyclines inhibit protein synthesis in bacteria by binding ribosomes.

DIF: Cognitive Level 1: Knowledge REF: p.61

15. Which of the following mechanisms of action is correctly matched to its antibiotic class?
- Penicillins inhibit protein synthesis in bacteria by binding ribosomes.
 - Macrolides inhibit protein synthesis by interacting with ribosomes.
 - Cephalosporins interfere with folic acid formation.
 - Tetracyclines prevent bacteria from forming a cell wall.

ANS: B

The following mechanisms of action are correctly matched to their antibiotic classes:

Penicillins prevent bacteria from forming a cell wall.

Macrolides inhibit protein synthesis by interacting with ribosomes.

Sulfonamides interfere with folic acid formation.

Tetracyclines inhibit protein synthesis in bacteria by binding ribosomes.

DIF: Cognitive Level 1: Knowledge REF: p.62

16. Which is the proper sequence for the pharmacokinetic processes?
- Absorption, metabolism, distribution and elimination
 - Absorption, elimination, metabolism and distribution
 - Absorption, distribution, elimination and metabolism
 - Absorption, distribution, metabolism and elimination

ANS: D

Absorption, distribution, metabolism and elimination is the proper sequence for the pharmacokinetic processes.

DIF: Cognitive Level 3: Application REF: p.10

17. In looking at erythromycin and azithromycin, two macrolides, what improvement does azithromycin have in terms of patient compliance?
- It comes in a suspension.