

# QUESTIONS CH 8

## DRUGS AND THE BODY

### *BASIC BIOPHARMACEUTICS, PHARMACOKINETICS, AND PHARMACODYNAMICS*



### Learning Outcomes

---

*After completing this chapter, you will be able to*

- Define the study of biopharmaceutics.
- List and describe the four major processes that make up the study of pharmacokinetics.
- Describe factors that can alter the absorption of a medication.
- Describe how medications are distributed within the body, including factors that affect medication distribution in the body.
- List and describe the two most common types of drug interactions.
- Define pharmacodynamics.
- Describe how medications are eliminated from the body, including factors (e.g., disease states) that can increase or decrease elimination of a medication.
- Define pharmacogenomics.
- Describe the steps that must occur before a medication can exert its effect on the body.

- Describe potential problems that can occur when a product formulation is disrupted or when absorption, distribution, metabolism, or elimination is altered, and how these alterations can affect the pharmacodynamics of a medication.

## MULTIPLE CHOICE

- \_\_\_\_\_ 1. Pharmacokinetics is the study of the movement of a drug through the body through the phases referred to as ADME. The phases are:
  - a. Administration, duration, metabolism, excretion
  - b. Absorption, disintegration, metabolism, elimination
  - c. Administration, dissolution, metabolism, excretion
  - d. Absorption, distribution, metabolism, excretion
- \_\_\_\_\_ 2. Which of the following is TRUE regarding bioavailability?
  - a. Drugs that undergo first-pass metabolism have close to 100% bioavailability.
  - b. Sublingual nitroglycerin has a higher bioavailability than oral capsules.
  - c. Intravenous (IV) medications typically have a lower bioavailability than oral solutions.
  - d. The dose for IV administration of a medication is typically the same as the oral dose because they have a similar bioavailability.
- \_\_\_\_\_ 3. Which of the following is subject to first-pass metabolism?
  - a. A sublingual tablet
  - b. A nasal inhalation spray
  - c. An oral suspension
  - d. A rectal suppository
- \_\_\_\_\_ 4. Examples of antibiotic medications, which are frequently monitored by measuring the levels of the medication in the bloodstream, include the following EXCEPT:
  - a. Gentamicin
  - b. Tobramycin
  - c. Neomycin
  - d. Vancomycin
- \_\_\_\_\_ 5. Which of the following is TRUE regarding drug distribution in the body?
  - a. Medications absorbed in the bloodstream travel only to the site of action where it exerts an effect and then is eliminated.
  - b. All medications are bound to blood proteins where it becomes activated.
  - c. Only the amount of drug that is free can leave the bloodstream to exert a pharmacological effect.
  - d. The main protein in blood that binds medications is globulin.
- \_\_\_\_\_ 6. Pharmacokinetics is defined as the study of:
  - a. The manufacture of medications for effective delivery into the body.
  - b. The movement of a drug through the body.
  - c. The relationship between the concentration of a drug in the body and the response or outcome observed or measured in a patient.
  - d. The way a person's genetic makeup can impact drug levels and therapeutic effects.
- \_\_\_\_\_ 7. Medications given intravenously are administered directly into the vein; therefore:
  - a. The medications are 100% bioavailable.
  - b. The dose is the same as medications given orally.