1.12: Module Learning Activities

Within this unit, you have been introduced to many concepts related to pharmacokinetics and pharmacodynamics. These basic concepts are important to understand as we move our study into closer examination of various medication classes, principles of administration, and consideration of how medications can be safely incorporated into the patient’s plan of care.

Interactive Activity

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Lightbulb Moment
Test your knowledge and application. Use the information in the text above, as well as the link to the Daily Med resource, to read more about the medications included in the patient scenarios. Additional pharmacokinetics information can be found under the “Clinical Pharmacology” section of each drug in Daily Med.

1. You are working in a nursing home caring for an 86 year-old stroke patient who complains of left knee pain secondary to arthritis. The patient has right-sided weakness and difficulty swallowing with no gag reflex. You review the patient’s MAR, and note the provider has prescribed acetaminophen 325 mg either per oral or per rectal route. Which route would you choose and why?

2. Mr. Johnson is a 92-year-old male admitted to the medical-surgical unit for severe pneumonia, and the provider prescribed gentamicin antibiotic therapy. Upon review of the order, you notice the initial dose is ordered at less than the standard recommended dose. What is the rationale behind the decreased starting gentamicin dose for this patient?

3. Sara is a nurse working on the medical-surgical floor. She is reviewing her patient’s chart and notes her patient has a 0600 vancomycin infusion; however, the trough level is not available. The nurse phones the lab, and they state they will not be available to draw the trough level for an hour. What actions should the nurse take?

4. Sam is a nurse working on the cardiology floor. He has an order to administer a dose of atenolol (a beta-blocker medication) to a patient at 0800. What actions should the nurse take prior to administering the medication? What is the anticipated therapeutic effect of this medication?

5. Julia is a 56-year-old patient admitted to the cardiology unit with new-onset atrial fibrillation. She has been prescribed amiodarone for her irregular heartbeat and is set to receive her first dose with her morning breakfast tray. When you arrive in the room, you notice that she has grapefruit juice on her breakfast meal tray. Is this a concern? Why? What is the nurse’s next action?

6. A nurse is caring for a 55-year-old male who recently was admitted to the medical-surgical unit for a total knee replacement. He is prescribed hydrocodone/acetaminophen 5/325 mg (Norco) every 6 hours for moderate pain. The patient complains of pain in the knee, rating it at a “6.” Review the “Clinical Pharmacology” section for this medication using the Daily Med link, and answer the following questions:
   ◦ When does the nurse anticipate the medication will peak in action?
   ◦ When does the nurse anticipate another dose will be needed due to the half-life of this drug?

Note: Answers to the light bulb moments can be found in the “Answer Key” sections at the end of the book.