Chapter 07, Antibacterial Drugs That Disrupt the Bacterial Cell Wall

1. A nurse suspects that a client receiving oral penicillin therapy is developing pseudomembranous colitis based on which assessment finding?
   A) Bloody diarrhea
   B) Pruritus
   C) Chills
   D) Hives

   Answer: A

   Rationale: Pseudomembranous colitis is a severe, life-threatening form of diarrhea that occurs when normal flora of the bowel is eliminated and replaced with *C. difficile* (*C. diff*) bacteria. It is manifested by bloody diarrhea. Pruritus and hives would suggest an allergic reaction. Chills could indicate a wide range of problems.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 1
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 87, Diarrhea

2. After completing several days of penicillin therapy, a client presents with new reports of inflamed oral mucous membranes and tongue and gum swelling. What is a priority action in regards to this new finding?
   A) Inspect mouth and gums regularly.
   B) Instruct client to avoid brushing teeth.
   C) Offer client a liquid diet.
   D) Instruct the client to gargle every 2 hours.

   Answer: A

   Rationale: The client is presenting with signs of a fungal superinfection. The nurse should regularly inspect the client's mouth and gums to assess the client's progress. The nurse should instruct the client to use a soft-bristled toothbrush. The client does not need to follow a liquid diet; a nonirritating soft diet can be recommended. Gargling every 2 hours may not help relieve the symptoms and may even aggravate the existing condition.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 5
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 87, Altered Oral Mucous Membranes

3. Before administering the first dose of a penicillin to the client, which assessment should the nurse perform as part of the preadministration assessment?
   A) Review of renal and hepatic function tests
   B) Inspection of client's stools
   C) Evaluation of client's lifestyle and diet
   D) General history of client's health

   Answer: D

   Rationale: Before administering the first dose of penicillin, the nurse should obtain and review the client's general health history, including any allergy history, a history of all medical and surgical treatments, a drug history, and the current symptoms of the infection. The client's stool is examined only after penicillin has been administered if the client has diarrhea. It is not required to evaluate the client's lifestyle and diet as part of the preadministration assessment for the first dose. Renal and hepatic function tests may be performed at intervals during penicillin therapy, usually not before it.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 2
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 85, Preadministration Assessment

4. A 26-year-old female client with a skin infection has been prescribed 400 mg ampicillin to be taken orally. Which instruction should the nurse include in the client teaching plan?
   A) If a dosage is missed, increase the next dosage to meet the daily quota.
   B) Ampicillin will reduce the effectiveness of birth control pills.
   C) Take drug on an empty stomach, an hour before or 2 hours after meals.
   D) Avoid use of skin care products, like moisturizers, when on penicillin therapy.

   Answer: B

   Rationale: Ampicillin (also penicillin V) reduces the effectiveness of birth control pills. Increasing a dosage to compensate for a missed dosage should not be done. The client should adhere to the prescribed regimen as strictly as possible. Ampicillin and penicillin V may be taken without regard to meals. The client need not avoid use of skin care products when on penicillin therapy.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 5
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Teaching/Learning

Reference: p. 88, Educating the Client and Family

5. A client undergoing penicillin therapy shows improvement and confirms feeling better. Which intervention is the nurse most likely to perform in such a situation?
   A) Instruct client to increase dietary intake.
   B) Inform the primary health provider immediately.
   C) Record assessments on client's chart.
   D) Inquire about any previous drug allergies.

   Answer: C

   Rationale: When the client shows and verbally confirms improved health, it should be recorded on the client's chart. If the condition of the client has improved, the client will show an increased appetite, but there is no need to instruct the client to increase dietary intake. The primary health provider need not be informed about the condition immediately unless the client shows signs of deterioration or complications. The nurse should inquire about previous drug allergies before the start of therapy.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 2
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 89, Evaluation

6. After taking penicillin as prescribed, a client shows signs of diarrhea and informs the nurse that there is blood in the stools. Which intervention should the nurse do next?
   A) Contact primary health provider immediately.
   B) Have the client consume yogurt with the next meal.
   C) Decrease fiber content in diet.
   D) Continue with prescribed regimen.

   Answer: A

   Rationale: If diarrhea is suspected, the nurse should notify the primary health care provider immediately. The nurse should wait for the primary health care provider's instructions before continuing with the prescribed regimen. Yogurt or buttermilk may help prevent fungal superinfections, but they will not help alleviate the client's condition at this stage. Changes in the diet are not recommended unless instructed by the primary health care provider.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 2
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 87, Diarrhea

7. A nurse is caring for a client who is receiving penicillin. The nurse would assess for which common adverse reaction?
   A) Inflammation of the tongue and mouth
   B) Altered oral mucous membranes
   C) Severe hypotension
   D) Sudden loss of consciousness

   Answer: A
   Rationale: Some of the common adverse effects of penicillin are glossitis (inflammation of the tongue), stomatitis (inflammation of the mouth), and gastritis (inflammation of the stomach). Unless the adverse effects are severe, the drug may be continued as prescribed and the nurse would intervene to help the client manage the common adverse reactions. Altered oral mucous membranes would suggest a possible fungal superinfection in the oral cavity, whereas severe hypotension and sudden loss of consciousness are signs of anaphylactic shock; these are not common adverse effects of penicillin and require immediate medical attention.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 1
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 81, Gastrointestinal System Reactions

8. A nurse is required to administer a parenteral form of penicillin to a client. Which intervention would be most appropriate for the nurse to do when preparing penicillin in parenteral form?
   A) Extract penicillin from vial and then reconstitute.
   B) Save excess antibiotic after reconstitution for later use.
   C) Use any available diluent for reconstitution.
   D) Shake the vial well to distribute the drug evenly.

   Answer: D

   Rationale: When preparing a parenteral form of penicillin, the nurse should shake the vial thoroughly before withdrawing the drug to ensure its even distribution in the solution. Penicillins in powder or crystalline form must be reconstituted before being withdrawn from the vial. Excess antibiotic after reconstitution should never be saved, as the drug loses its potency when stored. Reconstitution should be done only with the diluent prescribed on the manufacturer's label.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 2
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 86, Parenteral Administration

9. While obtaining a medication history on a 48-year-old client who is to receive penicillin for an ear infection, the nurse learns the client takes a beta-adrenergic blocker for hypertension. The nurse develops appropriate nursing goals as this client is at increased risk for which adverse reaction if penicillin is administered?
   A) Anaphylactic shock
   B) Higher blood pressure
   C) Excess bleeding
   D) Heart attack

   Answer: A
   Rationale: Combining penicillins with beta-adrenergic blocking drugs increases the risk of anaphylactic shock. Beta-adrenergic blocking drugs are used to control blood pressure and heart problems, but combining them with penicillins does not increase the risk of high blood pressure or heart attack. Risk of bleeding is maximized if penicillins are combined with anticoagulants.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 2
   Cognitive Level: Understand
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 81, Prophylaxis

10. A 75-year-old client with a history of renal impairment is admitted with a UTI and has been prescribed a cephalosporin. Which intervention is most important for the nurse to perform when caring for this client?
   A) Monitoring fluid intake
   B) Monitoring blood creatinine levels
   C) Testing for occult blood
   D) Testing for increased glucose levels

   Answer: B

   Rationale: An elderly client is more susceptible to the nephrotoxic effects of the cephalosporins. Since renal impairment is present, it is important for the nurse to closely monitor the client's blood creatinine levels. The nurse should conduct a test for occult blood if blood and mucus occur in the stool and monitor the fluid intake if there is a decrease in urine output. The nurse does not need to monitor for increased glucose levels unless the client has a history of diabetes.
   Question Format: Multiple Choice
   Chapter: 7
   Learning Objective: 5
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 87, Lifespan Considerations

11. The nurse administers cefuroxime to a client at least 1 hour before meals, as prescribed; however, the client experiences GI upset. Which action would be most appropriate for the nurse to do?
    A) Administer an antacid.
    B) Lower the dosage.
    C) Discontinue the drug.
    D) Administer the drug with food.

    Answer: D

    Rationale: If the client experiences GI upset, the nurse can administer cefuroxime with food. A decrease in the dosage is suggested in a client with renal impairment. A change in dosage, discontinuation of the drug, or use of an antacid is recommended only if prescribed by the health care provider.

    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 5
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 86, Oral Administration

12. A nurse needs to administer a cephalosporin to a client. The client informs the nurse that he is allergic to penicillin. Which action by the nurse would be most appropriate?
    A) Inform the primary health care provider.
    B) Obtain the client's occupational history.
    C) Administer an antipyretic drug.
    D) Obtain specimens for kidney function tests.

    Answer: A

    Rationale: Clients with a history of an allergy to penicillin may also be allergic to cephalosporin, so the nurse needs to inform the primary health care provider before the first dose of the drug is given. An antipyretic drug is administered when there is an increase in the body temperature of a client receiving cephalosporin. Liver and kidney function tests may be ordered by the primary health care provider, not the nurse. Occupational history should be obtained before administration of any drug, irrespective of the client's allergies.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 2
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 82, Cephalosporins

13. A nurse is conducting an in-service about antibacterial drugs such as penicillins and cephalosporins. During the question-and-answer period, the audience asks for examples of conditions that can be treated by cephalosporins. Which examples would the nurse include in the response?
    A) Hemolysis
    B) Urinary tract infections
    C) Nausea and diarrhea
    D) Jaundice

    Answer: B

    Rationale: Cephalosporins are used to treat respiratory infections, otitis media, urinary tract infections, and bone and joint infections, and prophylactically to treat infections that may result from a sexual assault. Cephalosporins are not used to treat hemolysis or jaundice. Nausea and diarrhea are some of the adverse reactions that can occur when a client is on cephalosporin therapy.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 1
    Cognitive Level: Understand
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Teaching/Learning
    Reference: p. 82, Cephalosporins

14. The nurse is providing care to a client who is receiving an aminoglycoside and cephalosporin. Which assessment is a priority of care?
    A) Nausea
    B) Nephrotoxicity
    C) Increased bleeding
    D) Respiratory difficulty

    Answer: B

    Rationale: When cephalosporin is administered with aminoglycosides, it increases the risk for nephrotoxicity and should be closely monitored. Nausea is an adverse reaction of cephalosporins in clients with gastrointestinal tract infection. The risk of bleeding increases when cephalosporin is administered with oral anticoagulants. The risk for respiratory difficulty and a disulfiram-like reaction increases if alcohol is consumed within 72 hours after administration of certain cephalosporins.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 2
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 82, Cephalosporins

15. While the nurse is obtaining a drug history from a client, the client states an allergy to penicillin and an experience of a rash after taking cephalosporin. The nurse interprets this information as indicating which situation?
    A) Hypersensitivity
    B) Cross-sensitivity
    C) Anaphylactoid reaction
    D) Anaphylaxis

    Answer: B

    Rationale: Once an individual is allergic to one penicillin, they are usually allergic to all of the penicillins. Those allergic to penicillin also have a higher incidence of allergy to the cephalosporins. Allergy to drugs in the same or related groups is called cross-sensitivity. Hypersensitivity is an allergic reaction to one substance. Anaphylactoid reaction is an unusual or exaggerated allergic reaction. Anaphylaxis or anaphylactic shock is a severe form of hypersensitivity that occurs immediately and can be fatal.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 4
    Cognitive Level: Analyze
    Client Needs: Physiological Integrity: Pharmacological Therapies

    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 81, Hypersensitivity Reactions

16. A client receiving penicillin therapy reports mouth irritation and a sore throat to the nurse. Inspection reveals a red, swollen tongue with ulcerations. The nurse suspects a fungal superinfection and prioritizes which nursing diagnosis as most appropriate for this client?
    A) Altered Comfort
    B) Altered Oral Mucous Membranes
    C) Deficient Knowledge
    D) Inadequate Nutrition: Less Than Body Requirements

    Answer: B

    Rationale: The assessment suggests a fungal superinfection, which would lead to the nursing diagnosis of Altered Oral Mucous Membranes. Although Altered Comfort may be appropriate, Altered Oral Mucous Membranes is more specific. There is no evidence of lack of knowledge or problems with nutrition. However, if the superinfection is not addressed, the client may experience difficulty eating due to the irritation and discomfort.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 3
    Cognitive Level: Analyze
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 87, Altered Oral Mucous Membranes

17. A client is ordered to receive vancomycin IV. When administering the drug, the nurse would infuse the drug over which time frame?
    A) 15 minutes
    B) 30 minutes
    C) 45 minutes
    D) 60 minutes

    Answer: D

    Rationale: Each IV dose of vancomycin is infused over 60 minutes. Too rapid an infusion may result in a sudden and profound fall in blood pressure and shock.
    Question Format: Multiple Choice
    Chapter: 7
    Learning Objective: 5
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 86, Parenteral Administration

18. After teaching a group of nursing students about penicillins, the instructor determines that the teaching was successful when the students correctly choose which as part of the group? Select all that apply.
    A) Synthetic penicillins
    B) Natural penicillins
    C) Penicillinase-resistant penicillins
    D) Aminopenicillins
    E) Extended-spectrum penicillins

    Answer: B, C, D, E

    Rationale: Penicillins are categorized into four groups including the natural penicillins, penicillinase-resistant penicillins, aminopenicillins, and extended-spectrum penicillins.
    Question Format: Multiple Select
    Chapter: 7
    Learning Objective: 1
    Cognitive Level: Remember
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Teaching/Learning
    Reference: p. 80, Penicillins

19. A group of students are separating the various penicillins into their groups. Which drugs will the students differentiate as an example of a beta-lactamase inhibitor? Select all that apply.
    A) Piperacillin
    B) Amoxicillin
    C) Tazobactam

D) Sulbactam
E) Clavulanic acid

Answer: C, D, E

Rationale: Examples of beta-lactamase inhibitors are clavulanic acid, sulbactam, and tazobactam. Amoxicillin is an example of an aminopenicillin. Piperacillin is an example of an extended-spectrum penicillin.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 1
Cognitive Level: Understand
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Teaching/Learning
Reference: p. 80, Penicillins

20. A nurse is monitoring a client who is receiving penicillin. The nurse would assess the client for which common GI tract adverse reactions? Select all that apply.
A) Glossitis
B) Stomatitis
C) Esophagitis
D) Diarrhea
E) Gastritis

Answer: A, B, D, E

Rationale: A nurse monitoring a client taking penicillin should be aware of the common GI tract adverse reactions, including glossitis, stomatitis, gastritis, nausea, vomiting, diarrhea, and abdominal pain.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 1
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 81, Prophylaxis

21. A nurse is examining the laboratory test results of a client receiving penicillin therapy. Which results would the nurse predict as indicating an adverse hematologic reaction? Select all that apply.
A) Pancytopenia
B) Anemia
C) Thrombocytopenia
D) Leukopenia
E) Hemoglobulinemia

Answer: B, C, D

Rationale: Nurses should monitor blood counts of clients taking penicillins for the following hematopoietic changes: anemia, thrombocytopenia, leukopenia, and bone marrow suppression. The client may not have all counts low which would indicate the pancytopenia. Hemoglobulinemia is an indication of low hemoglobin but not necessarily low red blood cell count.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 81, Hypersensitivity Reactions

22. A nurse is preparing to administer penicillin therapy. The nurse would expect to administer penicillins cautiously to clients with a history of which disorders? Select all that apply.
    A) History of allergies
    B) Diabetes
    C) Asthma
    D) Bleeding disorders
    E) Hypertension

    Answer: A, C, D

    Rationale: Penicillins should be used cautiously in clients with renal disease, asthma, bleeding disorders, GI disease, pregnancy or lactation, and a history of allergies.

    Question Format: Multiple Select
    Chapter: 7
    Learning Objective: 1
    Cognitive Level: Understand
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 81, Prophylaxis

23. Which factors should be included in the nurse's preadministration assessment prior to administering a penicillin to a client? Select all that apply.
    A) Allergy history
    B) Medical history
    C) Medication history
    D) Blood glucose levels
    E) Current symptoms

    Answer: A, B, C, E

    Rationale: An allergy history, medical and surgical history, medication history, and the current symptoms of the infection should be included in the nurse's preadministration assessment prior to a client receiving a penicillin.

Question Format: Multiple Select
Chapter: 7
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 853, Preadministration Assessment

24. A nurse is preparing to administer penicillin to the client. If the nurse determines the client is receiving one of the penicillinase-resistant penicillins, which drug is the client likely receiving? Select all that apply.
A) Dicloxacillin
B) Penicillin G
C) Nafcillin
D) Oxacillin
E) Ampicillin

Answer: A, C, D

Rationale: Dicloxacillin, nafcillin, and oxacillin are examples of penicillinase-resistant penicillins. Penicillin G is an example of a natural penicillin. Ampicillin is an example of an aminopenicillin.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 1
Cognitive Level: Analyze
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Teaching/Learning
Reference: p. 90, Antibacterial Drugs That Disrupt Bacterial Cell Wall Synthesis

25. When performing an ongoing assessment of a client receiving amoxicillin (Amoxil), the nurse should monitor the client for which potential reactions? Select all that apply.
A) Relief of symptoms
B) Development of a rash
C) Increase in appetite
D) Change in appearance or amount of drainage
E) Decrease in temperature

Answer: A, C, D, E

Rationale: An ongoing assessment is important in evaluating the client's response to therapy, such as a decrease in temperature, relief of symptoms caused by the infection, an increase in appetite, and a change in the appearance and amount of drainage.

Question Format: Multiple Select
Chapter: 7
Learning Objective: 2

Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 85, Ongoing Assessment

26. A nurse is preparing to teach a client about the penicillin which has just been prescribed. With which drugs will the nurse explain that penicillin can be taken without regard to meals? Select all that apply.
    A) Amoxicillin
    B) Ampicillin
    C) Penicillin V
    D) Amoxicillin/clavulanate
    E) Carbenicillin indanyl

    Answer: A, C

    Rationale: Amoxicillin and penicillin V can be administered without regard to meals, unlike the rest of the penicillins, such as ampicillin, amoxicillin/clavulanate, or carbenicillin indanyl, which should be given on an empty stomach.
    Question Format: Multiple Select
    Chapter: 7
    Learning Objective: 5
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Teaching/Learning
    Reference: p. 86, Oral Administration

27. A client develops a mild skin irritation while receiving penicillin therapy. Which products or actions would the nurse advise the client to avoid? Select all that apply.
    A) Harsh soaps
    B) Perfumed lotions
    C) Antipyretic creams
    D) Rubbing the irritating area
    E) Wearing rough or irritating clothing

    Answer: A, B, D, E

    Rationale: When skin irritation is present during the administration of penicillin, the nurse should advise the client to avoid harsh soaps, perfumed lotions, rubbing the irritated area, or wearing rough or irritating clothing.
    Question Format: Multiple Select
    Chapter: &
    Learning Objective: 5
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Teaching/Learning
    Reference: p. 86, Altered Skin Integrity

28. A client is prescribed penicillin therapy to treat an infection. Which factor would the nurse include in the teaching plan for the client to reduce the risk of fungal superinfections? Select all that apply.
    A) "Yogurt can sometimes help."
    B) "Try drinking some buttermilk."
    C) "You could take Acidophilus capsules."
    D) "Rinse your mouth daily with an alcohol-based mouthwash."
    E) "Use a soft-bristle toothbrush when brushing."

    Answer: A, B, C, E

    Rationale: The nurse can recommend that, if the diet permits, yogurt, buttermilk, or Acidophilus capsules may be taken to reduce the risk of fungal superinfection. Also, brushing with a soft-bristle toothbrush and frequent mouth care with a nonirritating solution can be helpful.
    Question Format: Multiple Select
    Chapter: 7
    Learning Objective: 5
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 87, Altered Oral Mucous Membranes

29. A nursing instructor is preparing a class about cephalosporins for a group of nursing students. When illustrating progression from first-generation to fourth-generation cephalosporins, which action would the instructor include as the result? Select all that apply.
    A) An increase in the sensitivity of gram-negative microorganisms
    B) A decrease in the sensitivity of gram-negative microorganisms
    C) An increase in the sensitivity of gram-positive microorganisms
    D) A decrease in the sensitivity of gram-positive microorganisms
    E) An increase in the sensitivity of viral microorganisms

    Answer: A, D

    Rationale: In general, progression from first-generation to fourth-generation cephalosporins shows an increase in the sensitivity of gram-negative microorganisms and a decrease in the sensitivity of gram-positive microorganisms.
    Question Format: Multiple Select
    Chapter: 7
    Learning Objective: 1
    Cognitive Level: Understand
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Teaching/Learning
    Reference: p. 82, Cephalosporins

30. A nurse is preparing to administer a prescribed cephalosporin by injection. Which would be most important for the nurse to keep in mind? Select all that apply.

A) Thrombophlebitis can occur when cephalosporins are given IV.
B) Phlebitis can occur when cephalosporins are given IM.
C) Pain can occur when cephalosporins are given IM.
D) Tenderness can occur when cephalosporins are given IM.
E) Swelling can occur when cephalosporins are given IM.

Answer: A, C, D, E

Rationale: Administration route reactions include pain, tenderness, and inflammation at the injection site when cephalosporins are given IM, and phlebitis and thrombophlebitis along the vein may occur when cephalosporins are given IV.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 82, Cephalosporins

31. A nurse suspects that a client who is receiving a cephalosporin and has ingested alcohol may be experiencing a disulfiram-like reaction based on assessment of which sign? Select all that apply.
A) Flushing
B) Respiratory difficulty
C) Hypertension
D) Vomiting
E) Sweating

Answer: A, B, D, E

Rationale: Flushing, throbbing in the head and neck, respiratory difficulty, vomiting, sweating, chest pain, and hypotension are symptoms a nurse might observe in a client having a disulfiram-like reaction with administration of a cephalosporin and alcohol.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 2
Cognitive Level: Analyze
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 81, Cephalosporins

32. After teaching a group of nursing students about the different generations of cephalosporins, the instructor determines that the teaching was successful when the students correctly choose which drug as an example of a first-generation cephalosporin? Select all that apply.
A) Cefepime
B) Cefazolin
C) Cefoxitin

D) Cephalexin
E) Cefaclor

Answer: B, D

Rationale: Cefazolin and cephalexin are examples of first-generation cephalosporins. Cefoxitin and cefaclor are examples of second-generation cephalosporins. Cefepime is an example of a fourth-generation cephalosporin.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 1
Cognitive Level: Remember
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Teaching/Learning
Reference: p. 83, Box 7.4 Examples of First-, Second-, Third-, Fourth-, and Fifth-Generation Cephalosporins

33. A nurse is teaching a client about the common adverse reactions that can occur with the prescribed therapy with cephalosporins. The nurse determines that the teaching was successful when the client correctly chooses which as a potential adverse reaction? Select all that apply.
A) Drowsiness
B) Headache
C) Constipation
D) Heartburn
E) Vomiting

Answer: B, D, E

Rationale: Common adverse reactions to cephalosporins include nausea, vomiting, diarrhea, headache, dizziness, malaise, heartburn, and fever.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 5
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Teaching/Learning
Reference: p. 81, Cephalosporins

34. While administering vancomycin IV to a client, the nurse suspects that the client is developing red-man syndrome based on which assessment finding? Select all that apply.
A) Headache
B) Throbbing neck pain
C) Chills
D) Erythema of the neck and back
E) Difficulty breathing

Answer: B, C, D

Rationale: Red-man syndrome is manifested by a decrease in blood pressure, occurrence of throbbing neck or back pain, fever, chills, paresthesia, and erythema of the neck and back. Headache is unrelated to this syndrome. Difficulty breathing might suggest an anaphylactic reaction.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 2
Cognitive Level: Understand
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 86, Parenteral Administration

35. After teaching a group of students about antibacterial drugs that disrupt the bacterial cell wall, the instructor determines that the teaching was successful when the students identify which as an example of a carbapenem? Select all that apply.
A) Vancomycin
B) Imipenem-cilastatin
C) Meropenem
D) Aztreonam
E) Ceftriaxone

Answer: B, C

Rationale: Carbapenems include imipenem-cilastatin and meropenem. Vancomycin and aztreonam are classified as miscellaneous drugs that disrupt the bacterial cell wall. Ceftriaxone is a third-generation cephalosporin.
Question Format: Multiple Select
Chapter: 7
Learning Objective: 1
Cognitive Level: Understand
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Teaching/Learning
Reference: p. 91, Antibacterial Drugs That Disrupt Bacterial Cell Wall Synthesis