

# **TEST BANK**

**PHARMACOLOGY**

**A PATIENT-CENTERED**

**NURSING PROCESS**

**APPROACH**

**10TH EDITION**

**by McCuistion**

## Chapter 01: The Nursing Process and Patient-Centered Care

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nursing process is a five-step decision-making approach that includes all of the following steps, EXCEPT:

- a. Assessment
- b. Patient problem
- c. Planning
- d. Right Drug

ANS: D

The nursing process is a five-step decision-making approach that includes: 1) assessment, 2) patient problem, 3) planning, 4) implementation, and 5) evaluation. "Right drug" is one of the "Six Rights" of medication administration.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Management of Care

2. The nurse is using data collected to set goals or expected outcomes and interventions that address the patient's problems. Which step of the nursing process is the nurse applying?

- a. Assessment
- b. Patient problem
- c. Planning N
- d. Evaluation

ANS: C

During the planning phase, the nurse uses the data collected to set goals or expected outcomes and interventions which address the patient's problems. The data was collected during the

“Assessment” and “Patient problem” steps. During the “Evaluation” phase the nurse would determine whether the goals and objectives set during the planning phase were met.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Management of Care

3. A 5-year-old child with type 1 diabetes mellitus has had repeated hospitalizations for episodes of hyperglycemia. The parents tell the nurse that they can't keep track of everything that has to be done to care for their child. The nurse reviews medications, diet, and symptom management with the parents and draws up a daily checklist for the family to use. These activities are completed in which step of the nursing process?

- a. Assessment
- b. Planning
- c. Implementation
- d. Evaluation

ANS: C

The implementation phase is the part of the nursing process in which the nurse provides education, drug administration, patient care, and other interventions necessary to assist the patient in accomplishing established medication goals.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Management of Care

4. The nurse is preparing to administer a medication and reviews the patient's chart for drug allergies, serum creatinine, and blood urea nitrogen (BUN) levels. The nurse's actions are reflective of which phase of the nursing process?

- a. Assessment
- b. Evaluation

- c. Implementation
- d. Planning

ANS: A

Assessment involves gathering information about the patient and the drug, including any previous use of the drug.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Management of Care

5. Which assessment is categorized as objective data?
- a. A list of herbal supplements regularly used
  - b. Lab values associated with the drugs the patient is taking
  - c. The ages and relationship to the patient of all household members
  - d. Usual dietary patterns and food intake

ANS: B

Objective data are measured and detected by another person and would include lab values. The other examples are subjective data.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Management of Care

6. The nurse reviews a patient's database and learns that the patient lives alone, is forgetful, and does not have an established routine. The patient will be sent home with three new medications to be taken at different times of the day. The nurse develops a daily medication chart and enlists a family member to put the patient's pills in a pill organizer. This is an example of which phase of the nursing process?
- a. Assessment
  - b. Evaluation

- c. Implementation
- d. Planning

ANS: C

The implementation phase involves education and patient care in order to assist the patient to accomplish the goals of treatment.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Management of Care

7. A patient who is hospitalized for chronic obstructive pulmonary disease (COPD) wants to go home. The nurse and the patient discuss the patient's situation and decide that the patient may go home when able to perform self-care without dyspnea and hypoxia. This is an example of which phase of the nursing process?

- a. Assessment
- b. Evaluation
- c. Implementation
- d. Planning

ANS: D

Planning involves goal setting, which, for this patient, means being able to perform self-care activities without dyspnea and hypoxia.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Management of Care

8. A patient will be sent home with a metered-dose inhaler, and the nurse is providing teaching. Which is a correctly written goal for this process?

- a. The nurse will demonstrate the correct use of a metered-dose inhaler to the patient.
- b. The nurse will teach the patient how to administer medication with a metered-dose inhaler.

- c. The patient will know how to self-administer the medication using the metered-dose inhaler.
- d. The patient will independently administer the medication using the metered-dose inhaler at the end of the session.

N

ANS: D

Goals must be patient-centered and clearly state the outcome with a reasonable deadline and should identify components for evaluation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Management of Care

9. The nurse is developing a plan of care for a patient who has chronic lung disease and hypoxia. The patient has been admitted for increased oxygen needs above a baseline of 2 L/min. The nurse develops a goal stating, "The patient will have oxygen saturations of >95% on room air at the time of discharge from the hospital." What is wrong with this goal?

- a. It cannot be evaluated.
- b. It is not measurable.
- c. It is not patient-centered.
- d. It is not realistic.

ANS: D

This goal is not realistic because the patient is not usually on room air and should not be expected to attain that goal by discharge from this hospitalization.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Management of Care

10. The nurse is developing a teaching plan for an elderly patient who will begin taking an antihypertensive drug that causes dizziness and orthostatic hypotension. Which patient problem documented by the nurse is appropriate for this patient?

- a. Deficient knowledge related to drug side effects

- b. Ineffective health maintenance related to age
- c. Readiness for enhanced knowledge related to medication side effects
- d. Risk for injury related to side effects of the medication

ANS: D

This patient has an increased risk for injury because of drug side effects, so this is an appropriate patient problem to direct the type of care and follow-up the patient will receive.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Diagnosis MSC: NCLEX: Management of Care

11. An older patient must learn to administer a medication using a device that requires manual dexterity. The patient becomes frustrated and expresses lack of self-confidence in performing this task. Which action will the nurse perform next?

- a. Ask the patient to keep trying until the skill is learned.
- b. Provide written instructions with illustrations showing each step of the skill.
- c. Schedule multiple sessions and practice each step separately.
- d. Teach the procedure to family members who can administer the medication for the patient.

ANS: C

Nurses should be sensitive to patient's level of frustration when teaching skills. In this case, breaking the steps down into individual parts will help with this patient's frustration level.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Management of Care

12. A school-age child will begin taking a medication to be administered at 5 mL three times daily. The child's parent tells the nurse that, with a previous use of the drug, the child repeatedly forgot to bring the medication home from school, resulting in missed evening doses. What will the nurse recommend?

- a. Asking the provider if the medication may be taken before school, after school, and at bedtime
- b. Putting a note on the child's locker to encourage the child to take responsibility for medication administration

- c. Asking the provider if 7.5 mL may be taken in the morning and 7.5 mL may be taken in the evening so that the correct amount is given daily
- d. Taking the noon dose to school every day and giving it to the school nurse to administer

ANS: C

For busy families with school-age children, it may be necessary to adjust the medication schedule to one that fits their schedule. The nurse should ask the provider if a revised schedule is possible. In this case, the most effective revised schedule would involve not taking the medication while at school. Putting a note on the locker is not likely to be effective. It is not correct to adjust the dose.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Planning MSC: NCLEX: Management of Care

13. A high-school student regularly forgets to use a twice-daily inhaled corticosteroid to prevent asthma flares and is repeatedly admitted to the hospital. The child's parent tells the nurse that the child has been told that forgetting to take the medication causes frequent hospitalizations. The nurse will:

- a. encourage the child to take responsibility for taking the medication.
- b. reinforce the need to take prescribed medications to avoid hospitalizations.
- c. suggest putting the inhaler with the child's toothbrush to use before brushing teeth.
- d. suggest that the child's parents administer the medication to increase compliance.

ANS: C

It is important to empower patients to take responsibility for managing medications. Putting the medication with the toothbrush can help this child remember to use it. Telling the child to take medications and reminding the child that failure to do so results in hospitalization is not working. Asking the child's parents to administer the medication does not empower the adolescent to take responsibility.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention MSC: NCLEX: Management of Care



14. An adolescent patient who has acne is given a regimen of topical medications and an oral antibiotic that generally clears up lesions to fewer than 10 within 6 to 8 weeks. At a 2-month follow-up, the patient continues to have more than 25 lesions. The child's parent affirms that the child is using the medications as prescribed. Which evaluation statement is correct for this patient?

- a. "Goal of fewer than 10 lesions in 6 to 8 weeks is not met."
- b. "Goal that the medication will be effective is not met."
- c. "Goal that the patient will take medications as prescribed is not met."
- d. "Goal that the patient understands the medication regimen is not met."

ANS: A

All indications are that this patient is taking the medications and they are not effective. The first statement is correct because it identifies a measurable goal and a specific time frame.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Management of Care

15. During a home visit, the nurse learns that a patient has not been taking their medications as prescribed. The patient reports having no insurance and tells the nurse that the drug is too expensive. After learning that there is no substitute medication, the nurse will perform which action next?

- a. Assist the patient to apply for a patient-assist program.
- b. Contact the pharmacy to request a reduction in the cost of the drug.
- c. Determine the patient's annual income.
- d. Give the patient the number of a charitable organization that may be able to help.

ANS: C

Patient-assist programs may be helpful, but many are dependent on the patient's income, so the nurse should determine that first. It is unlikely that the pharmacy would offer a cost reduction. The patient has demonstrated an inability to navigate the system by simply not taking the medication, so only providing a phone number to the patient is not likely to be effective.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 02: Drug Development and Ethical Considerations

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is obtaining consent from a subject newly recruited for a clinical drug trial that will last for 6 months. All subjects will be given gift certificates for participating. One subject says, "Well, I guess if the drug doesn't work, I'll just have to put up with the symptoms for 6 months." What will the nurse tell the subject?

- a. "Participation for the duration of the study is required."
- b. "Participation may end at any time without penalty."
- c. "Withdrawal from the study may end at any time, but the gift certificate will not be given."
- d. "You can request placement in the treatment group."

ANS: B

All participants have the right to autonomy, which is the right to self-determination. Patients have the right to refuse to participate or to withdraw from a study at any time without penalty. Patients generally are not allowed to choose participation in either the treatment or the control group.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Management of Client Care

2. The nurse is assisting with a clinical drug trial in which the side effects of two effective drugs are being compared. A patient who would benefit from either drug has elected to withdraw from the study, and the nurse assists with the paperwork to facilitate this. This is an example of

- a. autonomy.
- b. beneficence.
- c. justice.
- d. veracity.

ANS: A

All participants have the right to autonomy, which is the right to self-determination. Patients have the right to refuse to participate or to withdraw from a study at any time without penalty even if the health care provider disagrees with that choice.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

3. During a clinical drug trial for a new medication, researchers note a previously unknown serious adverse effect occurring in more than 50% of subjects. The study is discontinued. Which ethical principle is being exercised?

- a. Beneficence
- b. Justice
- c. Respect for persons
- d. Veracity

ANS: A

Beneficence is the duty to protect subjects from harm. Once a serious adverse effect is noted and it is determined that the benefits do not outweigh the risks of the study, researchers have an ethical obligation to stop the study.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

4. In a 5-year experimental clinical trial to investigate a new cancer treatment, researchers in the second year note overwhelming improvement in almost all of the subjects in the treatment group. It is decided to stop the trial early and report the findings due to the overwhelmingly beneficial effects. This decision was made based on which ethical principle?

- a. Beneficence
- b. Justice
- c. Respect for persons

d. Veracity

ANS: B

The principle of justice requires that all people be treated fairly. Because the findings were overwhelmingly positive, an ethical decision was made to stop the study early and report findings so that additional people could gain benefit from the treatment.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Management of Client Care

5. The nurse is enrolling subjects for a double-blind experimental study. One patient asks the nurse to explain the role of the experimental group. The nurse will explain that subjects in the experimental group in this type of study:

- a. are selected for participation in that group.
- b. have unique baseline characteristics.
- c. receive a placebo.
- d. receive the experimental treatment being evaluated.

ANS: D

In a double-blind experimental study, subjects in the experimental group receive the treatment or drug under study. They are randomly assigned and not selected. They should have similar baseline characteristics to those in the control group. They do not receive a placebo.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Management of Client Care

6. The nurse is obtaining signatures on consent forms for participation in a clinical drug trial. One patient says, "I'm not sure I want to do this, but I need the cash." The nurse will take which action?

- a. Ask the patient to clarify concerns.
- b. Reinforce that cash is given to all subjects equally.

- c. Report this statement to the lead investigator.
- d. Review the elements of the study and obtain consent.

ANS: C

If a nurse suspects that a patient is being coerced to participate in the study, the nurse should report this to the principal investigator. When a patient verbalizes participation based on a financial reward, there is a potential element of coercion.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention MSC: NCLEX: Management of Client Care

7. Which is the characteristic of preclinical in vivo testing?
- a. A comparison of experimental and control data in animals
  - b. A study conducted in a test tube in a laboratory
  - c. A study that determines the effects of the placebo in human participants
  - d. A study to assess the seriousness of the disease to be treated

ANS: A

Preclinical in vivo testing is performed in animals or other living organisms. In vitro studies occur in test tubes. Safe therapeutic dose studies are part of clinical research. Prior to clinical trials, an assessment is made of the disease and its seriousness.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Management of Client Care

8. Many drugs marketed in the 1980s may not be effective in a majority of the population. The nurse understands that this is because these drugs:
- a. did not pass through the appropriate phases of clinical trials.
  - b. did not require human subject protections and are invalid.
  - c. were not tested in women, minorities, or children.

- d. were tested on healthy subjects only.

ANS: C

Drug research was historically performed only with Caucasian males, causing uncertainty as to the validity of the research results in the broader population.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

9. The nurse is assisting with data collection in a study of drug effects in a small group of healthy subjects. The nurse assists with blood and urine collection to determine serum drug levels and the presence of metabolites in urine. Which phase of drug development does this represent?

- a. Phase I
- b. Phase II
- c. Phase III
- d. Phase IV

ANS: A

Phase I drug trials are performed to assess safety and to identify the pharmacokinetics, such as metabolism and elimination, of drugs in healthy subjects.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

10. The nurse is enrolling subjects for a clinical drug trial in which subjects will be randomly assigned to either a treatment or a placebo group. The pills in both groups will be in identical packaging with identical appearance. The group that receives the intervention is the:

- a. control group.
- b. experimental group.
- c. dependent group.
- d. independent group.

ANS: B

The experimental group in a drug trial is the group that receives the drug being tested. The control group may receive no drug, a different drug, a placebo, or the same drug with a different dose, route, or frequency of administration. Dependent and independent are not terms to describe groups in a study; they denote the variables.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

11. Respect for Persons is a core ethical principle of human subjects research. Which of the following best describes this principle?

- a. Duty to protect research subjects from harm.
- b. Fair selection of research subjects.
- c. Right to self-determination
- d. Patients are independent and capable of making decisions in their own best interests.

ANS: D

Respect for persons is based on the notion that patients should be treated as independent persons who are capable of making decisions in their own best interests.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Management of Client Care

12. A clinical drug trial is concluding a study of pharmacokinetics and safety of a drug in healthy individuals. The nurse will assist enrollment of participants into the next phase of the study and will include which subjects?

- a. Healthy subjects
- b. Healthy and ill subjects
- c. Subjects with the disease the drug will treat
- d. Subjects with other diseases

ANS: C



After Phase I studies demonstrating drug safety and pharmacokinetics have been completed, the drug is tested on subjects who have the disease the drug will treat.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Management of Client Care

13. Before marketing a new drug that has been approved for use based on clinical effectiveness and safety, the manufacturer wishes to study the potential new uses for the drug. This is an example of which phase of study?

- a. Phase I
- b. Phase II
- c. Phase III
- d. Phase IV

ANS: D

Phase IV studies are performed, in part, to examine potential new indications for approved drugs.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Management of Client Care

14. Which statement about the safety and efficacy of medications in children is accurate?

- a. Children cannot give consent, so clinical drug trials are not performed on children.
- b. Children can only be subjects in quasi-experimental clinical studies.
- c. Data from adult clinical drug trials should be extrapolated to children.
- d. Federal law requires that drugs for children be tested on children.

ANS: D

The U.S. Food and Drug Administration (FDA) Modernization Act of 1997 requires that drugs intended for use in children be tested on children.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Management of Client Care

15. The nurse is preparing to administer a schedule II injectable drug and is drawing up half of the contents of a single-use vial. Which nursing action is correct?

- a. Ask another nurse to observe and cosign wasting the remaining drug from the vial.
- b. Keep the remaining amount in the patient's drawer to give at the next dose.
- c. Record the amount unused in the patient's medication record.
- d. Dispose of the vial with the remaining drug into a locked collection box.

ANS: A

Schedule II drugs are controlled substances, and all must be accounted for. When wasting a portion of a drug, another nurse should observe and cosign that a drug was wasted.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient is prescribed a medication and asks the nurse if the drug is available in a generic form. The nurse understands that a generic drug name is:

- a. a registered trademark.
- b. always capitalized.
- c. related to the drug's chemical structure.
- d. nonproprietary.

ANS: D

The generic name is the official, nonproprietary name for a drug. The brand name is the trademark name and is always capitalized. The chemical name describes the chemical structure of the drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient receives a prescription on which the provider has noted that a generic medication may be given. The patient asks the nurse what this means. What will the nurse tell the patient about generic drugs?

- a. They contain the same inert ingredients as brand-name drugs.
- b. They have chemical structures that are different from proprietary drugs.
- c. They tend to be less expensive than brand-name drugs.
- d. They undergo extensive testing before they are marketed.

ANS: C

Generic drugs are approved by the FDA if they are proved to be bioequivalent to the

brand-name drug. They tend to be less expensive because manufacturers of these drugs do not have to do the extensive testing required of brand-name drugs before marketing. They are not identical to brand-name drugs and often have different inert ingredients.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Management of Client Care

18. The nurse reviews information about a drug and notes the initials "United States Pharmacopeia (USP)" after the drug's official name. The nurse understands that this designation indicates the drug:

- a. is a controlled substance.
- b. is approved by the FDA.
- c. is available in generic form.
- d. meets USP quality and safety standards.

N

ANS: D

The "USP" designation is given to drugs that have met high standards for therapeutic use, patient safety, quality, purity, strength, packaging safety, and dosage form by the United States Pharmacopoeia National Formulary. The FDA classifies controlled substances with Roman numerals from I to V. The USP designation does not indicate FDA approval. The USP designation does not indicate generic availability.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. The nurse is preparing to give a medication to a child. The medication is approved for use in children. The child's parent asks whether the drug is safe for children. How will the nurse respond to the parent?

- a. "Drugs approved for use in children are tested on adults and safe doses for children are based on weights compared to adult weights."
- b. "Drugs approved for use in children are deemed safe for children over time when repeated use proves effectiveness and safety."
- c. "Drugs approved for use in children are tested for both efficacy and safety in children in order to be marketed for pediatric use."
- d. "Drugs approved for use in children are tested on children in post-marketing studies and on a limited basis."

ANS: C

The Pediatric Research Equity Act requires drug manufacturers to test drugs on children.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. Which law(s) govern all drug administration by nurses?

- a. Drug Regulation and Reform Act

- b. FDA Amendments Act
- c. Nurse Practice Acts
- d. The Controlled Substances Act

ANS: C

Each state's Nurse Practice Act identifies how nurses administer medications. The other acts govern how drugs are marketed and tested.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. A patient is taking methadone as part of a heroin withdrawal program. The nurse understands that, in this instance, methadone is classified as which drug schedule?

- a. C-I
- b. C-II
- c. C-III
- d. C-V

ANS: B

Methadone is a category II druNg, with a high potential for drug abuse.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

22. The nurse is preparing to administer a combination drug containing acetaminophen and codeine. The nurse knows that this drug is classified as which drug schedule?

- a. C-II
- b. C-III
- c. C-IV
- d. C-V

ANS: B

Codeine is normally a category II drug, except when it is part of a combination product such as with acetaminophen, making it a category III drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. Which are responsibilities of the FDA? (Select all that apply.)
  - a. To ensure a drug has accurate labeling.
  - b. To ensure a drug is affordable.
  - c. To ensure a drug is effective.
  - d. To ensure a drug is free from adverse reactions.
  - e. To ensure a drug is tested for harmful effects.

ANS: A, C, E

The FDA ensures that drugs are labeled correctly, that they are tested and proven effective for the conditions they are marketed to treat, and that they are tested for harmful effects. The FDA does not ensure affordability or freedom from adverse reactions, although these must be noted in drug information materials.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 03: Pharmacokinetics, Pharmacodynamics, and Pharmacogenetics McCuiston:  
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MULTIPLE CHOICE

1. Which drug will go through a disintegration process after it is administered?
  - a. Intramuscular (IM) cephalosporins
  - b. Intravenous (IV) vasopressors
  - c. Oral analgesics
  - d. Subcutaneous insulin

ANS: C

When drugs are administered parenterally, there is no disintegration process, which occurs when a drug becomes a solution that can cross the biologic membrane.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is preparing to administer an oral medication and wants to ensure a rapid drug action. Which form of the medication will the nurse prefer to administer?

- a. Capsule
- b. Enteric-coated pill
- c. Liquid suspension
- d. Tablet

ANS: C

Liquid drugs are already in solution, which is the form necessary for absorption in the gastrointestinal (GI) tract. The other forms must disintegrate into small particles and then dissolve before being absorbed.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is teaching a patient who will be discharged home with a prescription for an enteric-coated tablet. Which statement by the patient indicates understanding of the teaching?

- a. "I may crush the tablet and put it in applesauce to improve absorption."
- b. "I should consume acidic foods to enhance absorption of this medication."
- c. "I should expect a delay in onset of the drug's effects after taking the tablet."
- d. "I should take this medication with high-fat foods to improve its action."



ANS: C

Enteric-coated tablets resist disintegration in the acidic environment of the stomach and disintegrate when they reach the small intestine. There is usually some delay in onset of actions after taking these medications. Enteric-coated tablets should not be crushed or chewed, which would alter the time and location of absorption. Acidic foods will not enhance the absorption of the medication. The patient should not eat high-fat food before ingesting an enteric-coated tablet because high-fat foods decrease the absorption rate.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who is newly diagnosed with type 1 diabetes mellitus asks why insulin must be given by subcutaneous injection instead of by mouth. The nurse will explain that this is because
- a. absorption is diminished by the first-pass effects in the liver.
  - b. absorption is faster when insulin is given subcutaneously.
  - c. digestive enzymes in the GI tract break down the drug and prevent absorption.
  - d. the oral form is less predictable with more adverse effects.

ANS: C

Insulin, growth hormones, and other protein-based drugs are destroyed in the GI tract by digestive enzymes and must be given parenterally. Because insulin is destroyed by digestive enzymes, it must be given parenterally and would not make it to the liver for metabolism with a first-pass effect.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is preparing to administer an oral medication that is water soluble. The nurse understands that this drug:
- a. must be taken on an empty stomach.

- b. requires active transport for absorption.
- c. should be taken with fatty foods.
- d. will readily diffuse into the GI tract.

ANS: B

Water-soluble drugs require a carrier enzyme or protein to pass through the GI membrane.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing an injectable drug and wants to administer it for the most rapid absorption as possible. How will the nurse give this medication?

- a. IM into the deltoid muscle
- b. IM into the gluteal muscle
- c. Subcut into abdominal tissue
- d. Subcut into the upper arm

ANS: A

Drugs given IM are absorbed faster in muscles that have the highest blood flow, such as the deltoid, rather than those with fewer blood vessels, such as the gluteals. Subcutaneous absorption is slower when compared to IM drug administration.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is reviewing medication information with a nursing student prior to administering an oral drug and notes that the drug has extensive first-pass effects. Which statement by the student indicates an understanding of the first-pass effect?

- a. "The first-pass effect means the drug has 100% bioavailability."

- b. "The first-pass effect means the drug is absorbed from the GI tract into the portal vein where it is transported to the liver and metabolized."
- c. "The first-pass effect means the drug was given by injection and immediately metabolized."
- d. "The first-pass effect means the drug may be unchanged as it passes through the liver."

ANS: B

Drugs that undergo first-pass metabolism are absorbed into the portal vein from the intestinal lumen and go through the liver, where they are metabolized to an inactive or a more active form.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse prepares to change a patient's medication from an IV to an oral form and notes that the oral form is ordered in a higher dose. The nurse understands that this is due to differences in:

- a. bioavailability.
- b. pinocytosis.
- c. protein binding.
- d. tachyphylaxis. N

ANS: A

Oral drugs may have less bioavailability because a lower percentage of the drug reaches the systemic circulation. Pinocytosis refers to the process by which cells carry a solute across a membrane. Protein binding can occur with both routes. Tachyphylaxis describes a rapid decrease in response to drugs that occurs when tolerance develops quickly.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is preparing to administer a drug and learns that it is 90% protein bound. The patient's serum albumin level is low. The nurse will observe the patient for:

- a. decreased drug absorption.
- b. decreased drug interactions.
- c. decreased drug toxicity.
- d. increased drug effects.

ANS: D

Drugs that are highly protein-bound bind with albumin and other proteins, leaving less free drug in circulation. If a patient has a low albumin, less drug is not bound, and there is more free drug to cause drug effects. There would be a potential for increased interactions with other drugs and increased toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is administering two drugs to a patient and learns that both drugs are highly protein-bound. The nurse may expect

- a. decreased bioavailability of both drugs.
- b. decreased drug effects.
- c. decreased drug interactions.
- d. increased risk of adverse effects.

ANS: D

Two drugs that are highly protein-bound may compete for protein-binding sites, leaving more free drug in the circulation and an increased risk of adverse effects as well as increased drug effects, and an increased risk for drug interactions.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient has been taking a drug that is 75% protein-Bound. The provider adds a new medication that is 90% protein-bound. The nurse will expect a potential:

- a. decreased drug effects of the first drug.
- b. decreased therapeutic range of the first drug.
- c. increased drug effects of the first drug.
- d. increased therapeutic range of the first drug.

ANS: C

Adding another highly protein-bound drug will displace the first drug from protein-binding sites and release more free drug, increasing the drug's effects. This does not alter the therapeutic range, which is the serum level between drug effectiveness and toxicity.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse gives a highly metabolized medication to a patient with a history of liver disease. The nurse will monitor this patient for:

- a. decreased drug effects.
- b. increased drug effects.
- c. decreased therapeutic range.
- d. increased therapeutic range.

ANS: B

Liver diseases such as cirrhosis and hepatitis alter drug metabolism by inhibiting the drug-metabolizing enzymes in the liver. When the drug metabolism rate is decreased, excess drug accumulation can occur and lead to toxicity.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse gives 800 mg of a drug that has a half-life of 8 hours. How much drug will be left in the body in 24 hours if no additional drug is given?

- a. None
- b. 50 mg
- c. 100 mg
- d. 200 mg

ANS: C

Eight hours after the drug is given, there will be 400 mg left. Eight hours after that (16 hours), there will be 200 mg left. At 24 hours, there will be 100 mg left.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. If a drug has a half-life of 12 hours and is given twice daily starting at 0800 on a Monday, when will a steady state be achieved?

- a. 0800 on Tuesday
- b. 0800 on Wednesday
- c. 0800 on Thursday
- d. 0800 on Friday

ANS: B

Steady-state levels occur in approximately 4 half-lives. Wednesday at 0800 is 4 half-lives from the original dose (12 hours x 4 = 48 hours).

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is preparing to administer a drug that is ordered to be given twice daily. The nurse reviews the medication information and learns that the drug has a half-life of 24 hours. What will the nurse do next? N

- a. Administer the medication as ordered
- b. Contact the provider to discuss daily dosing
- c. Discuss every-other-day dosing with the provider
- d. Hold the medication

ANS: B

A drug with a longer half-life should be given at longer intervals to avoid drug toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is caring for a patient who has taken an overdose of aspirin several hours prior. The provider orders sodium bicarbonate to be given. The nurse understands that this drug is given for which purpose?

- a. To counter the toxic effects of the aspirin
- b. To decrease the half-life of the aspirin
- c. To increase the excretion of the aspirin
- d. To neutralize the acid of the aspirin

ANS: C

Aspirin is a weak acid and is more readily excreted in alkaline urine. Sodium bicarbonate alkalizes the urine. It does not act as an antidote to aspirin, decrease the half-life, or neutralize its pH.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse is preparing to administer a drug that is eliminated through the kidneys. The nurse reviews the patient's chart and notes that the patient has increased serum creatinine and blood urea nitrogen (BUN). The nurse will perform which action?

- a. Administer the drug as ordered.
- b. Anticipate a shorter than usual half-life of the drug.
- c. Expect decreased drug effects when the drug is given.
- d. Verify that the dose ordered is appropriate based on the patient's kidney function.

ANS: D

Increased creatinine and BUN indicate decreased renal function, so a drug that is eliminated through the kidneys can become toxic. The nurse should verify that the ordered dose is appropriate based on the patient's kidney function, and if not, discuss a lower dose with the provider. The drug will have a longer half-life and will exhibit increased effects with decreased renal function.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. The nurse understands that the length of time needed for a drug to reach the minimum effective concentration (MEC) is the

- a. duration of action.
- b. onset of action.
- c. peak action time.
- d. time response curve. N

ANS: B

The onset of action is the time it takes to reach the MEC. Duration of action is the length of time a drug has a pharmacologic effect. Peak action time occurs when the drug reaches its highest blood level. The time response curve is an evaluation of the other three measures.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



19. The nurse administers albuterol to a patient who has asthma. The albuterol acts by stimulating beta2-adrenergic receptors to cause bronchodilation. The nurse understands that albuterol is a beta-adrenergic:

- a. agonist.
- b. antagonist.
- c. inhibitor.
- d. depressant.

ANS: A

An agonist medication is one that stimulates a certain type of receptor to produce a therapeutic response.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. The nurse is preparing to administer the first dose of digoxin (Lanoxin) to a patient and notes that the initial dose ordered is much higher than the ordered maintenance dose. Which of the following describes why the first dose is higher?

- a. Digoxin requires a loading dose.
- b. Digoxin undergoes first-pass metabolism when initially administered.
- c. Digoxin has a long duration of action.
- d. Digoxin has a short half-life.

ANS: A

The reason the first dose is higher than the ordered maintenance dose is because a loading dose is required. This is performed to more quickly reach steady state for a drug with a long half-life. The loading is not given due to first-pass metabolism or duration of action.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. The nurse administers a centrally acting analgesic to a patient who has been receiving it for 1 day after orthopedic surgery with successful pain relief. The patient reports no change in pain 30 minutes after the medication is given. The nurse recognizes that this patient is likely exhibiting:

- a. drug-seeking behavior.
- b. drug tolerance.
- c. the placebo effect.
- d. tachyphylaxis.

ANS: D

Tachyphylaxis is a rapid decrease in response, or acute tolerance. Tolerance to drug effects can occur with centrally acting analgesics, requiring increased doses in order to achieve adequate drug effects. Nurses often mistake drug-seeking behavior for drug tolerance. The placebo effect occurs when the patient experiences a response with an inactive drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

22. A patient has been taking a drug for several years and tells the nurse it is no longer working. The nurse learns that the patient has recently begun taking an over-the-counter (OTC) antacid medication. What does the nurse suspect is occurring?

- a. An adverse drug reaction
- b. A drug interaction
- c. Drug incompatibility
- d. Drug tolerance

ANS: B

Drug interactions are an altered or modified action or effect of a drug as a result of interaction with one or more other drugs. An adverse drug reaction can occur with one or more drugs. It is possible in this scenario that the antacid is preventing adequate absorption of the other medication. Drug incompatibility is a chemical reaction of two or more drugs that occurs in vitro. Drug tolerance is the development of reduced response to a medication over time.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

23. The nurse is preparing to administer two IV medications that should not be given using the same IV tubing. The nurse understands that this is because of drug:

- a. adverse reactions.
- b. incompatibility.
- c. interactions.
- d. potentiation.

ANS: B

Drugs that are incompatible cannot be mixed together in solution and cannot be mixed in a syringe, IV bag, or other artificial environment. Adverse reactions are symptoms occurring from drug effects. Drug interactions occur in vivo. Potentiation is when one drug causes an enhanced response to another drug.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

24. The nurse is teaching a patient who will begin taking ciprofloxacin. What instruction will the nurse include when teaching this patient about this drug?

- a. "Do not take this medication with oral contraceptive pills."
- b. "Take at least 1 hour after or 2 hours before taking antacids."
- c. "Take in the morning with your multivitamin tablet."
- d. "Take with milk to reduce gastric upset."

ANS: B

Dairy products, multivitamins, and antacids should be avoided 1 hour after and 2 hours before taking ciprofloxacin because these products contain divalent cations that form a drug complex that prevents absorption of the ciprofloxacin.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

25. A patient who takes a drug that undergoes gastric absorption will begin taking an opioid analgesic after sustaining an injury in a motor vehicle accident. The nurse will observe the patient closely for which effects?

- a. Decreased effects of the first drug
- b. Increased effects of the first drug
- c. Decreased effects of the narcotic
- d. Increased effects of the narcotic

ANS: B

Opioids slow gastric emptying, allowing more time for drugs to be absorbed in the stomach. The nurse should expect a potential for increased effects of the first drug.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

26. The nurse is preparing to administer furosemide to a patient who takes digoxin. The nurse will plan to monitor the patient for:

- a. digoxin toxicity.
- b. decreased digoxin effects.
- c. furosemide toxicity.
- d. decreased furosemide effects.

ANS: A

The renal loss of potassium can result in hypokalemia, which can enhance the action of digoxin and can lead to toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

27. A young adult female patient who takes a combination oral contraceptive (OCP) will begin taking an antibiotic. When teaching the patient about this medication, the nurse will while taking the antibiotic:

- a. recommend using a backup method of contraception.
- b. suggest that she switch to an injectable form of contraception.
- c. tell her that the antibiotic is less effective if she is taking OCPs.
- d. tell her the antibiotic has a greater risk for toxicity while taking OCPs.

ANS: A

Gut bacteria are necessary to hydrolyze estrogen conjugates into free estrogens. Concurrent antibiotic administration can decrease the effectiveness of OCPs. A back-up contraceptive method is recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

28. A patient has been taking warfarin (Coumadin), which is highly protein-bound. The patient will begin taking gemfibrozil, which is also highly protein-bound. The nurse will observe the patient closely for:

- a. decreased effects of warfarin.
- b. increased effects of warfarin.
- c. decreased effects of gemfibrozil.
- d. decreased effects of both drugs.

ANS: B

The addition of a highly protein-bound drug will compete with warfarin for protein-binding sites, releasing more free warfarin into the system, increasing drug effects, and increasing the chance of toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

29. A patient is taking phenytoin to prevent seizures. The nurse knows that phenytoin is highly protein-bound and has sedating effects. The nurse reviews the patient's chart and notes a low serum albumin. The nurse will notify the provider and observe the patient for which effects?

- a. Decreased sedative effects
- b. Increased sedative effects
- c. Increased seizures
- d. No change in effects

ANS: B

Phenytoin is highly protein-bound. When patients have a low serum albumin, there are fewer protein-binding sites, resulting in more free drug in the system. The nurse should expect the potential for an increase in the sedative side effects of phenytoin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

30. A patient who takes the anticoagulant warfarin will begin taking the anticonvulsant drug carbamazepine. The nurse reviews the drug information for these drugs and learns that carbamazepine is a hepatic enzyme inducer. The nurse anticipates that which of the following may be required?

- a. Decrease the dose of carbamazepine
- b. Increase the dose of carbamazepine
- c. Decrease the dose of warfarin

- d. Increase the dose of warfarin

ANS: D

Carbamazepine is a hepatic enzyme inducer, which can increase drug metabolism. Patients taking both drugs usually need a larger dose of warfarin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

31. The nurse is caring for a patient who receives theophylline, which has a narrow therapeutic index. The patient has been receiving cimetidine but will stop taking that drug in 2 days. In 2 days, the nurse will observe the patient closely for:

- a. decreased effectiveness of theophylline.
- b. increased effectiveness of theophylline.
- c. decreased toxicity of theophylline.
- d. prolonged effectiveness of theophylline.

ANS: B

Cimetidine is an enzyme inhibitor that decreases the metabolism of drugs such as theophylline. If the cimetidine is discontinued, the theophylline dose should be decreased to avoid toxicity. The nurse should observe the patient for increased theophylline effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

32. A patient will receive penicillin to treat an infection. The provider orders probenecid (Probalan), a medication to treat gout, even though the patient does not have gout. Which action by the nurse is correct?

- a. Administer the drug since the provider ordered it.
- b. Recognize that it is being given prophylactically.
- c. Refuse to administer the medication since it is not indicated.
- d. Verify that it is being given for its secondary action.

Two or more drugs with the same route of excretion may compete with each other for elimination. Probenecid is given because it inhibits the excretion of penicillin, which may be desirable when the provider wants to prolong the plasma concentration of penicillin. The nurse should always verify an order that may not be clear.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

33. The provider has ordered amoxicillin with clavulanate (Augmentin) for a child who has otitis media. The child's parent asks why this drug is necessary when amoxicillin is less expensive. The nurse will explain that clavulanate is added to amoxicillin because it:

- a. binds with albumin to increase the amount of available amoxicillin.
- b. broadens the spectrum of amoxicillin by inhibiting bacterial enzymes.
- c. inhibits hepatic blood flow, leading to increased serum drug levels of amoxicillin.
- d. inhibits the excretion of amoxicillin by interfering with renal function.

ANS: B

Clavulanate is a bacterial enzyme inhibitor, specifically beta-lactamase, which inactivates amoxicillin. When added to amoxicillin, it broadens the antibacterial spectrum.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

34. The nurse assesses a patient who is receiving morphine sulfate intravenously using a patient-controlled analgesia pump. The nurse notes somnolence and respiratory depression, which are signs of morphine toxicity. The nurse will prepare to administer naloxone (Narcan) because it:

- a. has synergistic effects with morphine.



- b. is a narcotic agonist.
- c. is a narcotic antagonist.
- d. potentiates narcotic effects.

ANS: C

Naloxone is a narcotic antagonist, meaning that it reverses the effects of morphine by blocking morphine receptor sites.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

35. The nurse is teaching a patient about a drug that causes photosensitivity. Which statement by the patient indicates a need for further teaching?

- a. "I should apply sunscreen with a sun protection factor greater than 15."
- b. "I should avoid sunlight when possible while taking this drug."
- c. "I will wear protective clothing when I am outdoors."
- d. "I will wear sunglasses even while I am indoors."

Drugs that cause photosensitivity make sunburn more likely, so patients should stay out of the sun, wear protective clothing, and use sunscreen with an SPF greater than 15. It is not necessary to wear sunglasses indoors.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

36. A patient asks the nurse about using OTC medications. The nurse will tell the patient that OTC medications:

- a. are not as effective as prescription medications.
- b. are not as safe as prescription medications.

- c. have fewer side effects and drug interactions than prescription medications.
- d. should be included when listing any medications taken by the patient.

ANS: D

OTC medications should always be included when listing medications because they can cause drug interactions. OTC medications can be as effective and as safe as prescription medications and have as many side effects and adverse reactions.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

37. A patient calls the clinic and tells the nurse that a newly prescribed medication isn't working. What is the nurse's next action?

- a. Notify the provider and discuss increasing the dose.
- b. Question the patient about compliance with the regimen.
- c. Review the drug information with the patient.
- d. Suggest the patient discuss changing medications with the provider.

ANS: C

It is important for patients to understand the therapeutic effects and expected time frame for effects to occur. The nurse should review this with the patient first to make sure the patient's expectations are consistent with the drug's effects. The dose should not be increased or the drug changed until it is determined that the drug is not working as it should. Questioning the patient about compliance first assumes that the patient is doing something wrong. The nurse may question the patient about compliance after reviewing the drug information.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention MSC: NCLEX: Health Promotion and Maintenance

38. The community health nurse is teaching a group of elderly residents in an assisted care facility about medication use. The nurse will remind the residents that OTC medications:

- a. are not as effective as prescription medications.
- b. are not recommended for older adults.
- c. are safer than prescription medications.
- d. should be reviewed with a provider before taking.

ANS: D

OTC medications should be reviewed as part of a medication history at every encounter with the provider to prevent food and drug interactions. OTC medications may be just as effective as prescription medications, may be used by older adults, and often have serious side effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance

39. The nurse is preparing to teach a patient who will begin taking a monoamine oxidase (MAO) inhibitor. What is most important when teaching patients about MAO inhibitors?

- a. Emphasizing the importance of potassium intake
- b. Giving detailed drug information
- c. Reviewing dietary guidelines
- d. Providing a schedule for medication administration

ANS: C

MAO inhibitors have many dietary restrictions with potentially serious adverse reactions, so this should be an important part of teaching.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

40. The nurse is teaching a patient about taking a once-daily medication that has a side effect of drowsiness. The nurse learns that the patient works a 7:00 PM to 7:00 AM shift in a hospital. The nurse will recommend that the patient take this medication at which time of day?

- a. 0600
- b. 0800 N
- c. 1800
- d. 2000

ANS: B

The medication should be given when the patient is at home before sleep.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. Which patients are at particularly high risk for drug interactions? (Select all that apply.)
  - a. Patients who are acutely ill
  - b. Patients who are taking multiple medications
  - c. Patients who see several specialists
  - d. Patients who take supplements and OTC medications
  - e. Patients who use one pharmacy for several medications

ANS: B, C, D

Patients who have chronic health conditions, take multiple medications, see more than one provider, and use supplements and OTC medications are at higher risk for drug interactions.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

## Chapter 04: Pharmacogenetics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. Which of the following best describes pharmacogenetics?
  - a. What the drug does to the body.
  - b. How patient's genomes affect their response to medications.
  - c. What the body does to the drug.
  - d. How drugs alter patient's genes.

ANS: B

Pharmacogenetics is the study of how a patient's genomes affect their response to medications. Pharmacodynamics is the study of how drug affect the body, and pharmacokinetics is often defined as what the body does to a drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. Gregor Mendel is known for which of the following?

- a. First explaining the difference between dominant and recessive genes in inheritance.
- b. Discovering the structure of DNA.
- c. Mapping roughly 25,000 genes in human DNA.
- d. Coining the term pharmacogenomics.

ANS: A

Gregor Mendel was the first to explain the difference between dominant and recessive genes in inheritance, using pea flowers as an example. Watson and Crick were the first to describe the structure of DNA. The Human Genome Project was completed in 2003 based on the work of many scientists.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The labeling for clopidogrel discusses pharmacogenomic testing for genetic variation in which of the following?

- a. CYP2C19
- b. HLA-B\*5701
- c. CYP2D6
- d. UGT1A1

ANS: A

Persons with genetic variation in the CYP2C19 enzyme, which is necessary to convert the prodrug clopidogrel, an inhibitor of platelet aggregation, to the active metabolite, may be at risk for clot formation due to failure to convert the prodrug to active drug. Point-of-care buccal swab genetic testing has been available since 2013 to help guide treatment. The test determines if a person has the normal (also referred to as wild type) enzyme or a mutation in CYP2C19 enzyme.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The FDA recommends genetic testing of which of the following for patients prior to initiating abacavir due to a risk of potentially fatal multiorgan hypersensitivity in 6-10% of users?

- a. CYP2C19
- b. HLA-B\*5701
- c. CYP2D6
- d. UGT1A1

ANS: B

Between 6% to 10% of patients prescribed this drug for the treatment of human immunodeficiency virus (HIV) develop potentially fatal multiorgan hypersensitivity. Genetic testing has identified the allele HLA-B\*5701 in relation to hypersensitivity. The FDA now recommends genetic testing prior to initiating drug therapy or restarting the drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. Codeine and tramadol are prodrugs that require metabolism by which enzyme prior to providing analgesic relief?

- a. CYP2C19
- b. CYP3A4
- c. CYP2D6
- d. CYP1A1

ANS: C

Codeine and tramadol are prodrugs that do not exhibit analgesic properties until converted to active drug by the CYP2D6 enzyme in the liver. Nearly 10% of the population lack this drug-metabolizing enzyme and therefore do not achieve pain relief with codeine or tramadol.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



6. There are many legal and ethical issues related to pharmacogenomics. Which of the following are questions not related to privacy?

- a. Who has access to patient genetic information?
- b. All patients cannot afford pharmacogenetic testing.
- c. Who owns the genetic information?
- d. Concerns about patient “labeling” based on genetic code.

ANS: B

Issues of privacy include access to patient genetic information, who owns the information, and concerns about patient “labeling” based on genetic code. Considerations about not all patients having equal access to care or being able to afford pharmacogenetic testing are considered under the principles of justice.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The Genetic Information Nondiscrimination Act (GINA) was enacted to:

- a. Prohibit insurance companies from requiring genetic testing to obtain health insurance.
- b. Allow for free pharmacogenomic testing for all US citizens.
- c. Provide research funding for inclusion of diverse populations in pharmacogenomic studies.
- d. Prohibit use of certain medications unless pharmacogenomic testing is completed.

ANS: A

The Genetic Information Nondiscrimination Act (GINA) was enacted, which prohibits insurance companies from requiring genetic testing to obtain health insurance and from using genetic information to determine coverage and premiums.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient is diagnosed with Stevens-Johnson syndrome and the provider thinks this is related to an HLA B\*1502 variant that resulted in drug toxicity. The nurse would know that which of the following medications is likely to blame:

- a. Warfarin
- b. Carbamazepine
- c. Codeine
- d. Irinotecan

ANS: B

Persons with the human leukocyte antigen (HLA) B\*1502 variant should avoid using carbamazepine due to increased risk of developing Stevens-Johnson syndrome or toxic epidermal necrolysis. Persons of Asian descent are most likely to carry this genetic variant.

N

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The physician has ordered UGT1A1 gene testing for a patient with colon cancer. The nurse recognizes that which of the following drugs can result in severe diarrhea and neutropenia in persons with a specific UGT1A1 gene variant?

- a. Warfarin
- b. Carbamazepine
- c. Codeine
- d. Irinotecan

ANS: D

Genetic testing is recommended for patients with colon cancer receiving irinotecan as part of their treatment protocol. Persons with variation in the UGT1A1 gene may be unable to eliminate the drug, leading to severe diarrhea and severe neutropenia, resulting in life threatening infections.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 05: Complementary and Alternative Therapies

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A family member expresses concern that a patient is taking several herbal remedies and worries that they may be unsafe. The nurse will respond by saying that herbal products:
  - a. are classified as medications by the Dietary Supplement Health and Education Act of 1994.
  - b. are regulated by the government and are determined to be safe.
  - c. aren't usually effective but are generally harmless.
  - d. should be discussed with the patient's provider in conjunction with other medications.

ANS: D

Herbs are sometimes useful but can also be useless or dangerous. There are no agencies that regulate safety and efficacy. Patients should always tell providers if they are taking any herbal remedies since there are known drug-herbal interactions and side effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A pregnant woman tells the nurse that she is taking ginger to reduce morning sickness. What will the nurse tell this patient?
  - a. "Ginger can cause fetal birth defects."
  - b. "Ginger is not safe during pregnancy."
  - c. "Ginger can cause abortion in low doses."
  - d. "Ginger may be taken for the short-term treatment of nausea associated with pregnancy."

ANS: D

Ginger may be taken during pregnancy for morning sickness, but only on a short-term, low-dose basis. There is no indication that it causes fetal birth defects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient asks the nurse about an herbal supplement and reports that it has a United States Pharmacopeia (USP) seal of approval. The nurse explains that this indicates:

- a. identity, potency, purity, and labeling accuracy.
- b. premarket testing for safety and efficacy.
- c. structure and function claims may be made.
- d. the supplement's ability to prevent and treat disease.

ANS: A

The USP "seal of approval" indicates accuracy of the products identity, potency, purity, and labeling. It does not indicate premarket research on safety and accuracy, does not allow manufacturers to make claims about the function of the products, and does not indicate the substance's ability to prevent and treat disease.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A woman reports using ginseng to treat menopausal symptoms. Which response by the nurse is correct?

- a. "Ginseng will inhibit your immune system."
- b. "Ginseng can increase risk of hypoglycemia if taken with diabetes medications."

- c. "Side effects of ginseng are common."
- d. "You may experience a decrease in blood pressure while taking ginseng."

ANS: B

People with diabetes taking ginseng should consult with their provider if used in conjunction with other herbs or drugs, because hypoglycemia may result. It may boost the immune system. Side effects are rare except with long-term use or in large doses. Ginseng can increase blood pressure.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A woman who is experiencing symptoms of heart failure asks the nurse about using hawthorn. Which response by the nurse is incorrect?

- a. "Hawthorn may be used long term in conjunction with nitrates."
- b. "Hawthorn may contribute to hypertension."
- c. "Hawthorn may interact with antihypertensive drugs."
- d. "Hawthorn treats heart failure by lowering potassium levels."

ANS: C

Hawthorn may increase the action of antihypertensive medications. Its efficacy is not conclusive and it may interact with nitrates. It may decrease blood pressure. There is no evidence that hawthorn lowers potassium levels.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Reduction of Risk Potential

6. A patient who has HIV asks the nurse about taking Echinacea to improve immune function. What will the nurse tell this patient?

- a. "The root extract is proven to be effective in treating upper respiratory and urinary tract infections."
- b. "Research regarding the benefits of Echinacea is inconclusive."
- c. "Use it as needed when antibiotics fail to treat your infections."
- d. "You may use it safely up to 8 weeks at a time as a preventive medication."

ANS: B

Research regarding the benefits of Echinacea as treatment for cold and flu symptoms is inconclusive. The use of Echinacea to stimulate the immune system of patients with HIV is being investigated, but its use is currently not recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is counseling a female patient who reports taking ginger to treat postoperative nausea. Which statement by the patient indicates understanding of the teaching?

- a. "I should experience immediate effects with this herb."
- b. "Potential side effects include gas, bloating, and heartburn."
- c. "I should take ginger with nonsteroidal anti-inflammatory drugs (NSAIDs) to enhance its effects."
- d. "If I develop gastrointestinal (GI) upset, I should stop taking ginger immediately."

ANS: B

Patients may not experience immediate beneficial effects. Patients should not take ginger with NSAIDs without consulting the provider. GI upset (gas, bloating, heartburn) are common side effects of the herb, but do not require immediate discontinuation.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is providing preoperative education to a patient who will have surgery in several weeks. The patient denies taking anticoagulant medications but reports using herbal supplements. Which herb would cause the nurse to be concerned about increased bleeding risk when used with blood thinners?

- a. Echinacea
- b. Ginkgo biloba
- c. Kava
- d. Sage

ANS: B

Ginkgo can prolong bleeding time and therefore should be discontinued 2 weeks prior to surgery.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse provides counseling to a patient who reports taking licorice root to treat a stomach ulcer. Which statement by the patient indicates understanding of the teaching?

- a. "I may take licorice root with prednisone."
- b. "I may develop hypotension while taking licorice root."
- c. "I should avoid licorice root when pregnant."
- d. "I should try licorice instead of coming back to see the provider."

ANS: C

In large amounts, licorice root has been associated with preterm labor and should be avoided in women who are pregnant. Licorice root when taken with corticosteroids can lead to

life-threatening hypokalemia. In large amounts, it can elevate blood pressure. The benefits of licorice in the treatment of any condition have not been proven, and the client should see the provider rather than turn to the herbal medication.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. Which herb listed below is used to treat cirrhosis and chronic hepatitis?

- a. Ginkgo biloba
- b. Kava
- c. Milk thistle
- d. Sage

ANS: C

Milk thistle has been used widely to treat cirrhosis, chronic hepatitis, and gallbladder disorders.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient reports taking St. John's wort to treat symptoms of depression and asks the nurse how to use this product safely and effectively. Which response by the nurse is correct?

- a. "Apply sunscreen while taking St. John's wort."
- b. "It is absolutely safe to take St. John's wort with prescription antidepressants."
- c. "St. John's wort only interacts with antidepressant medications."
- d. "You should take St. John's wort as needed when symptoms occur."

ANS: A



St. John's wort can cause photosensitivity, so patients should be counseled to use sunscreen. Combined use with prescription antidepressants has been associated with a potential increase in the risk of suicidal ideation, so use should be discussed with the healthcare provider. St.

John's wort interacts with a variety of other medications. Full effects do not occur for 4 to 8 weeks, so it cannot be taken as needed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient asks the nurse about the safety of herbal products in general. Which response by the nurse is correct?

- a. "Consumers should research products and their manufacturers before taking."
- b. "Manufacturers are required to list interactions of herbs with drugs and food."
- c. "Products manufactured for drug and grocery store chains are safe."
- d. "Toxicological analysis is required of all commercial herbal products."

ANS: A

There are no comprehensive regulations of herbal supplements regarding safety and efficacy, so consumers should research herbs and product manufacturers. Companies manufacturing for drug and grocery stores are suspect and do not always list all ingredients on their labels.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. Which information can consumers expect to be included in labeling of herbal products?

- a. Actions and uses

- b. Interactions and precautions
- c. Scientific name of the product
- d. Safety and efficacy study results

ANS: C

Manufacturers should list the scientific name of the product and the parts of the plant used in preparation. They are not required to list actions, uses, interactions, precautions, and any results of safety or efficacy studies.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

- 1. Which herbal remedies are often used for GI disorders? (Select all that apply.)
  - a. Chamomile
  - b. Cinnamon N
  - c. Echinacea
  - d. Ginger
  - e. Ginkgo Biloba
  - f. Peppermint

ANS: A, B, D, F

Chamomile, cinnamon, ginger, and peppermint are often used to treat GI disorders.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### Chapter 06: Pediatric Considerations

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is preparing to administer a medication to a 6-month-old infant. The nurse will monitor closely for signs of drug toxicity based on the knowledge that, compared to adults, infants have:

- a. an increased percentage of total body fat.
- b. immature hepatic and renal function.
- c. more protein binding sites.
- d. more rapid gastrointestinal transit time.

ANS: B

The liver and kidneys are the primary organs for metabolism and excretion and are immature in infants. This allows drugs to accumulate and increases the risk for drug toxicity. Infants have a lower proportion of body fat than adults and fewer protein binding sites. They do have more rapid gastrointestinal transit time, but this decreases the amount of drug absorbed.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse reviews information about a drug and learns that it is best absorbed in an acidic environment. When giving this drug to a 1-year-old patient, the nurse will expect:

- a. equal absorption when compared to an adult.
- b. less absorption when compared to an adult.
- c. more absorption when compared to an adult.
- d. twice the rate of absorption when compared to an adult.

ANS: C

Because the child's gastric pH is more alkaline than the adult's, the nurse would expect less absorption in a child when compared to an adult.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse assumes care for an infant who is showing signs of toxicity in response to a drug given several hours prior. The nurse checks the dose and confirms that the dose is consistent with standard dosing guidelines. Which characteristic of the drug could explain this response in an infant?

- a. It is acidic.
- b. It is highly protein-bound.
- c. It is not fat-soluble.
- d. It is water-soluble.

ANS: B

With fewer protein-binding sites, there is more active drug available for highly protein-bound medications. This would require a reduction in the dose for infants. Drugs that are acidic are not readily absorbed in infants since their gastric pH tends to be more alkaline. Infants have a lower proportion of body fat; fat-soluble drugs would need to be decreased to prevent toxicity. Until about 2 years of age, pediatric patients require larger than usual doses of water-soluble drugs to achieve therapeutic effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The parent is concerned about giving a child a medication that carries an indication for use in children because of the lack of knowledge about the effects of drugs on children. The nurse discusses legislation passed in 2012 about pediatric pharmacology. Which is true about this law?

- a. It forbids providers from prescribing medications unless they have been U.S. Food and Drug Administration (FDA) approved for use in children.
- b. It mandates consistent, evidence-based dosing guidelines for use in children.
- c. It provides federal grants to fund pediatric pharmaceutical research.

- d. It requires drug manufacturers to study pediatric medication use.

ANS: D

In 2003, a law known as the Pediatric Research Equity Act joined the Best Pharmaceuticals Act of 2002 to require drug manufacturers to study pediatric medication use and offer incentives for pediatric pharmacology research. Providers are not forbidden to prescribe drugs in children that are not FDA approved. The laws do not mandate the use of evidence-based guidelines and do not provide grants to fund research.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse will administer an intravenous (IV) medication to an adolescent patient. When preparing the adolescent for the IV insertion, which is an appropriate action by the nurse?

- a. Allowing the patient to verbalize concerns about the procedure
- b. Covering the insertion site with a bandage after the procedure is completed
- c. Explaining any possible adverse drug reactions
- d. Reassuring the patient that only one body part will be used

ANS: A

Allowing the adolescent to verbalize concerns about the medication and its regimen may offer opportunities to clarify misconceptions and teach new information. Preschool-age children may have concerns about harm to their body and need to have sites covered. Adolescents still have a present focus, so discussing future adverse reactions is not especially helpful.

Preschool and school-age children fear bodily harm and require reassurance that only one body part will be affected.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. Which of the following actions is NOT consistent with the concept of “atraumatic care”?:

- a. Minimizing separation of children from their family members.
- b. Identifying family and patient stressors.

- c. Providing care within the framework of a collaborative partnership.
- d. Recognizing that interventions to decrease pain are not feasible.

ANS: D

Atraumatic care is achieved by decreasing the separation of children from their family members or caregivers, identifying family and patient stressors, decreasing pain, and providing care within the framework of a collaborative partnership.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The provider has ordered that vitamin D drops be given to a newborn. Based on the knowledge of drug distribution in infants, the nurse understands that the infant may need:

- a. a higher dose.
- b. a lower dose.
- c. less frequent dosing.
- d. more frequent dosing.

ANS: B

Neonates and young infants tend to have less body fat than older children, meaning that they need less of fat-soluble medications since these medications won't be bound in fat tissue.

Higher doses would lead to drug toxicity. Body fat does not affect the frequency of dosing.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a 5-year-old child. The child is taking a drug that has a known therapeutic range in adults, and the nurse checks that the ordered dose is correct and notes that the child's serum drug level is within normal limits. The child complains of a headache, which is a common sign of toxicity for this drug. Which action will the nurse take?

- a. Administer the drug since the drug levels are normal.

- b. Attribute the headache to nondrug causes.
- c. Hold the next dose and contact the provider.
- d. Request an order for an analgesic medication.

ANS: C

The therapeutic ranges established for many drug levels are based on adult studies, so it is important for the nurse to assess pediatric patients in conjunction with monitoring drug levels. The nurse should notify the provider of the reaction. Because headaches are a symptom of toxicity for this drug, the nurse should not ignore the symptom.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance

9. The nurse is preparing to give a 7-year-old child a bitter-tasting oral medication. The child asks the nurse if the medicine tastes bad. To help the child take this medication, which action will the nurse take?

- a. Allow the child to delay taking the medication until the parent arrives.
- b. Enlist the assistance of other staff to help restrain the child.
- c. Tell the child that it doesn't taste bad if it is swallowed quickly.
- d. Tell the child that it tastes bad and offer a choice of beverages to drink afterward.

ANS: D

School-age children should be permitted more control, involvement in the process, and honest information. The nurse should tell the child the truth and offer the child a choice about what to drink to wash down the medicine. Medications must be given on schedule, so allowing the child a choice about when to take a medication is not acceptable. Restraining a child should not be used unless other methods have failed. Telling the child the medication doesn't taste bad is not honest and will reduce the child's trust in the nurse.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is preparing to administer an oral liquid medication to an 11-month-old child who is fussy and uncooperative. Which action will the nurse take to facilitate giving this medication?

- a. Adding honey to the medication to improve the taste
- b. Putting the medication in the infant's formula
- c. Requesting an injectable form of the medication
- d. Using a syringe and allowing the parent to give the medication

ANS: D

When possible, family members or caregivers should be solicited to assist in medication administration. Infants should not receive honey because of the risk of botulism. A syringe allows more control over the amount of medication in the infant's mouth and should be used. Mixing the medication in a bottle requires ensuring that the infant takes the entire bottle in order to get the medication dose. Using an injectable form of medication is more traumatic and should be used only when an oral route is not possible or is contraindicated.

N

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A 2-year-old child will receive several doses of an intramuscular medication. The nurse caring for this child will use which intervention to help the child cope with this regimen?

- a. Allowing the child to give "pretend" shots to a doll with an empty syringe
- b. Allowing the child to select a Band-Aid to wear after each medication is given
- c. Ensuring privacy while giving the medication
- d. Explaining that the medicine will help the child to feel better

ANS: A

Simple explanations, a firm approach, and enlisting the imagination of a toddler through play may enhance cooperation. Allowing the child to practice on a doll may help the toddler tolerate the injections. Preschool and school-age children fear bodily injury, and Band-Aids are important with



those age groups. Adolescents need privacy, and school-age children and adolescents can understand the use of a medication in relation to future outcomes.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A preschool-age child has moderate dehydration and needs a rapid bolus of fluids. To provide atraumatic care and administer fluids most effectively, what action will the nurse take?

- a. Wait until the child is sleeping to insert the IV.
- b. Ask the child's parents to restrain the child during venipuncture so fluids may be administered.
- c. Request an order for nasogastric (NG) fluids to avoid the trauma of venipuncture.
- d. Use a lidocaine preparation prior to insertion of the IV needle.

ANS: D

One method to ensure atraumatic care is through the use of topical analgesics before IV injections. Lidocaine preparations are effective in reducing the pain and fear associated with invasive procedures, such as venipuncture. IV insertions or injections should never be given to a sleeping child; the child may develop a subsequent lack of trust and reluctance to sleep in the future. Asking parents to restrain the child for a painful procedure can cause stress and anxiety for both the child and the parents. NG fluids are traumatic and are uncomfortable long past the insertion of the NG tube.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is preparing to administer an intramuscular medication to a 4-year-old child who starts to cry and screams, "I don't want a shot!" What is the nurse's next action?

- a. Acknowledge that shots hurt and tell the child to be brave.
- b. Engage the child in a conversation about preschool and favorite activities.
- c. Enlist the assistance of another nurse to help restrain the child.

- d. Explain to the child that it will only hurt for a few seconds.

ANS: B

Distraction may be used for pain and anxiety control in this age group. Engaging the child in a conversation may distract the child from the anxiety of the imminent injection. It is not correct to tell the child to be brave since this belittles the feelings expressed by the child. Preschool children have a limited sense of time, so telling the child that the pain will only last a few seconds may not be effective. Restraining the child with other staff should be used last after

other methods have failed.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A 14-year-old female who has type 1 diabetes mellitus that has been well controlled for several years is admitted to the hospital for treatment of severe hyperglycemia. The patient's lab values indicate poor glycemic control for the past 3 months. The nurse caring for this patient will suspect which cause for the change in diabetes control?

- a. Adolescent rebellion and noncompliance
- b. Changes in cognitive function
- c. Hormonal fluctuations
- d. Possible experimentation with drugs or alcohol

ANS: C

In adolescence, hormonal changes and growth spurts may necessitate changes in medication dosages; many children with chronic illness require dosage adjustments in the early teen years. This includes insulin use in adolescents with type 1 diabetes.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is teaching a 15-year-old female patient and her parents about an antibiotic the adolescent will begin taking. The drug is known to decrease the effectiveness of oral contraceptive pills (OCPs). The nurse will:

- a. ask the adolescent and her parents whether she is taking OCPs.
- b. tell her parents privately that pregnancy may occur if she is taking OCPs.
- c. tell her privately that the medication may decrease the effectiveness of OCPs.
- d. warn her and her parents that she may get pregnant if she is relying on OCPs.

ANS: C

When soliciting adolescent health histories, the nurse should consider issues related to sexual practices and should provide privacy when asking sensitive questions or giving sensitive information. The other actions do not allow for patient privacy.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. What is NOT a challenge associated with over-the-counter (OTC) medication and the pediatric client?

- a. Many OTC drugs have not been tested thoroughly in children.
- b. OTC cough and cold medication contain a combination of ingredients.
- c. Children's doses are often expressed in terms of age range.
- d. OTC drugs should not be given to children under the age of 2.

ANS: D

The FDA and American Academy of Pediatrics (AAP) recommend against giving OTC medications to children because of life-threatening side effects. Little, if any, research is done in children under the age of 4. Combinations of medicines found in multisymptom medicines

may cause more side effects in children. Pediatric patients vary widely; use of age and weight lessens the chance of inaccurate dose.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The parent of a school-age child tells the nurse that the child often misses the midday dose of a medication because the child forgets to take it to school. What will the nurse suggest?

- a. Asking the pharmacist to divide the prescription into two labeled packages
- b. Discussing a different medication with the child's provider
- c. Putting the bottle of pills in the child's lunchbox
- d. Requesting permission for the child to come home from school during the day

ANS: A

Patients and families should be assisted to have medications available at home, work, or school if it is necessary to take the medications in those locations. Asking the pharmacist to label some of the drug for school will allow a supply to be kept at school. It should not be necessary to take a different medication. Children should not have medications in their lunchboxes. It should not be necessary for the child to come home to take a medication.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance

N

Chapter 07: Geriatric Considerations

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is caring for an older adult patient who is receiving multiple medications. When monitoring this patient for potential drug toxicity, the nurse should review which lab values particularly closely given the patient's advanced age?

- a. Complete blood count and serum glucose levels
- b. Pancreatic enzymes and urinalysis
- c. Serum creatinine and liver function tests (LFTs)
- d. Serum lipids and electrolytes

ANS: C

With liver and kidney dysfunction, the efficacy of drugs is generally increased and may cause toxicity due to decreased drug clearance. The nurse should review serum creatinine levels to monitor renal function and LFTs to monitor hepatic function. The other lab tests may be ordered for specific drugs if they affect those body systems.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. An older patient who reports a 2- to 3-year history of upper gastrointestinal (GI) symptoms will begin taking ranitidine (Zantac) to manage her symptoms. The patient has completed a health history form. The nurse notes that the patient answered "no" when asked if any medications were being taken. Which action will the nurse take next?

- a. Ask whether the patient uses over-the-counter (OTC) medications.
- b. Obtain a careful dietary history for the past two weeks.
- c. Recommend that the patient take antacid tablets.
- d. Suggest that the patient add high-potassium foods to the diet.

ANS: A

Many patients do not think of OTC products as medications and often do not list them when asked about medication use. A patient who takes ranitidine along with an OTC antacid could be duplicating therapy. A dietary history is important as well but would not be the most important action in this case. The nurse should not recommend antacid tablets or

high-potassium foods before gathering additional information.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. To assist an older, confused patient to adhere to a multidrug regimen, the nurse will provide which recommendation?
- a. Avoid the use of OTC medications.
  - b. Bring all medications to each clinic visit.
  - c. Review the manufacturer's information insert about each medication.
  - d. Save money by getting each drug at the pharmacy with the lowest price.

ANS: B

Patients who take multiple medications should be advised to bring medications to each clinic visit. Patients may take OTC medications as long as those are included in the list of

medications reviewed by the provider. Manufacturers' inserts provide an overwhelming amount of information. Patients should be advised to use only one pharmacy.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for an older patient who is taking 25 mg per day of hydrochlorothiazide. The nurse will closely monitor which lab value in this patient?

- a. Coagulation studies
- b. White blood count
- c. LFTs
- d. Serum potassium

ANS: D

Older patients who take doses of hydrochlorothiazide between 25 and 50 mg/day have increased risk of electrolyte imbalances, so potassium should be monitored closely.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for an 82-year-old patient who takes digoxin to treat chronic atrial fibrillation. When caring for this patient, to monitor for drug side effects, what will the nurse carefully assess? N

- a. Blood pressure
- b. Heart rate
- c. Oxygen saturation
- d. Respiratory rate

ANS: B

Digoxin is primarily eliminated by the kidneys, so a decline in kidney function can cause digoxin accumulation, which can cause bradycardia. Digoxin should not be given to any patient with a pulse less than 60 beats per minute.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for an 80-year-old patient who is taking warfarin (Coumadin). Which action does the nurse understand is important when caring for this patient?

- a. Encouraging the patient to rise slowly from a sitting position



- b. Initiating a fall-risk protocol
- c. Maintaining strict intake and output measures
- d. Monitoring blood pressure frequently

Patients who take anticoagulants have an increased risk of hemorrhage. Older patients have an increased risk of falls that can lead to bleeding complications. Initiating a fall-risk protocol is important. Warfarin does not affect blood pressure and would not cause orthostatic hypotension. Warfarin does not alter urine output.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. An 80-year-old patient is being treated for an infection. An order for which type of antibiotic would cause concern for the nurse caring for this patient?

- a. Aminoglycoside
- b. Cephalosporin
- c. Penicillin
- d. Sulfonamide

ANS: A

Penicillins, cephalosporins, tetracyclines, and sulfonamides are normally considered safe for the older adult. Aminoglycosides are excreted in the urine and are not usually prescribed for patients older than 75 years.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A 75-year-old patient will be discharged home with a prescription for an opioid analgesic. To help the patient minimize adverse effects, what will the nurse recommend for this patient?

- a. Sucking on lozenges to moisten oral mucosa
- b. Taking an antacid with each dose
- c. Taking the medication on an empty stomach
- d. Using a stool softener

ANS: D

Opioid analgesics can cause constipation. Stool softeners can help minimize this effect. Opioids do not cause dry mouth. Drug absorption may be decreased with an antacid. Opioid analgesics should be taken with food or milk to decrease GI irritation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A 75-year-old patient is readmitted to the hospital to treat recurrent pneumonia. The patient had been discharged home with a prescription for antibiotics 5 days prior. The nurse admitting this patient will take which initial action?

- a. Ask the patient about OTC drug use.
- b. Ask the patient how many doses of the antibiotic have been taken.
- c. Discuss increasing the antibiotic dose with the provider.
- d. Obtain an order for a creatinine clearance test.

There are many reasons for non-adherence to a drug regimen in an older patient, so if a patient is readmitted, the nurse should first ascertain whether or not the medications have been used. Asking the patient how many doses have been taken will help to assess this. If it is determined that the patient is taking the drug as ordered, the other steps may be taken.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is performing an admission assessment on an 80-year-old patient who has frequent hospital admissions. The patient appears more disoriented and confused than usual. Which action by the nurse is most appropriate at this time?

- a. Asking about medications and doses
- b. Asking for a neurologist consult
- c. Requesting orders for LFTs
- d. Suspecting impaired renal function

ANS: A

An initial sign of drug toxicity in elderly patients may be confusion or changes in behavior. The nurse should ask about medication use and doses taken and notify the provider of the behaviors. The provider may order further evaluation based on the examination of the patient.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. An older patient takes ibuprofen for arthritis pain. The patient tells the nurse that the ibuprofen causes GI upset. Which action will the nurse take with this patient?

- a. Ask the provider about having the patient take a different medication.
- b. Instruct the patient to cut the ibuprofen dose in half to avoid GI upset.
- c. Explain that all drugs have adverse effects.
- d. Explore options to help decrease the drug side effects.

ANS: D

Older adults are more likely to experience drug side effects, and nurses should be aware of the measures that may decrease these side effects and thus improve adherence. The nurse would additionally want to ask follow-up questions to be sure the patient is experiencing additional symptoms that may indicate a GI bleed.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is caring for a 78-year-old patient who lives independently. The patient will begin a new drug regimen that requires taking multiple drugs at various times per day. Which intervention is appropriate for the nurse to implement with this patient?

- a. Ask the patient's family members to monitor the patient's drug regimen.
- b. Develop a log and/or calendar to record the times each drug will be taken.
- c. Reinforce the need to take the drugs as scheduled.
- d. Write the medication administration times on each prescription label.

ANS: B

The patient should be advised to keep a medication record of drugs and when they will be taken. The patient is independent, and this helps maintain independence. Family member support is essential when older patients are confused. Reinforcing information without providing a means to keep track of the medications does not necessarily improve compliance. Writing medication times on prescription labels does not help to organize the medication schedule.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. The nurse is preparing an 80-year-old patient for discharge home from the hospital. The patient will receive several new medications. The patient lives alone but has several family members who stop by every day. The patient reports problems with manual dexterity and difficulty with childproof medication bottles. Which suggestions will the nurse make for this family? (Select all that apply.)

- a. Ask the pharmacy for non-childproof medication bottles.
- b. Ask the patient to record all medications and the times they are taken.
- c. Consider placing the pills in an organizer container.
- d. Provide the patient with the drug manufacturer information sheets.

- e. Put water bottles near pills for convenience.

ANS: A, B, C, E

To help older patients with compliance, medications should be convenient and easy to open. Asking the pharmacist for non-childproof containers will help make medications easier to access since the patient has reported difficulty with childproof medication bottles. Using an

organizer container helps patients remember which drugs should be taken at what time. Keeping a record of the drugs and when they are to be taken can also increase adherence. Placing water bottles nearby eliminates a step in the process and increases the likelihood that a medication will be taken on time. Providing the patient with the drug manufacturer's information sheets is not needed for adherence; this level of information is not intended for the older consumer.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

- 2. Which drug properties are potentially problematic for older patients? (Select all that apply.)

- a. Drugs with anticholinergic effects
- b. Drugs that are highly protein-bound
- c. Drugs with a short half-life
- d. Drugs that undergo hepatic conjugation
- e. Drugs with a narrow therapeutic range

ANS: A, B, E

Older patients are more susceptible to drug side effects, especially those that cause anticholinergic effects. Older patients have a loss of protein-binder sites for drugs, so those that are highly protein-bound will have higher than usual serum levels and can cause toxicity. Drugs with a narrow therapeutic range require closer monitoring in all patients, but especially in older patients. Drugs with a short half-life are preferred because older patients have a decreased ability to metabolize and excrete drugs. Hepatic conjugation is usually not influenced by older age, liver diseases, or drug interaction.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 08: Drugs of Abuse

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. The nurse is teaching a group in the community about drug abuse. Which statement by the nurse is correct?

- a. "Cravings always disappear after long periods of abstinence by the person addicted to drugs."
- b. "Substance abuse and addiction are synonymous terms, describing dependence on drugs."
- c. "Substance use disorder occurs when recurrent use causes clinically and functionally significant impairment."
- d. "Substance use disorder occurs when physical dependence is present."

ANS: C

Substance use disorder occurs when the recurrent use of alcohol and/or drugs causes clinically and functionally significant impairments. Although physical dependence may often occur, it is not always present. Cravings may diminish after long abstinence but do not disappear completely. Drug abuse may occur without addiction.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Psychosocial Integrity: Dependency

2. The nurse is caring for a patient who is being treated for alcohol intoxication. The nurse notes that the patient's serum alcohol level is 400 mg/dL. The patient is awake and talkative even though this is a potentially lethal dose. The nurse recognizes this as alcohol:

- a. substance use disorder.
- b. dependence.
- c. misuse.
- d. tolerance.

ANS: D

Intoxication is a state of being influenced by a drug or other substance and may be a very small amount in the drug-naïve person or a potentially lethal amount in the chronic user. This person has developed tolerance to alcohol and is able to have a potentially lethal amount without severe effects. Addiction describes continued involvement in an activity despite the substantial harm it causes. Dependence describes physical need for the drug such that when the drug is stopped, withdrawal symptoms occur. Misuse refers to using a drug or substance to excess.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Psychosocial Integrity: Dependency

3. What does the nurse understand must occur in order to produce withdrawal syndrome?

- a. Intoxication
- b. Craving
- c. Drug tolerance
- d. Physical dependence

ANS: D

Patients who develop a physical dependence on a drug will experience withdrawal syndrome when the drug is stopped. Intoxication is a condition that results in disturbances in the level of consciousness, cognition, perception, judgment, behavior, and other psycho-physiologic functions. Cravings can occur without physical dependence. Tolerance refers to a decrease in drug effects with repeated use.

DIF: Cognitive Level: Applying (Application)  
Psychosocial Integrity: Dependency

TOP: Nursing Process: N/A MSC: NCLEX:

4. The nurse is counseling a patient who wants to stop smoking. Which statement by the nurse is correct?

- a. "Bupropion (Zyban) is effective and does not have any serious adverse effects."
- b. "Nicotine replacement therapies are effective and eliminate the need for behavioral therapy."
- c. "Varenicline (Chantix) may be used short-term for 1 to 2 months."
- d. "You may experience headaches, irritability, and increased appetite for several months after stopping smoking."

ANS: D



Headaches and increased appetite are common during nicotine withdrawal and may last for several months. Bupropion is effective but has many serious effects. Nicotine replacement therapy does not eliminate the need for behavioral therapy. Varenicline is used for at least 3 months.

DIF: Cognitive Level: ApplyingN(Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Psychosocial Integrity: Dependency

5. Which of the following is NOT generally considered a side effect of nicotine replacement?
- a. Tachycardia.
  - b. Dizziness.
  - c. Somnolence.
  - d. Dyspepsia.

ANS: C

Tachycardia, dizziness, and dyspepsia are side effects that can occur with nicotine replacement therapies. Nicotine replacement therapy is also associated with insomnia. Somnolence is not considered a common side effect of nicotine replacement products.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Psychosocial Integrity: Dependency

6. The nurse is discussing smoking cessation with a nurse colleague who smokes. Which statement indicates a readiness to quit smoking?
- a. "I don't smoke around my children or inside the house."
  - b. "I want to stop smoking, but I will need help to do it."
  - c. "I will quit so my coworkers will stop harassing me about it."
  - d. "If I cut down gradually, I should be able to quit."

ANS: B

Patients exhibit readiness when they state a desire to quit along with a request for professional assistance. Other factors, such as children or coworkers, do not indicate a desire to quit.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Planning MSC: NCLEX: Psychosocial Integrity: Dependency

7. A patient is brought to the emergency department by a family member. The patient reports symptoms of paranoia and believes they are being followed. The patient presents with an elevated body temperature, elevated pulse, and high blood pressure. The nurse suspects that this patient is abusing which of the following drugs?

- a. Alcohol
- b. Cocaine
- c. Heroin
- d. Oxycodone

ANS: B

A stimulant psychosis can occur cocaine use, and can present as symptoms of paranoia such as believing they are being followed or someone is trying to attack them. Cocaine users will also present with elevations in temperature, pulse, and blood pressure. These are not signs of abuse with alcohol, heroin or oxycodone use.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Psychosocial Integrity: Dependency

8. The nurse is caring for a patient who is chronically irritable and anxious and prone to violent behaviors. The patient has several teeth missing and has dental caries in the remaining teeth.

The nurse suspects previous chronic use of which drug?

- a. Alcohol
- b. Cocaine
- c. LSD
- d. Methamphetamine

ANS: D

Patients previously exposed to methamphetamine use will exhibit these symptoms, and the physical effects of extended methamphetamine use are notable tooth decay and dermatologic deterioration.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Psychosocial Integrity: Dependency

9. The nurse is teaching a patient who has completed detoxification for alcohol abuse who will be discharged home with a prescription for disulfiram (Antabuse). Which statement by the patient indicates understanding of the teaching?

- a. "Even use of mouthwash can cause serious adverse effects while I am taking this drug."
- b. "Drowsiness and skin rashes are the most common adverse events to watch for."
- c. "It is safe to take a product containing alcohol one week after the last dose of disulfiram."
- d. "This drug acts by blocking the pleasurable effects of alcohol."

ANS: A

Disulfiram causes an unpleasant reaction if alcohol is consumed while taking the drug and can even occur with topical products containing alcohol and use of mouthwash. Drowsiness and skin rash are not common adverse effects. The effects of disulfiram do not wear off for up to 2 weeks after the last dose. It does not block the pleasurable effects of alcohol.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Psychosocial Integrity: Dependency

10. A patient with a long history of alcohol abuse is admitted to the hospital for detoxification. In addition to medications needed to treat withdrawal symptoms, the nurse will anticipate giving which of the following intramuscularly?

- a. dopamine to restore blood pressure.
- b. fluid boluses to treat dehydration.
- c. glucose to prevent hypoglycemia.
- d. thiamine to treat nutritional deficiency.

ANS: D

Thiamine should be given to prevent Wernicke encephalopathy in patients treated for chronic alcoholism. If glucose is indicated, the thiamine should be given first. Other treatments are given as indicated.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Planning MSC: NCLEX: Psychosocial Integrity: Dependency

11. A patient arrives in the emergency department in an acute state of alcohol intoxication and reports chronic consumption of "several six packs" of beer every day for the past year. The nurse anticipates administering which medication or treatment?

- a. Chlordiazepoxide (Librium)
- b. Disulfiram (Antabuse)
- c. Gastric lavage
- d. Vasoconstrictors

ANS: A

To prevent acute withdrawal and delirium tremens, a long-acting benzodiazepine, such as chlordiazepoxide, is given. Disulfiram would cause an acute reaction due to the presence of alcohol in the patient's system. Gastric lavage is no longer recommended, and vasoconstrictors are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Psychosocial Integrity: Dependency

12. A patient who is unconscious arrives in the emergency department with clammy skin and constricted pupils. The nurse assesses a respiratory rate of 8 to 10 breaths per minute. The paramedics report obvious signs of drug abuse in the patient's home. The nurse suspects that this patient is likely experiencing an overdose of which substance?

- a. Alcohol
- b. LSD
- c. An opioid
- d. Methamphetamine

ANS: C

Opioid overdose is characterized by constricted pupils and respiratory depression.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Psychosocial Integrity: Dependency

13. A patient is brought to the emergency department after ingesting an overdose of an opioid several hours prior. The patient has a respiratory rate of 6 to 10 breaths per minute and is unconscious. The nurse will prepare to perform which action?

- a. Administer activated charcoal.
- b. Give flumazenil (Romazicon).
- c. Give naloxone (Narcan).
- d. Perform gastric lavage.

ANS: C

Naloxone is the drug of choice in the treatment of respiratory depression associated with opioid overdose. Flumazenil is the antidote for benzodiazepine overdose. Activated charcoal is used for

asymptomatic patients who have recently consumed the drug. Gastric lavage is no longer recommended for treatment.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Psychosocial Integrity: Dependency

14. Cough and cold products are also used for substance abuse. Which of the following contains the two most commonly misused cough and cold products?

- a. Dextromethorphan and promethazine-codeine
- b. Dextromethorphan and phenylephrine
- c. Promethazine-codeine and phenylephrine
- d. Dextromethorphan and guaifenesin

ANS: A

The two most frequently misused cough and cold products are dextromethorphan and promethazine-codeine cough syrup.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Planning MSC: NCLEX: Psychosocial Integrity: Dependency

15. The nurse is teaching a patient who will be discharged home with naltrexone (ReVia) after treatment for opioid addiction. What information will the nurse include in the teaching for this patient?

- a. "This drug will help control cravings."
- b. "You may take this drug once weekly."
- c. "ReVia blocks the pleasurable effects of opioids."
- d. "If you discontinue this drug abruptly, you will have withdrawal symptoms."

ANS: C

ReVia acts by blocking the pleasurable effects of opioids. It can precipitate withdrawal when given to opioid-dependent patients. This drug does not control cravings, and it is taken once daily or every other day.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Psychosocial Integrity: Dependency

N

## Chapter 09: Safety and Quality

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. When the nurse practices the “Six Rights” of medication administration, what does it ensure?
  - a. Adequate information is provided to the patient
  - b. Cost-effective use of medications
  - c. Informed consent for drug administration is obtained
  - d. Safe administration of medications

ANS: D

The “Six Rights” ensure that the nurse has considered all of the details of safe medication administration. The “Six Rights” include verifying: 1) the right patient; 2) the right drug; 3) the right dose; 4) the right route; 5) the right time, and 6) the right documentation.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. In order to ensure that a medication is given to the right patient, the nurse must perform which action?



- a. Ask the patient to spell their last name.
- b. Match the patient with a photo ID.
- c. Swipe a bar code on the patient's ID bracelet.
- d. Verify the patient using two identifiers.

ANS: D

The Joint Commission requires two forms of identification before medication administration. Patients are asked to state their name and date of birth. Some, but not all, institutions use photos and bar codes to aid in identification.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A health care provider calls a nursing unit to leave a telephone order for an as needed (PRN) antipyretic medication for a child. The provider tells the nurse to "give PO acetaminophen for a fever greater than 101° F per protocol." What will the nurse do next?

- a. Ask the provider to verify how many mg per kg per dose and how frequently to give the medication.
- b. Look up the protocol in the unit manual and write the drug order for the provider to sign.
- c. Provide the child's weight to the hospital pharmacist to write the order based on the protocol.
- d. Transcribe the verbal order to the order sheet as "give PO acetaminophen for a fever greater than 101° F per protocol."

ANS: A

The components of a drug order include drug name, dose, route, frequency, and any instructions for dosing. A nurse receiving a telephone order should "read back" the order from the provider that includes this information. The provider, and not the nurse or the pharmacist, is responsible for writing the order with all components.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The pediatric nurse reviews a hand-written medication order, which reads, "09/16/2016, acetaminophen 160 mg (5 mL) PO q4h for fever." What will the nurse do next?

- a. Administer the drug when indicated.
- b. Ask the provider to confirm if the dose is correct for the patient's age.
- c. Clarify the nursing assessments necessary for giving a dose.
- d. Contact the provider to request patient allergy information.

ANS: C

This order contains all components except the level of temperature necessary to justify a dose of an antipyretic. The patient's age and allergy information are part of the medical record data base.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a 20-kg child who is ordered to receive amoxicillin 400 mg per os (PO) TID for 10 days. The nurse reviews the drug information and notes that the correct dose of amoxicillin is 40 to 50 mg/kg/day in two to three divided doses. Which action by the nurse is correct?

- a. Adjust the drug dose based on drug manufacturer dosing information.
- b. Administer the medication as ordered.
- c. Ask the pharmacist to double check that the dose is correct.
- d. Contact the provider and ask whether the drug should be given twice daily (BID) instead of TID.

ANS: D

The correct dosing range for this drug for this child per the drug information is 800 to 1000 mg per day. If 400 mg were administered TID, it would result in 1200 mg per day being administered. It would be appropriate to verify the order with the prescriber to avoid a possible overdose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing to administer a medication from a unit-dose system. The nurse verifies that the medication, dose, and time are correct and that the expiration date was the day prior. Which action is correct?

- a. Administer the medication and observe for adequate drug effects.
- b. Notify the pharmacist and the provider of a medication error.
- c. Return the medication to the pharmacy to be replaced.
- d. Verify the right patient and administer the medication.

ANS: C

If a drug expiration date has passed, it should be returned to the pharmacy or discarded, never used. A medication error would occur only if the medication was given.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer a chewable tablet to a preschool-age child. The child's parent reports always crushing the tablet and mixing it with pudding when giving it at home. What is the nurse's next action?

- a. Ask the pharmacist if the drug may be crushed.
- b. Crush the tablet and mix it with pudding.
- c. Insist that the tablet must be chewed as ordered.
- d. Request a liquid form of the medication from the pharmacy.

ANS: A

Nurses should not crush or mix medications in other substances without consultation with a pharmacist or a reliable drug reference. Even if the family has been doing this at home, the nurse must still determine safety and efficacy. If the medication cannot be crushed or mixed into another

substance, the nurse may need to insist on the child taking the dose as ordered or may need to ask the provider to prescribe a different form of the medication.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who will have surgery that morning. The patient usually takes an antihypertensive medication every morning. The patient has been nothing per os (NPO) since midnight. What action will the nurse perform?

- a. Ask the patient to swallow the pill without water.
- b. Give the medication with a small sip of water.
- c. Consult the surgeon about giving the medication.
- d. Hold the medication until after the patient's surgery.

ANS: C

The patient's provider or surgeon should determine the importance of giving the medication along with the safety of administering it prior to anesthesia. The nurse should not give the medication with or without water without the provider's permission.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is caring for a patient who has asthma. The provider has ordered an albuterol metered-dose inhaler (MDI), 2 puffs q4 to 6h PRN wheezing. The patient's last dose was 4 hours ago. What is the nurse's next action?

- a. Administer 2 puffs of albuterol with the MDI.
- b. Auscultate the patient's lung sounds.
- c. Give the albuterol if the patient reports wheezing.
- d. Give the medication and evaluate its effectiveness.

ANS: B

The albuterol is to be given PRN if the patient is wheezing. The nurse should assess breath sounds and give the medication if the patient is wheezing. Even if the patient reports wheezing, the nurse should make and document an assessment.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse assumes care of a patient who had surgery that morning. The provider has ordered hydrocodone (Lortab) every 4 hours for mild to moderate pain and morphine sulfate for moderate to severe pain. The nurse reviews the patient's record and notes the patient has received two doses of hydrocodone 4 hours apart for a pain level of 7 to 8 on a scale of 1 to 10 and has reported a decrease in pain to a level of 6 to 7 after 30 minutes. It has been 4 hours since the last dose, and the patient reports a pain level of 7. What will the nurse do?

- a. Administer the hydrocodone.
- b. Administer morphine.
- c. Ask the patient which drug to give.
- d. Notify the provider of the patient's current pain level.

ANS: B

The previous nurse has documented a poor response to pain medication given for mild to moderate pain. The nurse should administer the medication ordered for moderate to severe pain.

Hydrocodone has not been effective and should not be given. The nurse bases the drug selection on the patient's evaluation of pain, not on which drug the patient wants. The provider has written an order with nursing evaluations specified, so there is no need for the nurse to notify the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is caring for a patient who will begin taking a thiazide diuretic to treat hypertension. The patient says, "I know this will lower my blood pressure, but how does it work?" How will the nurse respond?

- a. "It can cause orthostatic hypotension, so be careful."

- b. "It reduces the volume of fluid in your blood stream to lower blood pressure."
- c. "The actions are complicated, but it's an effective drug."
- d. "Your provider should explain this medication to you."

ANS: B

Patients have a right to understand how the drugs they are taking work and to know about side effects. The nurse should explain how the medication can cause orthostatic hypotension after addressing the patient's current question. Telling the patient that the drug actions are complicated is disrespectful. Nurses are responsible for educating patients about medications.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient who is diagnosed with atrial fibrillation is to begin taking warfarin (Coumadin). The patient refuses to take the medication because "it is rat poison." After the nurse provides teaching, the patient still refuses. What action will the nurse take?

- a. Hold the dose and document the patient's refusal.
- b. Hold the dose, notify the provider of the situation, and document these actions.
- c. Put the medication in the patient's food.
- d. Tell the patient that the drug is necessary for treatment.

ANS: B

Patients have a right to refuse medications, but the provider should be notified if omitting the medication can have serious effects. According to the principle of autonomy, it is unethical to put a medication in a patient's food without their knowledge.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. Which is a violation of a nurse's right when administering medications?

- a. A hospital policy for off-label drug uses
- b. A medication preparation area at the unit secretary's desk
- c. A multiple-dose drug vial requiring the nurse to calculate and measure the dose
- d. A new drug ordered that the nurse must look up in a drug manual

ANS: B

Nurses have a right to administer drugs safely and have the right to stop, think, and be vigilant when administering medications. Another worker's desk will be noisy, with many distractions. Many drugs are used for off-label purposes; having a hospital policy helps ensure safety. Single-dose vials are more convenient and help to reduce calculation errors, but multidose vials are often used; nurses unsure of calculations should check their work with another nurse. Nurses frequently have to look up information on new drugs, and hospitals should offer reasonable access to current information.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is teaching a patient about a new medication that will be administered using an MDI. To evaluate the patient's understanding about how to use the device, what will the nurse do?

- a. Ask the patient to give a return demonstration using the inhaler.
- b. Give the patient written instructions to review as needed.
- c. Offer the patient an Internet web address with information about the product.
- d. Provide information about drug effects and adverse reactions.

ANS: A

The nurse should demonstrate skills and evaluate understanding with return demonstrations. Written instructions and Internet sites are helpful but do not give information about how well the patient can perform a task.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Health Promotion and Maintenance

15. The community health nurse is preparing to administer a medication to a patient in the patient's home. The order reads "amoxicillin as directed BID PO." The nurse will perform which action?

- a. Administer the medication as ordered on the prescription label.
- b. Ask the patient to take the medication as ordered.
- c. Contact the provider to confirm the correct dose of the medication.
- d. Review the drug information to verify the correct dose.

ANS: C

The home nurse must have a complete order for giving medications, including the name of the medication, dose, route, and frequency, so the nurse should contact the provider to ascertain the dose. The prescription label may be outdated if the provider has changed the regimen.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance

16. The school nurse happens to observe a child pulling a pill out of a backpack and preparing to take it. What action will the nurse take?

- a. Ask the child to describe the medication, dose, and reason for taking it.
- b. Ask the child to keep all pills in the nurse's office.
- c. Call the child's provider for a telephone order to give the medication.
- d. Contact the child's parent to request a properly labeled prescription.

ANS: D

Children should bring medications properly labeled to school and should not self-administer medications without supervision.

N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



## Chapter 10: Drug Administration

McCuistion: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is assisting the parent of a 6-month-old infant to administer an oral liquid medication. The parent asks why the medication can't be given in a bottle of formula to make it taste better. How will the nurse respond?

- a. "Adding a medication to the formula will cause the formula to curdle."
- b. "Formula and medications can form toxic compounds if mixed together."
- c. "The infant may not always take the entire bottle of formula."
- d. "This may cause the infant to refuse formula in the future."

ANS: C

Medications should not be mixed with a large amount of food or beverage because patients may miss the full dose if they do not consume the entire amount. If the entire bottle is not consumed, the nurse will have difficulty determining how much dose was received. If medications interact with formula in vivo, package information will indicate this.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient asks the nurse if an enteric-coated tablet can be crushed and put in pudding to make it easier to swallow. How will the nurse respond to the patient?

- a. "Crushing the medication can possibly lead to administration of a toxic medication dose."
- b. "Crushing the medication is safe and can prevent gagging on pills."

- c. "The tablet may be crushed if a small amount of pudding is used."
- d. "The tablet may be dissolved in liquid but not crushed and put in food."

ANS: A

Enteric-coated tablets must be swallowed whole to maintain a therapeutic drug level since they are designed to be absorbed in the small intestine. If crushed, an initial excessive release of the drug may occur, causing toxicity. Enteric-coated tablets should not be dissolved in liquid.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient is ordered to take an extended-release medication twice daily but has difficulty swallowing the tablet because of its size. The nurse will perform which action?
- a. Contact the provider to discuss an alternate form of the medication.
  - b. Crush the tablet and put it in applesauce to help the patient swallow it.
  - c. Cut the tablet in half so the patient can take it more easily.
  - d. Dissolve the tablet in liquid.

ANS: A

Enteric-coated and extended-release tablets must be swallowed whole to maintain a therapeutic drug level since they are designed to be absorbed in the small intestine and/or gradually over time. If crushed, an initial excessive release of the drug may occur, causing toxicity. Enteric-coated or extended-release tablets should not be dissolved in liquid. The nurse should contact the provider to discuss another form of the medication.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is teaching a patient about using sublingual nitroglycerin at home. Which statement by the patient indicates understanding of the teaching?

- a. "I may put the tablet in food if I don't like the taste."
- b. "I may take a sip of water after placing the tablet in my mouth."
- c. "I will place the tablet between my cheek and gum."
- d. "I will place the tablet under my tongue and let it absorb."

ANS: D

Drugs given sublingually should be placed under the tongue. No foods or fluids should be given, since the tablet must remain under the tongue until it is fully absorbed. Medications ordered to be given "buccally" should be placed between the cheek and gum.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is teaching a nursing student about giving liquid medications. Which statement by the student indicates understanding of the teaching?

- a. "A suspension is a mixture in which drug particles are dissolved in solution."
- b. "I will line up the bottom of the medication curve with the line in the syringe."
- c. "I will need to shake an elixir before measuring the dose."
- d. "I will never need to refrigerate liquids once they are reconstituted."

ANS: B

To measure liquid medications accurately, line up the bottom of the curve of the medication with the desired line on the syringe. Suspensions are liquids in which particles are mixed but not dissolved. As a general rule, elixirs do not require shaking; shaking may suspend air into the liquid and affect accurate dosing by volume. Many liquids require refrigeration.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient asks the nurse why the provider has ordered a transdermal form of a medication. How will the nurse respond?

- a. "The patch can always be cut when dosage adjustments are needed."
- b. "Drug levels fluctuate less with the patch."
- c. "There are fewer systemic side effects with transdermal patches."
- d. "There is less risk of toxicity when using a patch."

ANS: B

Transdermal patches provide more consistent blood levels. Cutting the patch is not recommended for some types of patches. Drugs given transdermally can still produce systemic side effects and toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. When administering topical medications, which is an important nursing action?

- a. Applying the medication liberally
- b. Cleaning skin with alcohol before applying
- c. Using sterile technique
- d. Wearing gloves

ANS: D

To avoid contact with the medication, nurses should wear gloves when applying topical medications. Some topical medications are applied sparingly. Skin should be clean and dry, but it is not necessary to use alcohol. It is not always necessary to use sterile technique.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient who has asthma will begin taking an inhaled corticosteroid medication to be used with a spacer. The patient asks why the spacer is necessary. The nurse will explain that the spacer:

- a. allows a larger dose to be given safely.
- b. is used to enhance the delivery of medications when using a metered-dose inhaler.
- c. minimizes adverse effects of the steroid.
- d. prevents contamination of the metered-dose inhaler.

ANS: B

Spacers are used to enhance the delivery of medication when using a metered-dose inhaler. They do not allow higher dosing or minimize drug side effects.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is teaching a parent to administer medications using a child's gastrostomy tube. The parent asks why it is necessary to give water after each medication. The nurse explains that the water is given for which purpose?

- a. To decrease gastrointestinal upset
- b. To dilute the medication and enhance absorption
- c. To ensure that all medication is infused into the stomach
- d. To improve overall hydration

ANS: C

Flushing the tube after the medication is instilled ensures that the medication reaches the stomach and to maintain patency of the tubing. It is not always given to decrease gastrointestinal upset, to dilute the medication, or to improve hydration.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is preparing to administer a rectal suppository antipyretic medication. Which action by the nurse is correct?

- a. Allowing the suppository to soften at room temperature before inserting
- b. Explain the administration procedures to the patient
- c. Having the patient remain flat or on one side for at least 30 minutes after insertion
- d. Using an oil-based lubricant such as petrolatum gel (Vaseline) to lubricate the medication

ANS: C

Patients should remain flat or on one side for at least 30 minutes to prevent expulsion of the suppository. Softening the suppository is not indicated. The procedure should be explained to the patient before administration of the suppository. A water-soluble lubricant should be used.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is performing tuberculin testing on a patient. Which action by the nurse is correct?

- a. Insert the needle, bevel up, at a 30-degree angle.
- b. Massage the area gently after the injection.
- c. Measure the diameter of the area of erythema when reading the result.
- d. Use a 25-gauge, 1/4" needle.

ANS: D N

Intradermal injections should be given with a 25- to 27-gauge, 1/4" - to 1/2"-long needle. The needle should be inserted at a 10- to 15-degree angle. The area should not be massaged. The nurse measures the area of induration, not erythema.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is preparing to administer an intramuscular injection to a 14-month-old toddler. To help with site selection for this injection, what will the nurse ask the child's parent?

- a. "How long has your child been walking?"
- b. "How much does your child weigh?"
- c. "Is your child afraid to look at needles?"
- d. "Is your child right- or left-handed?"

ANS: A

The ventrogluteal muscle is the preferred injection site for toddlers who have gluteal muscle development associated with firmly established walking. The muscle development, and not the child's weight, is more important. Asking if a patient is right- or left-handed is necessary if deltoid muscles are used.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is demonstrating the Z-track injection technique to a nursing student on a patient who is receiving iron dextran. Which statement by the student indicates understanding of the teaching?

- a. "This is used when administering IM injections to help minimize local skin irritation."
- b. "This technique allows slower, more sustained absorption."
- c. "You may use the deltoid site when using this method."
- d. "I should use a 27-gauge needle to minimize discomfort with this method."

ANS: A

The Z-track method is used to help minimize local skin irritation by sealing the medication in the muscle tissue. It does not affect absorption. The ventrogluteal site is preferred, and, generally, the needle is a larger bore.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is preparing to start an IV line in a preschool-age child. After applying a eutectic mixture of local anesthetics, what will the nurse do to prepare the child?

- a. Describe what the IV line will feel like and how long it will be in place.
- b. Explain the purpose of the procedure.
- c. Give the child equipment to handle and practice on a doll.
- d. Reassure the child that the pain will only last a few minutes.

ANS: C

Preschool children should be allowed to play with and handle equipment and give “play” injections using a doll or stuffed animal. Describing the procedure or discussing pain will only heighten anxiety.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 11: Drug Calculations

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### COMPLETION

1. Order: trihexyphenidyl hydrochloride (Artane) 6 mg, PO, twice daily Available: trihexyphenidyl hydrochloride (Artane) 2 mg tablets

How many tablet(s) will the patient receive on a daily basis?



ANS: 6

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. Order: allopurinol (Zyloprim) 150 mg, PO, q.i.d.

Available: allopurinol (Zyloprim) 100 mg tablet, scored

- a. How many tablet(s) will be given per dose?    tablets
- b. How many mg will the patient receive per day?            mg

ANS: 1.5; 600

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. Order: doxycycline hyclate 100 mg, PO, first day q12h; then 100 mg, PO, daily Available: doxycycline hyclate 100 mg tablets

- a. How many tablet(s) will the patient receive the first day?    tablets
- b. How many tablet(s) will the patient receive daily after the first day?    tablet

ANS: 2; 1

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. Order: Augmentin 500 mg, PO, q8h

Available: amoxicillin-potassium clavulanate 250-125 mg tablet How many tablet(s) will be given per dose?    tablets

ANS: 2

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. Order: erythromycin 350 mg, PO, q8h. Available: erythromycin estolate 250 mg/5 mL

How many mL will be given per dose? mL

ANS: 7

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. Order: Mycostatin U 500,000, PO, q.i.d. (swish and swallow) Available: Mycostatin 100,000 units per mL

How many mL will be given per dose? \_ mL

ANS: 5

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. Order: Norvir 600 mg, PO, b.i.d.

Available: Norvir 80 mg/1 mL

- a. How many milliliters (mL) will the patient receive per dose? mL
- b. How many milligrams (mg) will the patient receive per day? mg

ANS: 7.5; 1200

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. Order: methenamine hippurate 1000 mg, PO, b.i.d. Available: methenamine hippurate 1000 mg tablet

How many tablet(s) will be given per dose? tablet

ANS: 1

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. Order: cefadroxil 0.4 g, PO, q12h Available: cefadroxil 250 mg/5 mL

How many mL will be given per dose? mL

ANS: 8

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. Order: Serzone (nefazodone hydrochloride), PO: Day 1, 200 mg in two divided doses; Day 8, 400 mg in two divided doses.

Available: nefazodone hydrochloride 100 mg tablet

- a. How many tablets will the patient receive on Day 1? tablets
- b. How many tablets will the patient receive per dose when ordered 100 mg in two divided doses? tablet
- c. How many tablets will the patient receive per dose when increased to 200 mg, b.i.d.? tablets

ANS: 2; 1; 2

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. Order: amoxicillin (Amoxil) 250 mg, PO, q8h Available: 250 mg per 5 mL

- a. How many mL will the patient receive per dose? mL
- b. How many mg will the patient receive per day? mg
- c. How many mL will the patient receive per day? mL

ANS: 5; 750; 15

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. Order: chlorpromazine (Thorazine) 12.5 mg, IM (deep), STAT Available: chlorpromazine (Thorazine) 25 mg/1 mL

How many mL will be given? N mL

ANS: 0.5

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. Order: prochlorperazine (Compazine) 7.5 mg, IM (deep), q.i.d., PRN Available: prochlorperazine (Compazine) 12.5 mg/1 mL

How many mL will be given per dose? mL

ANS: 0.6

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. Order: loxapine (Loxitane) 75 mg, IM, daily Available: loxapine (Loxitane) 50 mg/1 mL

How many milliliters (mL) will the patient receive per day? mL

ANS: 1.5

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. Order: midazolam (Versed) 3 mg, IM, STAT Available: Versed 5 mg/1 mL

How many mL will be given? mL

ANS: 0.6

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. Order: 1000 mL of lactated Ringer's (LR) solution to be administered over 6 hours  
Available: 1 L LR Macro drip set labeled 10 gtt/mL

- a. How many mL of LR will be infused in 1 hour? mL
- b. How many drops per minute (gtt/min) will the patient receive? drops per minute

ANS:

167; 28

167 mL ( $1000 \text{ mL} \div 6 = 166.6 = 167 \text{ mL}$ )

28 drops per minute ( $[(167 \times 10 \text{ gtt}) \div 60 \text{ min}] = 27.8 \text{ or } 28 \text{ gtt/min}$ )

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. Order: aminocaproic acid 4 g in 250 mL D5W to infuse over 1 hour Available: aminocaproic acid 250 mg/1 mL

How many mL of aminocaproic acid will be mixed in 250 mL of D5W? mL

ANS: 16

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. Order: cefuroxime axetil (Ceftin) 200 mg, PO, b.i.d. Available: Ceftin 250 mg/5 mL

How many mL will the patient receive per dose? \_ mL

ANS: 4

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. Order: digoxin (Lanoxin), PO, 62.5 mcg, daily Available: Lanoxin 0.125-mg tablets

How many mg will the patient receive per day? \_ mg

ANS: 0.0625

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. Order: trimethoprim-sulfamethoxazole (Bactrim) 160/800 mg, PO, b.i.d. Available: Bactrim 80/400-mg tablets

How many tablets will be given per dose? \_ tablets

ANS: 2

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. Order: amoxicillin (Amoxil) 500 mg, PO, b.i.d. Available: Amoxil 400 mg/5 mL

How many mL will be given per dose? \_ mL

ANS: 6.25

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

22. Order: levetiracetam (Keppra), PO, 20 mg/kg/day, divided b.i.d.

Available: Keppra 100 mg/mL Patient weight: 20 kg

How many mL will the patient receive per dose? \_ mL

ANS: 2

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 12: Fluid Volume and Electrolytes

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A patient's serum osmolality is 305 mOsm/kg. Which term describes this patient's body fluid osmolality?

- a. Iso-osmolar
- b. Hypo-osmolar



- c. Hyper-osmolar
- d. Isotonic

ANS: C

Normal osmolality is 275 to 295 mOsm/kg. This patient is therefore hyper-osmolar.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

2. A patient is admitted after experiencing vomiting and diarrhea for several days. The provider orders intravenous lactated Ringer's solution. The nurse understands that this fluid is given for which purpose?

- a. To increase interstitial and intracellular hydration
- b. To maintain plasma volume over time
- c. To pull water from the interstitial space into the extracellular fluid
- d. To replace water and electrolytes

ANS: D

Lactated Ringer's solution is an isotonic solution and is used to replace water and electrolytes and is often used to replace gastrointestinal losses. Hypotonic fluids increase interstitial and intracellular hydration. Colloidal solutions are used to maintain plasma volume over time.

Hypertonic solutions pull water from the interstitial space into the extracellular fluid.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

3. A patient is being treated for shock after a motor vehicle accident. The provider orders 6% dextran 75 to be given intravenously. The nurse should expect which outcome as the result of this infusion?

- a. Decreased urine output

- b. Improved blood oxygenation
- c. Increased interstitial fluid
- d. Stabilization of heart rate and blood pressure

ANS: D

6% Dextran 75 is a high-molecular-weight colloidal solution and is used to treat shock from hemorrhage, burns, or trauma. Colloids are plasma expanders, and the end result is an improvement in heart rate (decreased) and blood pressure (increased). Plasma expanders will result in an increase in urine output. Blood oxygenation is not affected, and colloids do not increase the amount of interstitial fluid.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

4. The nurse is caring for a patient who weighs 75 kg. The patient has intravenous (IV) fluids infusing at a rate of 50 mL/h and has consumed 100 mL of fluids orally in the past 24 hours. Which action will the nurse take?

- a. Contact the provider to ask about increasing the IV rate to 90 mL/h.
- b. Discuss with the provider the need to increase the IV rate to 150 mL/h.
- c. Encourage the patient to drink more water so the IV can be discontinued.
- d. Instruct the patient to drink 250 mL of water every 8 hours.

ANS: A

The recommended daily fluid intake for adults is 30 to 40 mL/kg/day. This patient should have a minimum of 2250 mL/day and is currently receiving 1200 mL IV plus 100 mL orally for a total of 1300 mL. Increasing the IV rate to 90 mL/h would give the patient 2160 mL. If the patient continues to take oral fluids, the amount of 2250 mL can be met. A rate of 150 mL/h would give the patient 3600 mL/day, which exceeds the recommended amount. Since this patient is not taking fluids well and is not receiving adequate IV fluids, encouraging an increased fluid intake is not indicated. Even if the patient drank 250 mL of water every 8 hours, the amount would not be sufficient.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

5. The nurse is caring for a patient who has a heart rate of 98 beats per minute and a blood pressure of 82/58 mm Hg. The patient is lethargic, is complaining of muscle weakness, and has had gastroenteritis for several days. Based on this patient's vital signs, which sodium value would the nurse expect?

- a. 126 mEq/L
- b. 140 mEq/L
- c. 145 mEq/L
- d. 158 mEq/L

ANS: A

Patients who are hyponatremic will have tachycardia and hypotension along with lethargy and muscle weakness. The normal range for serum sodium is 135 to 145 mEq/L; a serum sodium level of 126 mEq/L would be considered hyponatremic.

DIF: Cognitive Level: Analyzing (Analysis) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

6. The nurse is caring for a patient who has had severe vomiting. The patient's serum sodium level is 130 mEq/L. The nurse will expect the patient's provider to order which treatment?

- a. Diuretic therapy
- b. Intravenous hypertonic 5% saline
- c. Intravenous normal saline 0.9%
- d. Oral sodium supplements

ANS: C

Patients with hyponatremia may be treated with oral sodium supplements if the patient is able or if the deficit is mild. This patient is vomiting and would not be able to take supplements easily. For a serum sodium level between 125 and 135 mEq/L, normal saline may increase sodium content in vascular fluid. Hypertonic saline is used for severe hyponatremia with a serum sodium <120 mEq/L. Diuretics would further deplete sodium and fluid volume in a patient already likely to be dehydrated from severe vomiting.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

7. The nurse is caring for a newly admitted patient who has severe gastroenteritis. The patient's electrolytes reveal a serum sodium level of 140 mEq/L and a serum potassium level of 3.5 mEq/L. The nurse receives an order for intravenous 5% dextrose and normal saline with 20 mEq/L potassium chloride to infuse at 125 mL/h. Which action is necessary prior to administering this fluid?

- a. Evaluate the patient's urine output.
- b. Contact the provider to order arterial blood gases.
- c. Request an order for an initial potassium bolus.
- d. Suggest a diet low in sodium and potassium.

ANS: A

If the patient is receiving potassium and the urine output is <25 mL/h or <600 mL/d, potassium accumulation may occur. Patients with a low urine output should not receive IV

potassium. Arterial blood gases are not necessary prior to IV potassium administration. Potassium should never be given as a bolus. Patients should be put on a potassium-enriched diet when foods are tolerated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

8. A patient who is being treated for dehydration is receiving 5% dextrose and 0.45% normal saline with 20 mEq/L potassium chloride at a rate of 125 mL/h. The nurse assuming care for the patient reviews the patient's serum electrolytes and notes a serum sodium level of 140 mEq/L and a serum potassium level of 3.6 mEq/L. The patient had a urine output of 250 mL during the last 12-hour shift. Which action will the nurse take?

- a. Contact the patient's provider to discuss increasing the potassium chloride to 40 mEq/L.
- b. Continue the intravenous fluids as ordered and reassess the patient frequently.
- c. Notify the provider and discuss increasing the rate of fluids to 200 mL/h.

- d. Stop the intravenous fluids and notify the provider of the assessment findings.

ANS: D

The patient's potassium level is within normal limits, but the urine output is decreased, so the patient should not be receiving IV potassium. The nurse should stop the IV and report the findings to the provider. The patient does not need an increase in potassium. The patient needs more fluids but not with potassium.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

9. A patient has a serum potassium level of 2.7 mEq/L. The patient's provider has determined that the patient will need 200 mEq of potassium to replace serum losses. How will the nurse caring for this patient expect to administer the potassium?

- a. As a single-dose 200 mEq oral tablet
- b. As an intravenous bolus over 15 to 20 minutes
- c. In an intravenous solution at a maximum rate of 10 mEq/h
- d. In an intravenous solution at a rate of 45 mEq/h

ANS: C

Potassium chloride should be given intravenously when hypokalemia is severe, so this patient should receive IV potassium chloride. Potassium should never be given as a bolus and should be administered slowly. The maximum infusion rate for adults with a serum potassium level greater than 2.5 mEq/L is 10 mEq/h or 200 mEq/24 hours.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

10. A patient is taking a loop diuretic and reports anorexia and fatigue. The nurse suspects which electrolyte imbalance in this patient?

- a. Hypercalcemia

- b. Hypocalcemia
- c. Hyperkalemia
- d. Hypokalemia

ANS: D

Loop diuretics cause the body to lose potassium. Patients who take loop and thiazide diuretics should be monitored for hypokalemia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

11. The nurse is caring for a patient whose serum sodium level is 140 mEq/L and serum potassium level is 5.4 mEq/L. The nurse will contact the patient's provider to discuss an order for:

- a. a low-potassium diet.
- b. intravenous sodium bicarbonate.
- c. Sodium polystyrene sulfonate (Kayexalate).
- d. salt substitutes.

ANS: A

Mild hyperkalemia may be treated with dietary restriction of potassium-rich foods. The patient's sodium level is normal, so sodium bicarbonate is not indicated. Kayexalate is used for severe hyperkalemia. Salt substitutes contain potassium and would only compound the hyperkalemia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

12. The provider has ordered sodium polystyrene sulfonate (Kayexalate) to be administered to a patient. The nurse caring for this patient would expect which serum electrolyte values prior to administration of this therapy?

- a. Sodium 125 mEq/L and potassium 2.5 mEq/L

- b. Sodium 150 mEq/L and potassium 3.6 mEq/L
- c. Sodium 135 mEq/L and potassium 6.9 mEq/L
- d. Sodium 148 mEq/L and potassium 5.5 mEq/L

ANS: C

Severe hyperkalemia, with a potassium level of 6.9 mEq/L, requires aggressive treatment to increase the body's excretion of potassium. Kayexalate is a potassium binder used to treat severe hyperkalemia. The normal range for serum potassium is 3.5 to 5.5 mEq/L, so patients with the other potassium levels would not be treated aggressively or would need potassium supplementation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

N

13. The nurse is caring for a patient who is receiving oral potassium chloride supplements. The nurse notes that the patient has a heart rate of 120 beats per minute and has had a urine output of 200 mL in the past 12 hours. The patient reports abdominal cramping. Which action will the nurse take?

- a. Contact the provider to request an order for serum electrolytes.
- b. Encourage the patient to consume less fluids.
- c. Report symptoms of hyperchloremia to the provider.
- d. Request an order to increase the patient's potassium dose.

ANS: A

Oliguria, tachycardia, and abdominal cramping are signs of hyperkalemia, so the nurse should request an order for serum electrolytes. This patient should increase fluid intake. The patient is not exhibiting signs of hyperchloremia; the patient is showing signs of hyperkalemia, and an increased potassium dose is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

14. A patient asks the nurse about taking calcium supplements to avoid hypocalcemia. The nurse will suggest that the patient follow which instruction?

- a. Take a calcium and vitamin D combination supplement.
- b. Take calcium along with phosphorus to improve absorption.
- c. Take calcium with antacids to reduce stomach upset.
- d. Use aspirin instead of acetaminophen when taking calcium.

ANS: A

Vitamin D enhances the absorption of calcium in the body. Calcium and phosphorus have an inverse relationship—an increased level of one mineral decreases the level of the other, and they would bind in the gastrointestinal tract and not be absorbed if taken at the same time.

Antacids can contain magnesium, which can promote calcium loss. Aspirin can alter vitamin D levels and interfere with calcium absorption.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

15. The nurse is caring for a newly admitted patient who will receive digoxin to treat a cardiac dysrhythmia. The patient takes hydrochlorothiazide (HydroDIURIL) and reports regular use of over-the-counter laxatives. Before administering the first dose of digoxin, the nurse will review the patient's electrolytes with careful attention to the levels of which electrolytes?

- a. Calcium and magnesium
- b. Sodium and calcium
- c. Potassium and chloride
- d. Potassium and magnesium

ANS: D

Hypomagnesemia, like hypokalemia, enhances the action of digitalis and causes digitalis toxicity. Laxatives and diuretics can deplete both of these electrolytes.



DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

16. The nurse is administering intravenous fluids to a patient who is dehydrated. On the second day of care, the patient's weight is increased by 2.25 pounds. The nurse would expect that the patient's fluid intake has

- a. equaled urine output.
- b. exceeded urine output by 1 L.
- c. exceeded urine output by 2.5 L.
- d. exceeded urine output by 3 L.

ANS: B

A weight gain of 1 kg, or 2.2 to 2.5 lb, is equivalent to 1 L of fluid.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

17. The nurse is caring for a patient who is receiving isotonic intravenous (IV) fluids at an infusion rate of 125 mL/h. The nurse performs an assessment and notes a heart rate of 102 beats per minute, a blood pressure of 160/85 mm Hg, and crackles auscultated in both lungs. Which action will the nurse take?

- a. Decrease the IV fluid rate and notify the provider.
- b. Increase the IV fluid rate and notify the provider.
- c. Request an order for a colloidal IV solution.
- d. Request an order for a hypertonic IV solution.

ANS: A

The patient shows signs of fluid volume excess, so the nurse should slow the IV fluid rate and notify the provider. Increasing the rate would compound the problem. Colloidal and hypertonic fluids would pull more fluids into the intravascular space and compound the problem.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

18. The nurse is preparing to administer digoxin to a patient who is newly admitted to the intensive care unit. The nurse reviews the patient's admission electrolytes and notes a serum potassium level of 2.9 mEq/L. Which action by the nurse is correct?

- a. Administer the digoxin and monitor the patient's electrocardiogram closely.
- b. Hold the digoxin dose and notify the provider of the patient's lab values.
- c. Request an order for an intravenous bolus of potassium.
- d. Request an order for oral potassium supplements.

ANS: B

Hypokalemia increases the risk for digoxin toxicity, so the nurse should hold the dose and notify the provider. Potassium should never be given as an IV bolus. Oral supplements are not used when hypokalemia is severe.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

19. The nurse is performing an assessment on a patient brought to the emergency department for treatment for dehydration. The nurse assesses a respiratory rate of 26 breaths/minute, a heart rate of 110 beats/minute, a blood pressure of 86/50 mm Hg, and a temperature of 39.5° C. The patient becomes dizzy when transferred from the wheelchair to a bed. The nurse notes cool, clammy skin. Which diagnosis does the nurse suspect?

- a. Fluid volume deficit (FVD)
- b. Fluid volume excess (FVE)
- c. Mild extracellular fluid (ECF) deficit

- d. Renal failure

ANS: A

Patients with FVD will exhibit elevated temperature, tachycardia, tachypnea, hypotension, orthostatic hypotension, and cool, clammy skin. Patients with FVE will have bounding pulses, elevated blood pressure, dyspnea, and crackles. Mild ECF deficit causes thirst. Renal failure generally leads to FVE.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

20. The nurse is caring for a patient who will receive 10% calcium gluconate to treat a serum potassium level of 5.9 mEq/L. The nurse performs a drug history prior to beginning the infusion. Which drug taken by the patient would cause concern?

- a. Digitalis
- b. Hydrochlorothiazide
- c. Hydrocortisone
- d. Vitamin D

ANS: A

Calcium gluconate is given to treat hyperkalemia in order to decrease irritability of the myocardium. When administered to a patient taking digitalis, it can cause digitalis toxicity. The other drugs may affect potassium levels but are not a cause for concern with calcium gluconate.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

21. A patient is admitted with orthopnea, cough, pulmonary crackles, and peripheral edema. The patient's urine specific gravity is 1.002. The nurse will expect this patient's provider to order which treatment?

- a. Diuretics

- b. Colloidal IV fluids
- c. Hypertonic IV fluids
- d. Hypotonic IV fluids

ANS: A

This patient has signs of fluid volume excess. Urine specific gravity levels less than 1.010 g/mL indicate dilute urine and excess fluid. Diuretics are prescribed to reduce fluid overload.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

MULTIPLE RESPONSE

1. The nurse is caring for a patient who will receive intravenous calcium gluconate. Which nursing actions are appropriate when giving this solution? (Select all that apply.)

- a. Administering through a central line
- b. Review the patient's medication record to see if they are receiving digitalis
- c. Giving as a rapid intravenous bolus
- d. Mixing in a solution containing sodium bicarbonate
- e. Monitoring the patient's electrocardiogram (ECG)
- f. Reporting a serum calcium level of  $>2.5$  mEq/L

ANS: B, E, F

Calcium gluconate has the same action on the heart as digitalis and combined use can place the patient at risk for digitalis toxicity. Hypercalcemia can cause ECG changes. A serum calcium level greater than 2.5 mEq/L indicates hypercalcemia and therefore should be reported. Calcium does not require infusion through a central line and should not be given as a rapid IV bolus. Calcium should not be added to a solution containing bicarbonate, because rapid precipitation occurs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

2. A patient is suspected of having severe hypocalcemia. While waiting for the patient's serum electrolyte results, the nurse will assess for which symptoms? (Select all that apply.)

- a. Laryngeal spasms
- b. Fatigue
- c. Muscle weakness
- d. Nausea and vomiting
- e. Hyperactive deep tendon reflexes
- f. Twitching of the mouth

ANS: A, E, F

Patients who have hypocalcemia will exhibit laryngeal spasms, hyperactive deep tendon reflexes, and twitching of the mouth. The other symptoms are not characteristic of hypocalcemia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

#### COMPLETION

1. A patient with cirrhosis is noted to have low serum albumin levels. The patient is to receive 200 mL of albumin in 30 minutes. The drop factor for the IV set is 15 gtt/mL. The nurse correctly adjusts the IV rate to what rate?        gtt/min

ANS:

100    N

$(200 \text{ mL} \div 15 \text{ gtt/mL}) \div 30 \text{ min} = 100 \text{ gtt/min.}$

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

## Chapter 13: Vitamin and Mineral Replacement

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient asks the nurse about whether it is necessary to take vitamin supplements. The patient is a 26-year-old female who is contemplating pregnancy. The nurse will recommend which supplement?

- a. Calcium and vitamin D
- b. Folic acid (folate)
- c. Iron
- d. Vitamin C

ANS: B

Folic acid deficiency during the first trimester of pregnancy can affect the development of the central nervous system (CNS) of the fetus, so women of childbearing age are encouraged to take folic acid. Other supplements are not necessary with a well-balanced diet unless a deficiency is noted.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

2. A patient reports wanting to take vitamin A to prevent blindness. Which response by the nurse

is correct? N

- a. "Vitamin A can be taken at any dose without serious adverse effects."
- b. "Vitamin A has no effects on vision."
- c. "Vitamin A is difficult to obtain through dietary intake alone."
- d. "If too much vitamin A is taken toxicity can occur."

ANS: D

Vitamin A is stored in the liver for up to 2 years, and toxicity can occur. The effects of toxicity can be severe. Vitamin A is essential for the maintenance of eye function. Vitamin A can be obtained through the diet.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

3. A young woman tells the nurse that she has a strong family history of osteoporosis and that she has been taking calcium supplements. Which vitamin will the nurse recommend as an adjunct to calcium supplementation?

- a. Vitamin A
- b. Vitamin D
- c. Vitamin E
- d. Vitamin K

ANS: B

Vitamin D is needed for calcium absorption from the intestines and plays a major role in regulating calcium and phosphorus metabolism.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

4. A patient who spends most of the time indoors has been taking large doses of vitamin D and is curious about signs of vitamin D toxicity. The nurse will tell this patient to report which sign that may indicate vitamin D toxicity?

- a. Blurred vision
- b. Darkening of the skin
- c. Nausea and vomiting
- d. Palpitations

ANS: C

Anorexia, nausea, and vomiting are early signs of vitamin D toxicity.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

5. Which fat-soluble vitamin can increase the risk of bleeding and would warrant close monitoring of prothrombin time in a patient also taking warfarin (Coumadin)?

- a. Vitamin A
- b. Vitamin D
- c. Vitamin E
- d. Vitamin K N

ANS: C

Vitamin E may prolong the prothrombin time, so patients taking warfarin should have their PT monitored closely.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition



6. A child is brought to the emergency department after ingesting a grandparent's warfarin (Coumadin) tablets. The nurse will anticipate administering which form of vitamin K?

- a. K1 (phytonadione)
- b. K2 (menaquinone)
- c. K3 (menadione)
- d. K4 (menadiol)

ANS: A

For oral anticoagulant overdose, vitamin K1 is the only vitamin K form available for therapeutic use and is most effective in preventing hemorrhage.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

7. The nurse is teaching a patient about water-soluble vitamins. Which statement by the patient indicates understanding of the teaching?

- a. "Water-soluble vitamins are excreted in the urine."
- b. "Water-soluble vitamins are highly toxic if I take too much."
- c. "Water-soluble vitamins are highly protein bound."
- d. "Water-soluble vitamins are usually metabolized in the liver."

ANS: A

Water-soluble vitamins are not highly stored in the body as they are readily excreted in the urine. Because they are not stored, they are usually not toxic unless taken in extremely excessive amounts. They are not highly protein bound and are not generally metabolized in the liver.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

8. The nurse is caring for a patient who has a history of chronic alcohol abuse. The patient is confused and exhibits nystagmus and blurred vision. Which vitamin will the nurse expect to administer to this patient?

- a. Nicotinic acid
- b. Pyridoxine
- c. Riboflavin
- d. Thiamine

ANS: D

Alcoholics can develop Wernicke-Korsakoff syndrome characterized by these symptoms related to thiamine deficiency. Thiamine must be given quickly to prevent progression of the disease which can result in irreversible brain damage.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

9. The nurse is caring for an elderly patient who has poor nutrition. The nurse notes cracked skin at the corners of the patient's mouth along with generalized scaly dermatitis. The nurse will contact the provider to discuss a possible deficiency of which vitamin?

- a. Nicotinic acid
- b. Pyridoxine
- c. Riboflavin
- d. Thiamine

ANS: C

Riboflavin deficiency is characterized by scaly dermatitis, cracked corners of the mouth, and inflammation of the mouth and tongue.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

10. A patient is taking nicotinic acid (Niacin) to treat hyperlipidemia. The patient reports a flushing sensation along with gastrointestinal irritation. The nurse will perform which action?

- a. Contact the provider to discuss possible thromboembolism.
- b. Discuss decreasing the patient's dose of nicotinic acid with the provider.
- c. Reassure the patient that these effects will decrease over time.
- d. Suggest that the patient take niacin with a full glass of cool water.

ANS: B

Large doses of niacin can cause gastrointestinal irritation and vasodilation, resulting in a flushing sensation. Decreasing the dose can alleviate these symptoms. They do not indicate development of thromboembolism. Taking niacin with a full glass of water does not alleviate these symptoms.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient reports having taken a large dose of ascorbic acid (vitamin C) and is experiencing diarrhea and gastrointestinal upset. The nurse will prepare to take which action?

- a. Administer activated charcoal.
- b. Administer sodium bicarbonate.
- c. Perform gastric lavage.
- d. Provide symptomatic care.

ANS: D

The patient is experiencing uncomfortable side effects of excess vitamin C intake, but they are not life threatening, so no antidotes or treatment are indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient reports taking large doses of vitamin C to prevent upper respiratory infections. The nurse will perform which action?

- a. Monitor the patient for hyperglycemia.
- b. Notify the provider and discuss a gradual taper of vitamin C.
- c. Request an order for a CBC to assess the patient's hemoglobin.
- d. Tell the patient that studies have confirmed this use of vitamin C.

ANS: B

Patients who take large doses of vitamin C should be tapered down gradually to avoid vitamin deficiency. Vitamin C can produce a false positive urine glucose test but does not affect blood glucose. It does not affect hemoglobin. Studies have not demonstrated the effectiveness of vitamin C in preventing or treating colds.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is teaching a patient who has a folic acid deficiency about treatment for this disorder. Which statement by the patient indicates understanding of the teaching?

- a. "Food sources of folic acid are better absorbed than synthetic folic acid products."
- b. "I should take large doses of folic acid to compensate for the deficiency."
- c. "Most folic acid I take is stored in the liver."
- d. "Symptoms of folic acid deficiency often do not appear for months."

ANS: D

Symptoms of folic acid deficiency usually are not noted until 2 to 4 months after folic acid storage is depleted. Synthetic folate is more stable and has greater bioavailability when compared with dietary folate. Large doses are not recommended. One-third of folic acid is stored in the liver with the rest stored in tissues.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

14. A patient is diagnosed with anemia and asks the nurse why the provider has ordered vitamin B12. Which answer by the nurse is correct?

- a. "Vitamin B12 is given to improve your overall energy level."
- b. "Vitamin B12 is necessary for the development of red blood cells."
- c. "Vitamin B12 prevents excess iron loss."
- d. "Vitamin B12 will help you absorb iron more efficiently."

ANS: B

Vitamin B12 is essential for DNA synthesis and aids in the conversion of folic acid to its active form and is also needed for the development of red blood cells. It does not directly improve energy level and does not affect iron loss or iron absorption.

15. 15.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Intervention/Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

The nurse is teaching a patient who has iron-deficiency anemia about iron supplementation.

Which statement by the patient indicates understanding of the teaching?

- a. "I may improve iron absorption by taking this with vitamin C."
- b. "I should take iron tablets with an antacid to reduce gastrointestinal upset."
- c. "Nausea and vomiting are minor side effects and will decrease over time."
- d. "Taking iron with food will help to increase the amount absorbed."

ANS: A

Vitamin C or orange juice, which is high in vitamin C, increases the absorption of iron in the stomach. Antacids interfere with iron absorption. Nausea and vomiting should be reported since they are signs of toxicity. Food slows absorption but is sometimes recommended to reduce gastrointestinal upset.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A female patient has a history of heavy menstrual periods and has received treatment in the past for iron deficiency anemia. She would like to take ferrous sulfate prophylactically to avoid future programs. Which of the following is the recommended dose of ferrous sulfate for prophylactic use?

- a. 600 mg BID.
- b. 400 mcg/day.
- c. 300-324 mg/day.
- d. 5-20 mg/day.

ANS: A

Iron supplementation of 300 to 324 mg/day is correct for prophylactic supplementation. Higher doses, such as 600 mg/day are used to treat existing iron-deficiency anemia. 400 mcg/day is an appropriate dose for folic acid supplementation. A normal diet contains 5-20 mg of iron per day.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A parent calls the nurse to report that a 5-year-old child has taken five children's vitamins. Which action will the nurse take first?

- a. Ask whether the vitamins contain iron.
- b. Reassure the parent that over-the-counter vitamins are not toxic.
- c. Recommend that the parent take the child to the emergency department (ED).
- d. Tell the parent to watch for tarry stools and report them immediately.

ANS: A

Iron toxicity is a serious cause of poisoning in children, and as few as 10 to 12 tablets of ferrous sulfate can be fatal within 12 to 48 hours. The nurse should first determine whether the vitamins contain iron. If so, the family should take the child to the ED.

18. 18.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

The nurse is caring for a child who receives all nutrition parenterally. The nurse will be alert for signs of a deficiency of which mineral in this child?

- a. Chromium
- b. Copper
- c. Iron
- d. Zinc

ANS: D

Patients on long-term parenteral nutrition are at risk for zinc deficiency.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. A patient who has type 2 diabetes mellitus asks the nurse about taking chromium supplements. The nurse will tell this patient that taking chromium:

- a. can increase the risk for ketoacidosis.
- b. is not recommended for persons with diabetes.
- c. has only been proven to improve conditions associated with chromium deficiency.
- d. should be taken in doses greater than 200 mcg/day.

ANS: C

Chromium has only been shown to improve conditions associated with a documented chromium deficiency. Chromium may help with blood glucose management and can be used in people with diabetes. It does not increase the risk for ketoacidosis. The normal dose is 25 to 35 mcg/day.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



20. A patient who will begin taking an antibiotic reports taking several vitamin supplements every day. Which vitamin or mineral will the nurse counsel the patient about during antibiotic therapy?

- a. Selenium
- b. Vitamin A
- c. Vitamin C
- d. Zinc

ANS: D

Zinc can interfere with antibiotic absorption and should be taken at least 2 hours after taking the antibiotic.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

## Chapter 14: Nutritional Support

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is preparing to administer enteral nutrition to a patient. Which assessment finding would prompt the nurse to hold the nutrition and notify the patient's provider?

- a. Blood pressure of 90/60 mm Hg

- b. Decreased bowel sounds
- c. A productive cough
- d. A temperature of 37.8° C

ANS: B

Enteral nutrition requires adequate small bowel function with digestion, absorption, and gastrointestinal motility. The nurse should assess for abdominal distension and a decrease or absence of bowel sounds. Patients may still receive enteral feedings if hypotension, cough, or elevated temperature are present.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

2. The nurse is preparing to administer an enteral feeding to a patient who receives 300 mL of a polymeric formula over 30 minutes every 4 hours. The nurse checks the residual prior to initiating the feeding and notes a residual amount of 50 mL of formula. Which action will the nurse take next?

- a. Administer the feeding as ordered.
- b. Administer the feeding over 60 minutes.
- c. Hold the feeding and notify the patient's provider.
- d. Wait 1 hour and recheck the residual again.

ANS: A

The nurse should determine gastric residual before each feeding when patients are receiving intermittent feedings. A residual greater than 100-150 mL may indicate the patient has an obstruction and is not digesting the feeding. This patient has a residual of 50 mL, so the nurse may proceed with the next feeding. If the residual was 100-150 mL, the feeding should be held for 1 hour and the residual rechecked prior to administration. If it is still elevated on the second check the provider should be contacted. The nurse cannot change the rate of an enteral infusion without an order from the provider.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

3. The provider calculates the enteral nutrition needs for a non-ambulatory patient and determines that the patient will need 300 mL of a polymeric formula every 4 hours. Which method of delivery will the nurse use to administer these feedings?
- a. 300 mL every 4 hours given via syringe as a 10-minute bolus
  - b. 300 mL every 4 hours given via enteral pump as a 45-minute infusion
  - c. 75 mL per hour via enteral pump as a continuous infusion
  - d. 150 mL every 2 hours via gravity infusion

ANS: B

Intermittent enteral feedings are an inexpensive and safe method of administering enteral nutrition and may be used when patients are non-ambulatory. Three hundred to 400 mL of solution may be given and should infuse over 30 to 60 minutes. While bolus methods may be used for patients receiving 250 to 400 mL of solution, this method is not tolerated well by non-ambulatory patients and may cause nausea, vomiting, aspiration, abdominal cramping, and diarrhea. Continuous feedings are used for critically ill patients. Gravity feedings cannot be well controlled and may infuse too fast or too slow.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

4. The nurse is preparing a patient who will receive intermittent enteral nutrition at home with a hyper-osmolar solution. What information will the nurse include when teaching this patient?
- a. How to perform the Valsalva maneuver
  - b. The need to consume extra fluids between feedings
  - c. The need to decrease dietary fiber
  - d. The need to remain supine during infusion of the enteral solution

ANS: B

Dehydration can occur if patients do not receive enough water during or between feedings, so patients should be taught to consume extra water. The Valsalva maneuver is taught to patients who receive TPN to prevent embolus. Enteral feedings can cause diarrhea, so decreased fiber

may aggravate that. N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Education

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

5. The nurse assumes care of a patient who has been receiving intermittent enteral feedings of 240 mL of a polymeric formula every 4 hours for the past 48 hours. The patient is in bed with the head of the bed elevated 60 degrees. The enteral tubing is intact, and the enteral pump is infusing at 320 mL per hour. The nurse notes 60 mL of solution left in the bag. The tubing is not labeled. What will the nurse do?

- a. Change and label the enteral tubing when this infusion is complete.
- b. Increase the infusion rate to 480 mL per hour to complete the infusion.
- c. Lower the head of the bed to 30 degrees.
- d. Stop the infusion and check for residual before resuming the infusion.

ANS: A

All enteral equipment should be labeled and changed every 24 hours. Since the tubing is not labeled, the nurse should change and label it as soon as the current infusion is complete. The infusion is set so that 240 mL will infuse over 45 minutes, which is appropriate, so the rate does not need to be increased. The head of the bed should be at least 30 degrees, so there is no need to lower the head of the bed. The nurse should check for residual just prior to administering the next infusion, but it is not indicated at this point.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

6. The nurse dilutes an antibiotic before administering it through a patient's nasogastric tube. The patient asks why this is necessary. The nurse explains that diluting the antibiotic helps to:

- a. improve absorption.
- b. improve hydration.
- c. prevent diarrhea.
- d. prevent emboli.

ANS: C

Liquid medication must be properly diluted when given through a feeding tube because most liquid medications are hyper-osmolar and can cause abdominal distention, cramping, vomiting, and diarrhea. Diluting the liquid medication does not change absorption, improve overall hydration, or prevent embolus formation.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

7. The nurse is caring for a patient who is receiving total parenteral nutrition (TPN). The nurse will carefully monitor this patient for which symptom(s)?

- a. Coughing and shortness of breath
- b. Decreased breath sounds
- c. Diarrhea
- d. Nausea and abdominal distension

ANS: A N

TPN with IV therapy is prone to air embolism. Symptoms of air embolism are coughing and dyspnea. Decreased breath sounds occur with aspiration, which is a complication of nasogastric feedings. Diarrhea, nausea, and abdominal distension occur with nasogastric feedings.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

8. The nurse is preparing to hang a new bag for a patient who is receiving total parenteral nutrition (TPN). During this procedure, the nurse will instruct the patient to take a deep breath and then perform which action?

- a. Exhale slowly and bear down.
- b. Exhale slowly to the count of 10.
- c. Hold the breath and bear down.
- d. Take several rapid, shallow breaths.

ANS: C

The Valsalva maneuver is performed by taking a breath, holding it, and bearing down. Patients are instructed to perform this maneuver in order to help prevent the formation of air emboli.

DIF: Cognitive Level: Understanding (Comprehension)

9. Which patient is most likely to be a candidate for total parenteral nutrition (TPN) rather than enteral nutrition?

- a. A patient who is comatose after having had a stroke
- b. A patient who has a fractured mandible following a motor vehicle accident
- c. A patient who has cerebral palsy and severe dysphagia
- d. A patient who is pregnant and has intractable hyperemesis gravidarum

ANS: D

The patient who is vomiting will be unable to tolerate enteral nutrition. Enteral feedings require a functioning gastrointestinal tract. TPN is more costly and does not carry significant benefits when compared with risks, so it should only be used when enteral nutrition cannot be used.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

10. The nurse is preparing to administer enteral nutrition to a patient who has had a stroke and who cannot swallow. A family member asks why the patient is not receiving intravenous nutrition. What information will the nurse provide to the family member?

- a. Parenteral nutrition carries a higher risk of infection.
- b. Parenteral nutrition does not provide sufficient calories.
- c. Parenteral nutrition increases the risk of aspiration.
- d. Parenteral nutrition is hyper-osmolar and increases the risk of dehydration.

ANS: A

Total parenteral nutrition (TPNN) carries a greater risk of sepsis than enteral nutrition. TPN can provide sufficient calories, and there is no increased risk of aspiration with TPN. TPN does not increase the risk of dehydration.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

11. A patient who has been receiving continuous enteral nutrition has had several large, watery stools. The nurse will contact the provider to discuss which intervention?

- a. Administering antidiarrheal medications
- b. Slowing the rate of infusion
- c. Starting total parenteral nutrition
- d. Thickening the nutrition solution

ANS: B

The most common cause of diarrhea during a feeding is a result of rapid feed infusion. Slowing the feeding is the appropriate initial action. Antidiarrheal medications are not indicated unless slowing the infusion fails. Total parenteral nutrition is not indicated for patients with a functioning gastrointestinal tract. Thickening the solution will increase the solute load and increase the risk for diarrhea.

DIF: Cognitive Level: Applying (Application)

12. A patient who has been receiving total parenteral nutrition (TPN) for several days accidentally removes the intravenous (IV) line. While waiting for the IV therapy nurse, the nurse caring for this patient will monitor for which complication?

- a. Air embolism
- b. Dehydration
- c. Hypoglycemia
- d. Infection

ANS: C

Sudden interruption of TPN therapy can lead to hypoglycemia because of the sudden drop in glucose and the patient's continued increased insulin levels. Air embolism is a complication associated with changing TPN bags. Dehydration is not a complication of a sudden interruption of TPN. Infection is an ongoing concern, but the risk does not increase with a sudden interruption of TPN.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

13. The nurse is preparing to discontinue total parenteral nutrition (TPN) therapy for a patient who has been receiving TPN for several days. The nurse will contact the provider to discuss an order for:

- a. antibiotics.
- b. intravenous insulin.
- c. isotonic dextrose.
- d. nasogastric feedings. N

ANS: C

Abruptly discontinuing TPN can lead to hypoglycemia. Patients should receive an isotonic dextrose solution for 12 to 24 hours after TPN is discontinued to prevent this reaction.



Antibiotics are used when signs of infection are observed. Intravenous insulin would compound hypoglycemia. Nasogastric feedings are indicated if the patient needs continued feeding therapy and has an intact GI tract.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

14. The nurse is caring for a patient with severe burns who will begin receiving total parenteral nutrition (TPN). The patient asks why TPN is necessary. The nurse explains that TPN is used for which reason?

- a. To minimize pulmonary complications
- b. To prevent hyperglycemia and fluid overload
- c. To promote wound healing and maintain cell integrity
- d. To restore fluid and electrolyte imbalance

ANS: C

TPN is indicated for patients with severe burns who are in negative nitrogen balance. TPN enhances wound healing and provides the nutrients necessary to prevent cellular catabolism. While some pulmonary complications, such as aspiration pneumonia, do not occur with TPN, there is a risk of air embolism. Hyperglycemia and fluid overload may occur.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

15. The nurse is caring for an adult with severe burns who weighs 60 kg. Prior to initiating total parenteral nutrition (TPN) therapy, the nurse reviews the orders. Which TPN order is correct for this patient?

- a. 3000 kcal, 120 g amino acids per day

- b. 2400 kcal, 50 g amino acids per day
- c. 1500 kcal, 100 g amino acids per day
- d. 3600 kcal, 150 g amino acids per day

ANS: A

The recommended energy intake is 25 to 35 kcal/kg/day; critically ill patients require 50% more than the normal energy requirements (approximately 3000 calories per day). Patients should receive 30–35 to 60–55 kcal/kg/day and 1 to 2 g/kg/day of amino acids. For a 60-kg patient, the number of calories should be 1800–2100 to 3600–3300 kcal/day, and amino acids should be 60 to 120 g/day.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

N

16. The nurse is caring for a patient who is receiving total parenteral nutrition (TPN). The patient reports nausea, headache, and thirst. The nurse will contact the provider to discuss which of the following?

- a. giving acetaminophen for headache pain.
- b. obtaining a serum glucose level.
- c. ordering an antiemetic to prevent vomiting.
- d. starting intravenous isotonic dextrose.

ANS: B

This patient shows signs of hyperglycemia, which is a common adverse effect of TPN. The nurse should request an order for serum glucose. Symptoms should not be treated without first determining the underlying cause. Isotonic dextrose is given to prevent hypoglycemia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

17. The nurse is caring for a patient who is being treated with total parenteral nutrition (TPN). The patient is experiencing chest pain, and the nurse observes shortness of breath and coughing

along with cyanosis. The nurse understands that this patient is most likely experiencing which condition?

- a. Air embolism
- b. Pneumonia
- c. Pneumothorax
- d. Pulmonary edema

ANS: A

Patients receiving TPN are at risk for air embolism and will report chest pain and be dyspneic with coughing and cyanosis. Patients with pneumonia will have cough and either adventitious breath sounds or diminished breath sounds. Patients with pneumothorax will have unilateral absent breath sounds and respiratory distress. Patients with pulmonary edema will have crackles and dyspnea.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

18. A patient receiving total parenteral nutrition (TPN) begins having cough and dyspnea. The nurse auscultates rales and notes neck vein engorgement and weight gain. The nurse suspects that the patient is experiencing which condition?

- a. Air embolism
- b. Fluid overload
- c. Pneumonia
- d. Pneumothorax

ANS: B

This patient shows signs of overload, characterized by pulmonary edema with cough and dyspnea, neck vein engorgement, and weight gain.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

19. The nurse assumes care for a patient and is preparing to administer an enteral feeding. The nurse finds the patient supine and asleep. The nurse will perform which action prior to initiating the feeding?

- a. Elevate the head of the bed 30 degrees.
- b. Flush the tubing with water.
- c. Position the patient to the left side.
- d. Temporarily discontinue the infusion.

ANS: A

When administering an enteral feeding, the nurse should elevate the head of the patient's bed 30 degrees.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

#### MULTIPLE RESPONSE

1. Patients with which conditions would benefit from enteral feedings? (Select all that apply.)

- a. Burns of face, chest, and neck
- b. Cerebral palsy with severe dysphagia
- c. Crohn disease
- d. Facial fractures
- e. Gluten enteropathy
- f. Stroke

ANS: B, D, F

Patients with an intact, normally functioning gastrointestinal tract will benefit from enteral nutrition. Patients with extensive burns will need total parenteral nutrition (TPN) to prevent negative nitrogen balance. Patients with Crohn disease and gluten enteropathy have malabsorption problems and may need TPN.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

N

Chapter 15: Adrenergic Agonists and Antagonists

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is caring for a patient who has asthma and administers a selective beta2-adrenergic agonist to treat bronchospasm. The nurse will expect this drug to also cause which side effect?
- a. Increased blood glucose
  - b. Increased blood pressure
  - c. Increased heart rate
  - d. Increased gastrointestinal (GI) motility

ANS: A

Drugs that act on beta2 receptors activate gluconeogenesis in the liver, causing increased blood glucose. Selective beta2 drugs act on beta2 receptors only and not on beta1 receptors, so they do not cause increased blood pressure or increased heart rate. Adrenergic agonists cause decreased GI motility.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who has asthma is diagnosed with hypertension. The nurse understands that which drug will be the safest to give this patient?
- a. Pindolol (Visken)
  - b. Metoprolol (Lopressor) N
  - c. Nadolol (Corgard)
  - d. Propranolol (Inderal)

ANS: B

Metoprolol is a cardioselective adrenergic blocker that has a greater affinity for receptors that decrease heart rate and blood pressure and is less likely to cause bronchospasm. The other adrenergic blockers are not selective and can cause bronchoconstriction.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse administers epinephrine to a patient who is experiencing an anaphylactic reaction. The nurse should expect which of the following?

- a. Bradycardia
- b. Decreased urine output
- c. Hypotension
- d. Nausea and vomiting

ANS: B

Epinephrine can cause renal vasoconstriction and thereby reduce renal perfusion and decrease urinary output. Epinephrine causes tachycardia and elevates blood pressure. Nausea and vomiting are not expected to occur.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. An adult patient is brought to the emergency department for treatment of an asthma exacerbation. The patient uses inhaled albuterol as needed to control wheezing. The nurse notes expiratory wheezing, tremors, restlessness, and a heart rate of 120 beats per minute. The nurse suspects that the patient has:

- a. overused the albuterol.
- b. not been using albuterol.
- c. taken a beta-adrenergic blocker.
- d. taken a monoamine oxidase (MAO) inhibitor.

ANS: A

High doses of albuterol may affect beta1 receptors, causing an increase in heart rate. Patients having an asthma exacerbation may overuse their albuterol inhalers when seeking relief.

Patients may have wheezing and increased heart rate during an untreated asthma exacerbation, but they will not have tremors and restlessness.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a patient who is receiving intravenous dopamine (Intropin). The nurse notes erythema and swelling at the IV insertion site. What is the nurse's initial action?

- a. Apply warm soaks to the area.
- b. Monitor the patient closely for hypertension.
- c. Obtain an order for an electrocardiogram.
- d. Notify the provider of a need for phentolamine mesylate (Regitine).

ANS: D

Extravasation of dopamine causes tissue necrosis; if extravasation occurs, the antidote phentolamine mesylate should be infiltrated into the area.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is teaching a patient how to use phenylephrine HCl (Neo-Synephrine) nasal spray to treat congestion from a viral upper respiratory infection. What instruction will the nurse give the patient?

- a. Stop using the medication after 3 days.
- b. Spray the medication into the nose while lying supine.
- c. Use frequently since systemic side effects do not occur.
- d. Use the medication with any other over-the-counter medications.



ANS: A

Nurses should explain to patients that continuous use of nasal sprays containing adrenergic agonists may result in rebound nasal congestion; these sprays should not be used more than 3 days. To avoid systemic absorption, spray should be administered while the patient is in an upright position. The medication may cause systemic side effects and should not be routinely used with other OTC cold medications.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is caring for a patient who will begin taking atenolol (Tenormin). What information will the nurse include when teaching the patient about taking this medication?

- a. The drug must be taken twice daily.
- b. The patient must rise slowly from a chair or bed.
- c. The medication is safe to take during pregnancy.
- d. Use NSAIDs as needed for mild to moderate pain.

ANS: B

The side effects commonly associated with beta blockers include bradycardia, hypotension, and dizziness. Patients should be instructed to use caution when rising from a sitting or lying position to avoid orthostatic hypotension. Atenolol may be taken once daily. Atenolol is contraindicated in the pregnant patient. NSAIDs decrease the effects of beta blockers and should be avoided.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Implementation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who has recently begun taking atenolol (Tenormin) to treat hypertension. The patient reports dizziness, nausea, vomiting, and decreased libido since beginning the medication. What will the nurse do?

- a. Hold the next dose until the provider can be notified of these side effects.
- b. Reassure the patient that these symptoms are common and not worrisome.

- c. Recommend that the patient discuss these effects with the provider.
- d. Suggest that the patient request a different beta-adrenergic blocker.

ANS: C

Beta-adrenergic blockers can cause these side effects, which are often dose related. Patients experiencing these side effects should be encouraged to discuss them with their providers. Beta blockers should not be discontinued abruptly, or rebound symptoms may occur. Since symptoms may be dose related, reassuring the patient is not correct. All beta blockers have similar side effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient will begin taking albuterol (Proventil) to treat asthma. The patient has no other chronic medical conditions. When teaching the patient about this drug, the nurse will make which recommendation?

- a. Report rapid or irregular heart rate.
- b. Drink 8 to 16 extra ounces of fluid each day.
- c. Monitor serum glucose daily.
- d. Take a calcium supplement.

ANS: A

High dosages of albuterol may affect beta1 receptors, causing an increase in heart rate that could be dangerous. It is not necessary to consume extra fluids or take a calcium supplement while using this drug. Serum glucose may be elevated slightly, but this is not a concern in patients without diabetes.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient is taking doxazosin mesylate (Cardura) 1 mg/day to treat hypertension. The nurse notes a blood pressure of 110/72 mm Hg and a heart rate of 92 beats per minute. The nurse will

contact the provider to discuss which change to the drug regimen?

- a. Changing to a beta-adrenergic blocker
- b. Decreasing the drug dose
- c. Increasing the drug dose
- d. Adding a diuretic

ANS: A

Alpha-adrenergic blockers can cause orthostatic hypotension and reflex tachycardia. Beta blockers do not cause reflex tachycardia. Decreasing or increasing the drug dose is not recommended. Diuretics are added if blood pressure is not well controlled.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has Raynaud's disease will begin taking an alpha-adrenergic blocker. The patient asks the nurse how the drug works to treat symptoms. The nurse explains that alpha-adrenergic blockers treat Raynaud's disease by causing:

- a. decreased peripheral vascular resistance.
- b. orthostatic hypotension.
- c. reflex tachycardia.
- d. vasodilation.

ANS: D

Alpha-adrenergic blockers can be used to treat peripheral vascular disorders like Raynaud's disease because they cause vasodilation.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient will be discharged home on a beta blocker. Which skill is essential for the nurse to teach the patient's family?

- a. How to prepare a low-sodium diet
- b. Assessments to detect fluid retention
- c. How to monitor heart rate and blood pressure
- d. Early signs of changing level of consciousness

ANS: C

Because of the action and side effects of beta blockers, heart rate and blood pressure should be monitored frequently.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. Reserpine would be best categorized as which of the following?

- a. Adrenergic neuron antagonist
- b. Alpha blocker
- c. Beta blocker
- d. Alpha agonist

ANS: A

Drugs that block the release of norepinephrine from the sympathetic terminal neurons are called adrenergic neuron antagonists (adrenergic neuron blockers). The clinical use is to decrease blood pressure. For example, reserpine is an antihypertensive agent that closely resembles alpha- and beta-adrenergic blockers; it also reduces the serotonin and catecholamine transmitters, depletion of which may lead to severe mental depression.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient has been started on a treatment regimen that includes atenolol (Tenormin) and complains to the nurse of feeling weak and fatigued. Which is the best response from the nurse?

- a. "I will hold your next dose of the medication."
- b. "You may need an increase in your next dose of the medication."
- c. "This is an adverse reaction to the medication. I will stop the drug."
- d. "This is a side effect of the medication. I will notify your physician."

N

ANS: D

Weakness and fatigue can be a side effect of atenolol. Beta blockers should not be stopped abruptly.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The patient has been ordered to receive pseudoephedrine (Sudafed) to treat nasal congestion. The nurse performing an admission assessment learns that the patient has diabetes mellitus. What action is appropriate for the nurse to take?

- a. Administer the medication as ordered.
- b. Contact the provider to discuss a lower dose.
- c. Give the medication and monitor serum glucose closely.
- d. Hold the medication and contact the provider.

ANS: D

Sympathetic drugs should be used with caution in patients with diabetes. The nurse should verify the order with the provider before administration.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## MULTIPLE RESPONSE

1. The nurse caring for a patient who is taking an adrenergic agonist will expect which side effects? (Select all that apply.)

- a. Dilated pupils
- b. Increased heart rate
- c. Increase gastrointestinal motility
- d. Vasodilation
- e. Bronchospasm

ANS: A, B

Adrenergic agonists stimulate the sympathetic nervous system, evoking the “fight or flight” response. This response increases those functions needed to respond to stress (increased heart rate to perfuse muscles, bronchodilation to increase oxygen exchange). Adrenergic drugs shunt blood away from the gastrointestinal tract, as digestion is not critical during a fight or flight response.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 16: Cholinergic Agonists and Antagonists

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is preparing to administer a drug and learns that it is an indirect-acting cholinergic agonist. The nurse understands that this drug:

- a. acts on muscarinic receptors.
- b. acts on nicotinic receptors.
- c. inhibits cholinesterase.
- d. inhibits cholinergic receptors.

ANS: C

Agents that inhibit cholinesterase, which is the enzyme that breaks down acetylcholine, indirectly enhance the actions of acetylcholine.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A nursing student asks why a direct-acting cholinergic agonist drug that is selective to muscarinic receptors is described as being non-specific. The nurse will explain that this is because:

- a. muscarinic receptors are present in many different tissues.
- b. the action of cholinesterase alters the bioavailability at different sites.
- c. these drugs can also affect nicotinic receptors.
- d. they vary in their reversible and irreversible effects.

ANS: A

Although drugs classified as direct-acting cholinergic agonists are primarily selective for muscarinic receptors, they are non-specific because muscarinic receptors are located in different sites, causing actions in various organs. They are not affected differently by cholinesterase activity and have negligible actions on nicotinic receptors.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is preparing to administer bethanechol (Urecholine) to a patient who is experiencing urinary retention. The nurse notes that the patient has a blood pressure of 90/60 mm Hg. The nurse will perform which action?

- a. Administer the drug and monitor urine output.
- b. Administer the medication and monitor vital signs frequently.
- c. Give the medication and notify the provider of the increased heart rate.
- d. Hold the medication and notify the provider of the decreased blood pressure.

ANS: D

Bethanechol treatment can result in hypotension. The nurse should hold the drug and notify the provider of the low blood pressure.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse administers bethanechol (Urecholine) to a patient to treat urinary retention. After 30 minutes, the patient voids 800 mL of urine and reports having a loose stool but no cramping or gastrointestinal pain. The patient's blood pressure is 110/70 mm Hg. The nurse will perform which action?

- a. Notify the provider of bethanechol adverse effects.
- b. Record the urine output and the blood pressure and continue to monitor.
- c. Request an order for intravenous atropine sulfate.
- d. Suggest another dose of bethanechol to the provider.

ANS: B

The patient is exhibiting desired effects and mild side effects of bethanechol, so the nurse should record information and continue to monitor the patient. There is no need to notify the provider, give an antidote, or repeat the dose.



DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is teaching a patient who will begin taking bethanechol (Urecholine). Which statement by the patient indicates a need for further teaching?

- a. "Excessive sweating is a normal reaction to this medication."
- b. "Excess salivation is a serious side effect."
- c. "I should get out of bed slowly while taking this drug."
- d. "I will not take the drug if my heart rate is less than 60 beats per minute."

ANS: A

Patients taking bethanechol should be instructed to report increased salivation and diaphoresis since they can be early signs of overdosing. They should also be taught to rise slowly to avoid orthostatic hypotension and to hold the drug if their heart rate is low.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for a male patient with myasthenia gravis who will begin taking neostigmine. When performing a health history, the nurse will be concerned about a history of which condition in this patient?

- a. Benign prostatic hypertrophy
- b. Chronic constipation
- c. Erectile dysfunction
- d. Upper respiratory infection

ANS: A

This drug is a reversible cholinesterase inhibitor and is given to increase muscle strength. Cholinesterase inhibitors are contraindicated in patients with urinary tract obstruction. The severity of the benign prostatic hypertrophy would need to be investigated prior to administration.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer the anticholinergic medication benztropine (Cogentin) to a patient who has Parkinson disease. The nurse understands that this drug is used primarily for which purpose?

- a. To decrease drooling and excessive salivation
- b. To improve mobility and muscle strength
- c. To prevent urinary retention
- d. To suppress tremors and lessen muscle rigidity

ANS: D

Anticholinergic drugs are used in Parkinson disease mainly to reduce tremors and muscle rigidity.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a postoperative patient and notes that the patient received atropine sulfate preoperatively. Which assessment finding would prompt the nurse to notify the provider?

- a. Absent bowel sounds
- b. Drowsiness
- c. Dry mouth
- d. Heart rate of 78 beats per minute

N

ANS: A

These are all side effects of atropine. Absent bowel sounds can indicate a paralytic ileus. The other side effects are not harmful.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has irritable bowel syndrome would most likely receive which type of drug to treat this condition?

- a. An anticholinergic
- b. A cholinergic esterase inhibitor
- c. A muscarinic agent
- d. A nicotinic agent

ANS: A

Anticholinergic drugs are used to treat peptic ulcers and intestinal spasticity because of their actions to decrease gastric secretions and gastrointestinal spasms.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is teaching a patient about the use of an anticholinergic medication. What information will the nurse include when teaching this patient about this medication?

- a. "Check your heart rate frequently to monitor for bradycardia."
- b. "Drink extra fluids while you are taking this medication."
- c. "Rise from a chair slowly to avoid dizziness when taking this drug."
- d. "Use gum or lozenges to decrease dry mouth caused by this drug."

ANS: D

Anticholinergic medications cause dry mouth, so patients should be advised to use gum or lozenges to counter this side effect. Anticholinergics cause increased heart rate and increased blood

pressure. Anticholinergics can cause urinary retention so patients should not necessarily increase fluid intake.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. Which cholinesterase inhibitor would be prescribed for a patient who has Alzheimer disease?

- a. Ambenonium chloride (Mytelase)
- b. Benztropine (Cogentin)
- c. Donepezil HCl (Aricept)
- d. Neostigmine methylsulfate (Prostigmin)

ANS: C

Donepezil is used to treat Alzheimer disease. Ambenonium and neostigmine are used to treat myasthenia gravis. Benztropine is used to treat Parkinson disease.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is teaching a patient who is going on a cruise about the use of transdermal scopolamine. What information will the nurse include when teaching this patient?

- a. "Apply the patch as needed for nausea and vomiting."
- b. "Apply the patch to your upper arm."
- c. "Change the patch every 3 days."
- d. "Restrict fluids while using this patch."

ANS: C

The transdermal scopolamine patch is designed to last for 72 hours. The patient should be taught to change it every 3 days. It works best when worn at all times and not just for symptomatic relief. The patch should be applied behind the ear. Patients should not restrict fluids.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is preparing to administer benztropine (Cogentin) to a patient who has Parkinson disease. When performing an assessment, which aspect of the patient's history would cause the nurse to hold the medication and notify the provider?

- a. Asthma
- b. Glaucoma
- c. Irritable bowel syndrome
- d. Motion sickness

ANS: B

Patients who have glaucoma should not take anticholinergic medications.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is caring for a patient in the post-anesthesia recovery unit. The nurse notes that the patient received atropine sulfate 2 mg 30 minutes prior to anesthesia induction. The patient has received 1000 mL of intravenous fluids and has 700 mL of urine in the urinary catheter bag. The patient reports having a dry mouth. The nurse notes a heart rate of 82 beats per minute. What action will the nurse perform?

- a. Administer a fluid bolus.
- b. Give the patient ice chips.

- c. Palpate the patient's bladder.
- d. Reassess the patient in 15 minutes.

ANS: C

Atropine can cause urinary retention. The patient's urine output is less than the fluid intake, so the nurse should palpate the bladder to assess for distension. Dry mouth is an expected side effect and does not indicate dehydration.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient who has Parkinson disease will begin treatment with benztropine (Cogentin). Which symptom of Parkinson disease would be a contraindication for this drug?

- a. Drooling
- b. Muscle rigidity
- c. Muscle weakness
- d. Myasthenia gravis

ANS: D

Myasthenia gravis is a contraindication for this drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient who is intubated develops sinus bradycardia. Which medication will the nurse anticipate administering to treat this symptom?

- a. Atropine sulfate (Atropine)
- b. Benztropine (Cogentin)
- c. Bethanechol chloride (Urecholine)

- d. Metoclopramide (Reglan)

ANS: A

Atropine is most commonly used to decrease salivation and respiratory secretions preoperatively and to treat sinus bradycardia by increasing the heart rate.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse is preparing to administer tolterodine tartrate (Detrol LA) to a patient who has incontinence. Which symptom would warrant holding administration of the drug?

- a. Decreased bowel sounds
- b. Drooling
- c. Gastric upset
- d. Pain

ANS: A

A decrease in bowel sounds could signal the beginning of paralytic ileus. Detrol is contraindicated in patients with paralytic ileus.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. Cholinergic drugs have specific effects on the body. What are the actions of cholinergic medications? (Select all that apply.)

- a. Dilate pupils

- b. Decrease heart rate
- c. Stimulate gastric muscle
- d. Dilate blood vessels
- e. Dilate bronchioles
- f. Increase salivation
- g. Constrict pupils

ANS: B, C, D, F, G

Decreasing heart rate, stimulating gastric muscles, dilating blood vessels, increasing salivation, and constricting pupils are actions of the cholinergic drugs.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 17: Stimulants

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is performing a medication history on a patient who plans to begin using phentermine HCl as an appetite suppressant. The nurse knows that phentermine should be avoided in patients with which of the following?
  - a. Hypertension
  - b. Hyperthyroidism
  - c. Glaucoma
  - d. All of the above

ANS: D



Anorexiant are contraindicated in hypertension, hyperthyroidism, glaucoma, and within 14 days of MAOI therapy.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is caring for a 7-year-old child who has difficulty concentrating and completing tasks and who cannot seem to sit still. Which diagnostic test may be ordered to assist with a diagnosis of attention-deficit/hyperactivity disorder (ADHD) in this child?

- a. Computerized tomography (CT) of the head
- b. Electrocardiogram (ECG)
- c. Electroencephalogram (EEG)
- d. Magnetic resonance imaging (MRI) of the brain

ANS: C

A child with ADHD may have abnormal EEG findings. CT, MRI, and ECG tests are not diagnostic for ADHD.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

3. A patient has been using an amphetamine drug as an anorexiant for several weeks and asks the nurse about long-term adverse effects of this type of medication. The nurse will explain to the patient that these drugs

- a. can cause cardiac dysrhythmias/palpitations with continued use.
- b. contribute to the development of narcolepsy.
- c. do not have severe effects when used properly.
- d. will cause orthostatic hypotension.

ANS: A

Amphetamines can cause adverse effects in the central nervous, endocrine, gastrointestinal, and cardiovascular systems even when used as directed. Cardiac dysrhythmias, including palpitations, can occur with continued use. Amphetamines do not cause narcolepsy or hypotension.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Psychosocial Integrity: Pharmacological and Parenteral Therapies

4. The nurse is teaching a child and a parent about taking methylphenidate (Ritalin) to treat attention-deficit/hyperactivity disorder (ADHD). Which statement by the parent indicates understanding of the teaching?
- a. "I should give this drug to my child at bedtime."
  - b. "My child should avoid products containing caffeine."
  - c. "The drug should be stopped immediately if my child develops aggression."
  - d. "We should monitor my child's weight since weight gain is common."

ANS: B

Methylphenidate is a stimulant, so other stimulants such as caffeine should be avoided. The medication should be taken in the morning. Patients should be taught not to stop the drug abruptly to avoid withdrawal symptoms. Weight loss is common.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The parent of a child who is taking amphetamine (Adderall) to treat attention-deficit/hyperactivity disorder (ADHD) asks the provider to recommend an over-the-counter medication to treat a cold. What will the nurse tell the parent?

- a. "Avoid any products containing pseudoephedrine or caffeine."
- b. "Never give over-the-counter medications with Adderall."
- c. "Sudafed is a safe and effective decongestant."
- d. "Use any over-the-counter medication from the local pharmacy."

ANS: A

Adderall is a stimulant, so other stimulants, such as caffeine and pseudoephedrine, should be avoided to avoid additive stimulation.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is checking an 8-year-old child who has attention-deficit/hyperactivity disorder (ADHD) into a clinic for an annual well-child visit. The child takes methylphenidate HCl (Ritalin). Which assessments are especially important for this child?

- a. Heart rate, respiratory rate, and oxygen saturation
- b. Height, weight, and blood pressure
- c. Measures of fine- and gross-motor development
- d. Nausea, vomiting, and gastrointestinal upset

ANS: B

Methylphenidate may cause growth suppression, so the child's height and weight should be assessed. Methylphenidate may also increase blood pressure, so the nurse should pay careful attention to changes in blood pressure.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The parent of an adolescent who has taken methylphenidate 20 mg/day for 6 months for attention-deficit/hyperactivity disorder (ADHD) brings the child to clinic for evaluation of a recent onset of nausea, vomiting, and headaches. The parent expresses concern that the child seems less focused and more hyperactive than before. What will the nurse do next?

- a. Ask the child whether the drug is being taken as prescribed.
- b. Contact the provider to discuss increasing the dose to 30 mg/day.
- c. Recommend taking the drug with meals to reduce gastrointestinal side effects.
- d. Report signs of drug toxicity to the patient's provider.

ANS: A

Nausea, vomiting, and headaches can occur with drug withdrawal, along with a recurrence of symptoms. The nurse should ask the child about drug compliance. Methylphenidate should be taken 30 to 45 minutes before meals, not with meals.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is teaching a parent about methylphenidate (Ritalin) to treat attention-deficit/hyperactivity disorder (ADHD). Which statement by the parent indicates understanding of the teaching?

- a. "I should consult a pharmacist when giving my child OTC medications."
- b. "I will only give my child diet soft drinks while administering this medication."
- c. "Medication therapy means that behavioral therapy will not be necessary."
- d. "Weight gain is a common side effect of this medication."

N

ANS: A

Since many OTC medications contain stimulants, parents should consult a pharmacist or the provider before giving them with methylphenidate. Diet soft drinks often contain caffeine, a stimulant, and should be avoided with methylphenidate use. Behavioral therapy should still be an essential part of the treatment for ADHD. Weight loss is common.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The parent of an obese 10-year-old child asks the nurse about medications to aid in weight loss. Which response by the nurse is correct?

- a. "Anorexiant are often used to 'jump start' a weight loss regimen in children."
- b. "Children are able to use over-the-counter anorexiants on a long-term basis."
- c. "Children under 12 years of age should not use weight loss drugs."
- d. "Side effects of anorexiants occur less often in children."

ANS: C

Anorexiants should not be given to children under age 12 years.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is working in a neonatal intensive care unit and is caring for an infant who is experiencing multiple periods of apnea and bradycardia. Which of the following drugs could be used to treat neonatal apnea?

- a. Albuterol (Proventil)
- b. Caffeine citrate (Cafcit)
- c. Doxapram (Dopram)
- d. Methylphenidate (Ritalin)

ANS: B

Caffeine citrate is indicated for use in newborns that are experiencing apnea spells. The other drugs are not used for this purpose.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A college-age student is brought to the emergency department by friends after consuming NoDoz tablets along with several cups of coffee and a few energy drinks. The patient is complaining of nausea and diarrhea and appears restless. The nurse understands that

- a. arrhythmias and convulsions may occur.
- b. caffeine dependence does not occur.
- c. effects of the substances will wear off shortly.
- d. severe adverse effects do not occur.

ANS: A

Caffeine and other stimulants can cause cardiac arrhythmias and seizures. Caffeine dependence may occur.

N

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient reports difficulty staying awake during the daytime in spite of getting adequate sleep every night. Which medication will the nurse expect the provider to order for this patient?

- a. Caffeine (NoDoz)
- b. Albuterol (Proventil)
- c. Modafinil (Provigil)
- d. Theophylline

ANS: C

Modafinil is given to treat narcolepsy.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 18: Depressants

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient describes having vivid dreams to the nurse. The nurse understands that these occur during which stage of sleep?

- a. Rapid eye movement (REM) sleep
- b. Stage 2 non rapid eye movement sleep
- c. Stage 3 non rapid eye movement sleep
- d. Stage 4 non rapid eye movement sleep

ANS: A

Vivid dreams occur during REM sleep.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Health Promotion and Maintenance

2. Children who experience nightmares have these during which stage of sleep?

- a. Early morning sleep
- b. Non rapid eye movement (NREM) sleep
- c. Rapid eye movement (REM) sleep

- d. Sleep induction

ANS: B

Nightmares that occur in children take place during NREM sleep.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Health Promotion and Maintenance

3. A patient reports difficulty falling asleep most nights and is constantly fatigued. The patient does not want to take medications to help with sleep. What non-pharmacologic measure will the nurse recommend?

- a. "Exercise in the evening to promote bedtime fatigue."
- b. "Get out of bed at the same time each morning."
- c. "Have a glass of wine at bedtime to help you relax."
- d. "Take daytime naps to minimize daytime fatigue."

ANS: B

To promote sleep, patients should be advised to arise at the same time each morning to establish a routine. Patients should avoid strenuous exercise before bedtime. Patients should not consume alcohol 6 hours before bedtime. Patients should not take daytime naps.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Health Promotion and Maintenance

4. The nurse is caring for a patient who reports being able to fall asleep but has difficulty staying asleep. The nurse will contact the provider to obtain an order for which medication?

- b. Flurazepam (Dalmane)
- c. Secobarbital (Seconal)
- d. Temazepam (Restoril)



ANS: A

Butabarbital is an intermediate-acting barbiturate and is useful as a sleep sustainer to maintain long periods of sleep. It has an onset of 1 hour, so it is not useful for those who have trouble falling asleep. Flurazepam and temazepam are benzodiazepines and are used to induce sleep. Secobarbital is used for preoperative sedation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is teaching a patient who will begin taking temazepam (Restoril). What information will the nurse include when teaching this patient?
- a. "Avoid alcohol while taking this drug."
  - b. "This drug should be taken three times daily."
  - c. "Unlike other sleep medications this medication doesn't contribute to dependence."
  - d. "You will not experience a hangover effect."

ANS: A

Patients who are taking benzodiazepines should avoid alcohol. Barbiturates are for short-term use. Benzodiazepines, including temazepam, can contribute to dependence. Patients who take benzodiazepines can experience a hangover effect.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for an older adult patient who is receiving a first dose of flurazepam (Dalmane) as a sedative-hypnotic medication. What intervention will be included in the nurse's plan of care for this patient?
- a. Instituting a bed alarm system to prevent falls
  - b. Reassuring the patient that nightmares are not a usual effect

- c. Reporting a urine output greater than 1500 mL/day
- d. Teaching the patient that this drug may be used for 6 to 8 weeks

ANS: A

The nurse should use a bed alarm for older patients and younger patients receiving a hypnotic for the first time. Patients may experience vivid dreams and nightmares. Urine output should be greater than 1500 mL/day, so this does not warrant reporting. This drug should be used short term.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. An older adult has difficulty falling asleep. The nurse understands that which sedative hypnotic is appropriate for this patient?

- b. Flurazepam (Dalmane)
- c. Secobarbital (Seconal)
- d. Temazepam (Restoril)

ANS: D

Short- to intermediate-acting benzodiazepines such as temazepam are recommended for older adults and are considered safer than barbiturates.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient asks the nurse about taking over-the-counter sleeping aids. The nurse will tell the patient that the active ingredient in these products is often a(n):

- a. antiemetic.
- b. antihistamine.
- c. barbiturate.

- d. benzodiazepine.

ANS: B

The primary ingredient in OTC sleep aids is typically an antihistamine such as diphenhydramine, not barbiturates or benzodiazepines. Melatonin can also be purchased as an over-the-counter product.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

9. Which of the following agents is classified as a melatonin receptor agonist?

- a. temazepam (Restoril)
- b. Zolpidem (Ambien)
- c. Butabarbital (Butisol)
- d. Ramelteon (Rozerem)

ANS: D

Ramelteon is a sedative-hypnotic agent and is classified as a melatonin agonist. This is the first prescription hypnotic agent approved by the FDA that is not classified as a controlled substance.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who has been taking zolpidem (Ambien) for several weeks reports being drowsy and having difficulty performing tasks at work most mornings. The nurse suspects that which drug effects have occurred?

- a. Dependence
- b. Hangover

- c. Tolerance
- d. Withdrawal

ANS: B

While less common than with barbiturates or benzodiazepines, nonbenzodiazepine hypnotics like zolpidem can also contribute to hangover effects. Drug dependence occurs when patients develop a need for the drug. Tolerance refers to a reduced drug effect requiring larger amounts of drug to get the desired effect. Withdrawal occurs when stopping the drug causes symptoms that can only be alleviated by taking the drug.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is providing teaching for a patient who will begin taking zolpidem tartrate (Ambien) 10 mg at bedtime as a sleep aid. Which statement by the patient indicates understanding of the teaching?

- a. "I should take this medication with food to avoid stomach upset."
- b. "I will take this medication within 30 minutes of bedtime."
- c. "If this medication is not effective, I may increase the dose to 15 mg."
- d. "Tolerance and drug dependence do not occur with this medication."

ANS: B

Zolpidem is a non-benzodiazepine sleep aid. It should be taken 30 minutes before desired sleep. Food decreases the absorption, so it should be taken on an empty stomach. The maximum dose is 10 mg. Tolerance and dependence may occur.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient who has been taking a benzodiazepine as a sleep aid for several months wishes to stop taking the medication. The nurse will suggest that the patient taper the dose gradually to avoid which effect?

- a. Depression
- b. Hangover
- c. Hypnotic rebound
- d. Withdrawal

ANS: D

Benzodiazepines cause tolerance, which means that abrupt cessation can result in withdrawal symptoms such as tremors and muscle twitching. A hangover is residual drowsiness that occurs the day after taking a hypnotic.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is preparing a patient for surgery. The patient received a hypnotic medication the night prior and the nurse is administering midazolam (Versed) and atropine. The patient asks why all of these medications are necessary. The nurse will tell the patient that they are given for which reason?

- a. To decrease the amount of general anesthesia needed
- b. To minimize postoperative drowsiness
- c. To prolong the anesthetized state
- d. To speed up anesthesia induction

ANS: A

Balanced anesthesia includes giving a hypnotic the night prior to surgery, premedication with an opioid analgesic or benzodiazepine plus an anticholinergic, and then a short-acting barbiturate, an inhaled gas, and a muscle relaxant. One effect of this is to decrease the amount of general anesthetic needed. It may reduce postoperative nausea and vomiting, but it does not decrease drowsiness. It

does not affect the duration of anesthesia, which is dependent on the length of time the inhaled gas is given, or the rate of induction.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. During balanced anesthesia, which type of medication is given while the surgery is performed?

- a. Anticholinergics
- b. Benzodiazepines
- c. Hypnotics
- d. Inhaled anesthetic

ANS: D

An inhaled anesthetic is given to induce anesthesia and is maintained throughout the surgical procedure. The other medications are given prior to anesthesia induction.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse performs a preoperative assessment on a patient and asks about drug and alcohol use. The patient asks why this information is important. The nurse will explain that patients who consume increased amounts of alcohol:

- a. may have a prolonged postoperative recovery time.
- b. may not be eligible for surgery.
- c. may not receive inhaled gases for anesthesia.
- d. may require changes in the type and dose of anesthesia required.

ANS: D

The type and amount of anesthetics may need to be adjusted if patients consume large amounts of alcohol, use illicit drugs, as well as for those who smoke, who are pregnant, or who are obese. These questions are asked prior to surgery so providers can plan for this.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is caring for a patient in the post-anesthesia care unit and notes that the patient received isoflurane (Forane) to induce anesthesia. When will the nurse expect the patient to recover consciousness?

- a. Immediately
- b. In 15 to 30 minutes
- c. In 1 hour
- d. In several hours

ANS: C

Upon discontinuation of isoflurane, recovery of consciousness usually occurs in approximately 1 hour.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse is caring for a patient in the post-anesthesia care unit who has received a spinal anesthetic. Which action will the nurse perform?

- a. Ambulate the patient as soon as consciousness returns.
- b. Elevate the head of the bed to a semi-Fowler's position.
- c. Have the patient lay flat for 6 to 8 hours after the surgery.

- d. Turn the patient from side to side every 15 minutes.

ANS: C

Patients who have had spinal anesthesia should remain flat for 6 to 8 hours to decrease the likelihood of losing spinal fluid, causing a headache.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. The preoperative nurse is caring for a patient who is to receive a peripheral nerve block using bupivacaine. The nurse will explain that the patient receiving this local anesthetic:

- a. may need to lie flat 6 to 8 hours after surgery.
- b. may require less narcotic medication.
- c. may have a prolonged hospital stay to monitor for respiratory distress.
- d. may be at great risk for allergic reaction.

ANS: B

Patients who have had a peripheral nerve block with bupivacaine are likely to require less narcotic medication. They are allowed increased mobility as compared to the client with general anesthesia. The local anesthetic carries little risk of respiratory distress and the amide structure lends to less risk of allergic reaction.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 19: Antiseizure Drugs

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE



1. A patient is diagnosed with epilepsy and asks the nurse what may have caused this condition. The nurse explains that epilepsy is most often:

- a. caused by head trauma.
- b. of unknown origin.
- c. linked to a stroke.
- d. related to brain anoxia.

ANS: B

Of all seizure cases, 75% are primary, or idiopathic, with no known cause. The remaining are secondary and may be related to head trauma, stroke, or anoxic events.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A patient who has epilepsy will begin an anticonvulsant medication. The patient asks the nurse how long the medication will be necessary. How will the nurse respond?

- a. "The medication may be necessary for a lifetime."
- b. "The medication will be given until you are seizure free."
- c. "You will need to take the medication for 3 to 5 years."
- d. "You will take the medication as needed for seizure activity."

ANS: A

Anticonvulsants are given to prevent seizures and are usually taken throughout the patient's lifetime. Stopping the medication can lead to recurrence of seizures in most patients. Some patients may attempt to stop taking the medications after 3 to 5 years of no seizure activity. Anticonvulsants are not given as needed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is providing teaching to the parents of a 5-year-old child who will begin taking phenytoin (Dilantin). What information will the nurse include when teaching these parents about their child's medication?
- a. "Drug interactions are uncommon with phenytoin."
  - b. "There are very few side effects associated with this drug."
  - c. "The therapeutic range of phenytoin is between 15 and 30 mcg/mL."
  - d. "Your child may need a higher dose than is usually used in adults."

ANS: D

Drug dosage for phenytoin is age related, and children, who have a rapid metabolism, may need higher doses than those used for newborns and adults. Phenytoin has many drug interactions and many side effects. The therapeutic range is 10 to 20 mcg/mL.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for a patient who has a seizure disorder being treated with phenytoin. The nurse notes that the patient has reddened gums that bleed when brushing. The nurse recognizes this finding as:
- a. an adverse effect of the phenytoin.
  - b. likely due to a drug interaction with aspirin.
  - c. a symptom of hepatotoxicity.
  - d. a sign of poor self-care.

ANS: A

Phenytoin commonly causes gingival hyperplasia, which causes overgrowth of reddened gum tissue that bleeds easily. It is not a sign of a drug interaction (there is no known interaction between phenytoin and aspirin) or a symptom of hepatotoxicity. It does not indicate a lack of self-care.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is preparing to administer phenytoin (Dilantin) to a patient who has a seizure disorder. The nurse notes that the last random serum drug level was 18 mcg/mL. What action will the nurse take?

- a. Administer the dose since the patient's labs do not indicate toxic phenytoin levels.
- b. Contact the provider to discuss decreasing the phenytoin dose.
- c. Give the drug and monitor Nclosely for toxicity.
- d. Report drug toxicity to the providers.

ANS: A

The patient's drug level is considered normal, since 10 to 20 mcg/mL is the therapeutic range. The nurse should administer the dose. It is not necessary to decrease the dose or monitor the patient more closely than usual.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing to administer phenytoin to an 80-year-old patient and notes the following order: IVP phenytoin 50 mg. The nurse will perform which action?

- a. Administer the undiluted drug through a Y-tube over 2 minutes.
- b. Contact the provider to question the route and the dose.
- c. Dilute the drug in dextrose solution and infuse over 15 to 20 minutes.
- d. Request an order to administer the drug intramuscularly.

ANS: A

Intravenous phenytoin should be administered undiluted through a 3-way stopcock or

Y-tubing. In older patients it should be infused at a rate of 25 mcg/min. The dose and the route are appropriate. Phenytoin will precipitate in dextrose solution. Intramuscular injection is very irritating to tissues and is not used.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to assist with blood collection on a newly admitted patient who has been taking phenytoin for several years. The provider has ordered a complete blood count and liver function tests. Which other blood test will the nurse discuss with the provider?

- a. Blood glucose
- b. Coagulation studies
- c. Renal function tests
- d. Serum electrolytes

ANS: A

Patients who have taken hydantoin for long periods might have an elevated blood sugar that results from the drug inhibiting the release of insulin. The nurse should discuss this test with the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient who takes phenytoin reports regular alcohol consumption. The nurse might expect a serum phenytoin level in this patient to be in which range?

- a. 5 to 10 mcg/mL
- b. 10 to 20 mcg/mL
- c. 20 to 30 mcg/mL

- d. 30 to 50 mcg/mL

ANS: A N

Chronic ingestion of alcohol increases hydantoin metabolism, which would decrease serum drug levels. The therapeutic range is 10 to 20 mcg/mL, so a level lower than this may be expected in patients who consume alcohol regularly.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient has recently begun taking phenytoin (Dilantin) for a seizure disorder. The nurse notes a reddish-brown color to the patient's urine. Which action will the nurse take?

- a. Ask the provider to order a serum drug level.
- b. Reassure the patient that this is a harmless side effect.
- c. Report possible thrombocytopenia to the provider.
- d. Request an order for a urinalysis and creatinine clearance.

ANS: B

Reddish-brown urine is a harmless side effect of phenytoin. The nurse should reassure the patient. It is not necessary to order a serum drug level or renal function studies. It is not a symptom of thrombocytopenia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A female patient who takes phenytoin for epilepsy becomes pregnant. The nurse will notify the patient's provider and will anticipate that the provider will take which action?

- a. Add valproic acid (Depakote) for improved seizure control.
- b. Change the medication to phenobarbital (Luminal).
- c. Closely monitor this patient's serum phenytoin levels.
- d. Discontinue all anticonvulsant medications.

ANS: B

Phenytoin has serious teratogenic effects, so women who are pregnant should not take it. Valproic acid is known to cause major congenital malformations in infants in 4% to 8% of women who take the drug; it should be avoided also. Phenobarbital is typically used because possible teratogenic effects are less pronounced. Teratogenicity increases with multiple anticonvulsants.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is caring for a patient who has been diagnosed with absence seizures. The nurse will anticipate teaching this patient about which antiepileptic medication?

- a. Carbamazepine (Tegretol)
- b. Ethosuximide (Zarontin)
- c. Phenobarbital (Luminal)
- d. Phenytoin (Dilantin)

ANS: B

Ethosuximide is used to treat absence seizures. The other drugs are not used to treat absence seizures.

N

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. An intubated child is brought to the emergency department while having a seizure that has been progressing for 20 minutes. Which drug will the nurse anticipate administering to this patient first?

- a. Diazepam (Valium)
- b. Phenobarbital (Luminal)
- c. Phenytoin (Dilantin)
- d. Valproic acid (Depakote)

ANS: A

Diazepam is given to patients in status epilepticus and is administered IV. The drug has a short-term effect; other antiseizure drugs, such as phenytoin or phenobarbital, must be given during or immediately after administration of diazepam. The other anticonvulsant medications do not have a rapid onset and are not used for emergencies.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient will begin taking the antiepileptic drug ethosuximide (Zarontin). Ethosuximide works by which of the following mechanisms?

- a. Suppressing sodium influx
- b. Increasing GABA activity
- c. Decreasing GABA activity
- d. Suppressing calcium influx

ANS: D

Ethosuximide works by suppressing calcium influx. Other seizure medications work by suppressing sodium influx and increasing GABA activity. Decreasing GABA activity would increase seizure activity.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient has recently begun taking carbamazepine (Tegretol) as an adjunct medication to treat refractory seizures. The patient has a serum carbamazepine level of 18 mcg/mL. Which of the following would be the most appropriate next step?

- a. Ask the patient about usual dietary preferences.
- b. Reassure the patient that this is a therapeutic drug level.

- c. Report a subtherapeutic drug dose to the provider.
- d. Discontinue the carbamazepine.

ANS: A

This patient's carbamazepine level is high. When taken with grapefruit juice, an interaction may occur that causes toxicity. The nurse should question the patient about food and fluid preferences. The therapeutic level is 5 to 12 mcg/mL. This is a toxic level, not subtherapeutic. It would not be appropriate to discontinue therapy at this time.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is performing a health history on a patient who is ordered to begin therapy with valproic acid (Depakote) to treat epilepsy. Which aspect of the patient's medical history will cause the nurse to be concerned?

- a. Chronic obstructive pulmonary disease
- b. Gastrointestinal disease
- c. Liver disease
- d. Renal disease

ANS: C

Valproic acid can elevate liver enzymes and contribute to hepatotoxicity. Patients with a history of liver disease should use valproic acid with caution and receive appropriate liver monitoring.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A woman who is pregnant is taking an anticonvulsant medication to treat a seizure disorder. The nurse will ensure that the patient takes which dietary supplement toward the end of her pregnancy?

- a. Vitamin D



- b. Iron
- c. Vitamin C
- d. Vitamin K

ANS: D

Anticonvulsants act as inhibitors of vitamin K and can contribute to hemorrhage in infants shortly after birth. Women taking these drugs should receive vitamin K within the last week to 10 days of their pregnancies.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A parent expresses concern that a 5-year-old child may develop epilepsy because the child experienced a febrile seizure at age 18 months. What will the nurse tell this parent?

- a. "A child who has had a febrile seizure is considered to have epilepsy."
- b. "A small percentage of children who have febrile seizures develop epilepsy."
- c. "I recommend discussing prophylactic anticonvulsant drugs with the provider."
- d. "Treat fevers aggressively with aspirin and NSAIDs to prevent seizures."

ANS: B

Epilepsy develops in 2.5% of children who have one or more febrile seizures. One febrile seizure does not always result in epilepsy. Prophylactic anticonvulsants are given to high-risk patients. Children should not receive aspirin for fever because of the risk of Reye's syndrome.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

18. A 25-year-old female patient will begin taking phenytoin for epilepsy. The patient tells the

nurse she is taking oral contraceptives (OCPs). Which response will the nurse give?

- a. "Continue taking OCPs because phenytoin is not safe during pregnancy."
- b. "You should use a backup method of contraception along with OCPs."
- c. "You should stop taking OCPs because of drug-drug interactions with phenytoin."
- d. "You should take low-dose aspirin while taking these medications to reduce your risk of stroke."

ANS: B

Female patients who take oral contraceptives and anticonvulsants should be advised to use a backup method of contraception because of reduced effectiveness of OCPs. Patients should be cautioned to consult with a provider if considering pregnancy because of the teratogenic effects of anticonvulsants. Patients should not stop taking OCPs and do not need to take precautions against stroke.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. The nurse provides teaching for a patient who will begin taking phenytoin. Which statement by the patient indicates understanding of the teaching?

- a. "If I develop a rash, I should take diphenhydramine to control the itching."
- b. "If I experience bleeding gums, I should stop taking the medication immediately."
- c. "I may develop diabetes while I am taking this medication."
- d. "I should not be alarmed if my urine turns reddish-brown."

ANS: D

Phenytoin will cause reddish-brown colored urine. Patients should be counseled to report a rash to the provider because it could be a serious adverse reaction. Bleeding gums are common, but patients should never stop taking anticonvulsants abruptly, or they may develop seizures. Changes in blood glucose may occur but do not necessarily result in diabetes.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. A parent of a child who has been taking valproic acid (Depakote) for several years calls the clinic to report a recent recurrence of seizures and states that the child is having three or four seizures per week. The nurse will perform which action first?

- a. Ask the parent to describe the child's drug regimen.
- b. Request an order for a serum valproic acid level.
- c. Suggest that the parent take the child to the emergency department.
- d. Tell the parent that the provider will increase the child's dose of Depakote.

ANS: A

Questions pertaining to medication adherence are a no-cost, non-invasive way of troubleshooting cause of decreased drug effect. The serum drug level will be assessed next. Children may need changes in doses as they grow. The child is not in status epilepticus so does not need to go to the emergency department. The dose will not be increased until the serum drug level is known.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 20: Drugs for Parkinson Disease and Alzheimer Disease

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. An older patient exhibits a shuffling gait, lack of facial expression, and tremors at rest. The nurse will expect the provider to order which medication for this patient?

- a. Carbidopa-levodopa (Sinemet)
- b. Donepezil (Aricept)
- c. Rivastigmine (Exelon)
- d. Tacrine (Cognex)

ANS: A

This patient is exhibiting signs of Parkinson disease and should be treated with a medication indicated to treat Parkinson disease such as carbidopa-levodopa. The other drugs are used to treat Alzheimer disease.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A nursing student asks the nurse to differentiate the pathology of Alzheimer disease from that of Parkinson disease. Which description is correct?

- a. Alzheimer disease involves a possible excess of acetylcholine and neuritic plaques.
- b. Alzheimer disease is caused by decreased amounts of dopamine and degeneration of cholinergic neurons.
- c. Parkinson disease is characterized by an imbalance of dopamine and acetylcholine.
- d. Parkinson disease involves increased dopamine production and decreased acetylcholine.

ANS: C

Parkinson disease (PD) is characterized by an imbalance of dopamine (DA) and acetylcholine (ACh) caused by an unexplained degeneration of the dopaminergic neurons, allowing the excitatory response of acetylcholine to exceed the inhibitory response of dopamine.

Alzheimer disease (AD) may result from decreased ACh, degeneration of cholinergic neurons, and formation of neuritic plaques. Dopamine does not appear to play a role in Alzheimer disease.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pathophysiology

3. The spouse of a patient newly diagnosed with mild, unilateral symptoms of Parkinson disease (PD) asks the nurse what, besides medication, can be done to manage the disease. The nurse will do which of the following?
- a. counsel the spouse that parkinsonism is a normal part of the aging process in some people.
  - b. recommend exercise, nutritional counseling, and group support to help manage the disease.
  - c. tell the spouse that the disease will not progress if mild symptoms are treated early.
  - d. tell the spouse that medication therapy can be curative if drugs are begun in time.

ANS: B

PD is a progressive disorder. Non-pharmacologic measures can lessen symptoms and help patients and families cope with the disorder. Although the aging process may contribute to the development of PD, it is not necessarily a normal part of aging. Treatment may slow the progression but does not arrest or cure the disease.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pathophysiology

4. A patient who has Parkinson disease is being treated with the anticholinergic medication benztropine (Cogentin). The nurse will tell the patient that this drug will have which effect?
- a. Helping the patient to walk faster
  - b. Improving mental function
  - c. Minimizing symptoms of bradykinesia
  - d. Improve tremors

ANS: D

Benztropine is given to reduce rigidity and improve symptoms of tremor. It does not improve gait, reduce bradykinesia, or improve mental function.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is preparing to administer a first dose of benztropine (Cogentin) to a patient diagnosed with parkinsonism. The nurse would notify the patient's provider if the patient had a history of which condition?

- a. Asthma
- b. Glaucoma
- c. Hypertension
- d. Irritable bowel disease

ANS: B

Patients with a history of glaucoma should not take anticholinergic medications, as the drug can increase the intraocular pressure. Anticholinergics are not contraindicated in patients who have asthma, hypertension, or irritable bowel disease.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for a patient who is receiving trihexyphenidyl (Artane) to treat parkinsonism. The patient reports having a dry mouth, and the nurse notes a urine output of 300 mL in the past 8 hours. Which action will the nurse perform?

- a. Encourage increased oral fluids.
- b. Obtain an order for intravenous fluids.
- c. Report the urine output to the provider.
- d. Request an order for renal function tests.

ANS: C

Urinary retention can occur with anticholinergic medications. Dry mouth is a bothersome, but usually harmless side effect. The nurse should report the lower-than-expected urine output to the provider. Increasing fluid intake will not increase urine output in the patient with urinary retention. Renal function tests are not indicated at this time.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A nursing student asks the nurse why patients who have parkinsonism receive a combination of carbidopa and levodopa. The nurse will explain that the combination product:
- allows larger doses of levodopa to be given without causing increased adverse reactions.
  - causes more levodopa to be converted to dopamine before crossing the blood-brain barrier.
  - eliminates almost all drug side effects of both levodopa and carbidopa.
  - reduces peripheral side effects by inhibiting dopa decarboxylase in the peripheral nervous system.

ANS: D

Without carbidopa, the majority of levodopa is converted to dopamine before crossing the blood-brain barrier, causing peripheral adverse effects. When carbidopa is added, the enzyme dopa decarboxylase is inhibited, allowing more levodopa to cross into the brain before being converted to the active metabolite dopamine. The result is less levodopa required to achieve the desired effect. The drug still has many side effects, but the peripheral effects are decreased.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. Which antiviral medication improves symptoms of Parkinson disease in some patients?
- Acyclovir (Zovirax)
  - Amantadine HCl (Symmetrel)
  - Interferon (INF)
  - Zanamivir (Relenza)

ANS: B

Amantadine is an antiviral drug that acts on dopamine receptors and is sometimes used to treat Parkinson disease (PD). The other drugs listed do not work to improve the symptoms of PD.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has parkinsonism has been taking carbidopa-levodopa and has shown improvement in symptoms but develops dystonic movements, nausea, and vomiting. Which medication will the nurse expect the provider to order for this patient to replace carbidopa-levodopa?

- a. Amantadine HCl (Symmetrel)
- b. Benztropine (Cogentin)
- c. Bromocriptine mesylate (Parlodel)
- d. Tacrine (Cognex)

ANS: C

Bromocriptine is often used for patients who do not tolerate carbidopa-levodopa. Amantadine is useful for treating Parkinson disease but does not have sustained effects. Benztropine is given to reduce muscle rigidity and some tremors. Tacrine is used to treat Alzheimer disease.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who has parkinsonism will begin taking selegiline HCl (Eldepryl) to treat symptoms. What information will the nurse include when teaching this patient about this drug?

- a. "Avoid consuming foods that are high in tyramine."
- b. "This drug will prevent the need to take levodopa."
- c. "You may have red wine with dinner."



- d. "You will not have serious drug interactions with this drug."

ANS: A

Selegiline (Eldepryl) inhibits monoamine oxidase-B, and it has similar adverse reactions to other monoamine oxidase inhibitors. Patients should be cautioned against consuming foods containing high amounts of tyramine because of the risk of hypertensive crisis. Red wine is high in tyramine. Use of this drug may delay, but will not prevent, the need for levodopa. Severe adverse drug interactions may occur between this drug and tricyclic antidepressants.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

11. A patient who has parkinsonism will begin taking carbidopa-levodopa. What information will the nurse include when teaching this patient about this medication?

- a. "Call your health care provider immediately if your urine or perspiration turn a dark color."
- b. "Rise slowly from your bed or your chair to avoid dizziness and falls."
- c. "Take the drug with foods high in protein to improve drug delivery."
- d. "Discontinue the drug if you experience insomnia."

ANS: B

Carbidopa-levodopa can cause orthostatic hypotension, so patients should be taught to take care when getting out of bed or a chair. Darkening of the urine and perspiration is a harmless side effect. Patients should take the drug with low-protein foods to improve drug transport to the CNS. Carbidopa-levodopa should not be discontinued abruptly because rebound parkinsonism may occur; insomnia is an expected adverse effect of the drug, and the patient should report this effect to his or her health care provider.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is teaching a patient who has Parkinson disease about the side effects of carbidopa-levodopa. Which statement by the patient indicates a need for further teaching?

- a. "I may experience nausea, vomiting, and dyskinesia."
- b. "I may feel dizzy at first, but this side effect will go away with time."
- c. "I should report nightmares and mental disturbances to my provider."
- d. "I should take the drug with food to increase absorption."

ANS: D

Taking carbidopa-levodopa with food decreases absorption of the drug, although gastrointestinal distress may decrease when the medication is taken with food.

Gastrointestinal side effects are common, and dyskinesias can potentially occur. Orthostatic hypotension occurs early and will resolve over time. Nightmares and mental disturbances should be reported.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient is taking entacapone (Comtan) along with carbidopa-levodopa to treat parkinsonism.

The nurse notes that the patient's urine is orange in color. The nurse will

- a. notify the provider of possible drug toxicity.
- b. reassure the patient that this is a harmless side effect.
- c. request an order for liver function tests.
- d. request an order for a urinalysis.

ANS: B

Entacapone can cause the urine to be dark yellow to orange. It does not indicate drug toxicity, liver effects, or changes in renal function.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing NIntervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is caring for an 80-year-old patient who has Alzheimer disease who will begin taking rivastigmine (Exelon). What will the nurse include in the plan of care for this patient?

- a. Administer the drug once daily.
- b. Assist the patient to stand and walk.
- c. Give the drug with food to increase absorption.
- d. Use nonsteroidal anti-inflammatory drugs (NSAIDs) instead of acetaminophen for pain.

ANS: B

Patients taking rivastigmine for Alzheimer disease are at risk for orthostatic hypotension, falls, and loss of balance. Caregivers should assist with standing and walking. The drug is taken twice daily, and it should be taken on an empty stomach. NSAIDs increase gastrointestinal side effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is providing teaching for the family of a patient who has been newly diagnosed with Alzheimer disease (AD). Which statement by the family member indicates understanding of the teaching?

- a. "Alzheimer disease is a chronic, progressive condition."
- b. "Alzheimer disease affects memory but not personality."
- c. "The onset of Alzheimer disease is usually between 65 and 75 years."
- d. "With proper treatment, symptoms of this disease can be arrested."

ANS: A

AD is chronic and progressive, and there is no cure. It affects memory and personality. The onset is usually between 45 and 65 years. Symptoms cannot be arrested but may be slowed with treatment.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is teaching a family member about an elderly parent's new prescription for tacrine (Cognex) to treat Alzheimer disease (AD). The family member asks what to expect from this drug. The nurse will respond that the patient will

- a. demonstrate improved ambulation.
- b. have reversal of all symptoms.
- c. have decreased deterioration of cognition.
- d. show improved communication ability.

ANS: C

Tacrine can help to increase cognitive function for patients with mild to moderate AD. For the most part, drugs to treat AD do not result in improvement of symptoms but help slow the progression of the disease.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse is helping to develop a plan of care for a patient who has advanced Alzheimer disease. The patient will be taking a new medication. Which is a realistic goal for this patient?

- a. Demonstrate improved cognitive function
- b. Exhibit improved ability to provide self-care
- c. Receive appropriate assistance for care needs

- d. Show improved memory for recent events

ANS: C

For the most part, drugs to treat AD do not result in improvement of symptoms but help slow the progression of the disease. The most realistic care plan for a patient with advanced AD is that they will receive appropriate assistance for care needs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 21: Drugs for Neuromuscular Disorders and Muscle Spasms McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. The nurse is caring for a patient who has myasthenia gravis. The nurse will be alert to symptoms affecting which body system which may indicate that the patient has transitioned to myasthenic crisis?

- a. Cardiovascular system
- b. Central nervous system (CNS), memory, and cognition
- c. Gastrointestinal system (GI) and lower extremity muscles
- d. Respiratory system

ANS: D

Patients with myasthenia gravis can progress to severe, generalized muscle weakness involving the muscles of respiration, such as the diaphragm and intercostal muscles.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A 40-year-old woman is diagnosed with myasthenia gravis, and her provider recommends removal of her thymus gland. She asks the nurse why this would be helpful. The nurse will explain that removal of the thymus gland may:

- a. increase binding of acetylcholine (ACh) molecules to ACh receptors.
- b. increase the amount of ACh available at neuromuscular junction sites.
- c. reduce the number of acetylcholine receptor sites.
- d. reduce symptoms of myasthenia gravis following surgery.

ANS: D

Thymic hyperplasia and tumors are common in patients with myasthenia gravis. The thymus gland is involved in systemic immunity that is active during infancy and early childhood, but the gland normally shrinks during adulthood. Approximately 70% of MG patients have thymic hyperplasia. A thymectomy (removal of the thymus gland) is most beneficial because it can cause a reduction of symptoms following the surgery.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

3. The nurse assumes care of a patient who has myasthenia gravis and notes that a dose of neostigmine (Prostigmin) scheduled to be administered 1 hour prior was not given. The nurse will anticipate the patient to exhibit which symptoms?

- a. Excessive salivation
- b. Muscle spasms
- c. Muscle weakness
- d. Respiratory paralysis

ANS: C

Neostigmine must be given on time to prevent myasthenic crisis, which is characterized by generalized, severe muscle weakness. The other symptoms are characteristic of cholinergic crisis, caused by too much medication.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Nursing Intervention MSC: NCLEX: Physiological Integrity: Pathophysiology

4. The nurse is caring for a patient who has myasthenia gravis (MG) and takes pyridostigmine bromide (Mestinon) 60 mg every 4 hours. The patient's last dose was 45 minutes prior. The nurse notes severe muscle weakness, excess salivation, fasciculations of facial muscles, and pupil constriction. The nurse will perform which action?

- a. Assess the patient for signs of ptosis.
- b. Notify the provider to discuss an order for intravenous immune globulin (IVIG).
- c. Obtain an order for atropine sulfate.
- d. Request an order for an extra dose of pyridostigmine.

ANS: C

Severe muscle weakness, excess salivation, fasciculations of facial muscles, and pupil constriction are the major signs of cholinergic crisis, caused by excess pyridostigmine. The antidote is atropine, so the nurse should obtain an order to give this. Ptosis is a sign of myasthenic crisis. IVIG is given to treat symptoms of MG and not used for cholinergic crisis. Giving extra pyridostigmine would increase the symptoms.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

5. Which of the following is FALSE regarding pyridostigmine bromide (Mestinon)?

- a. It is poorly absorbed from the gastrointestinal tract.
- b. Overdosing of pyridostigmine can result in cholinergic crisis.
- c. Atropine is the antidote for pyridostigmine overdose.
- d. Pyridostigmine is a muscarinic receptor antagonist.

ANS: D

Pyridostigmine is an acetylcholinesterase inhibitor and does not antagonize muscarinic receptors. The drug is poorly absorbed from the GI tract. Overdosing with pyridostigmine results in cholinergic crisis, and atropine is used as an antidote for pyridostigmine overdose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient reports weakness of the extremities and diplopia. The nurse knows that these symptoms are characteristic of which condition?

- a. Cerebral palsy (CP)
- b. Multiple sclerosis (MS)
- c. Myasthenia gravis (MG)
- d. Parkinson disease (PD)

ANS: B

Diplopia and weakness of the extremities are two symptoms of MS. CP is characterized by muscle spasticity. MG involves generalized weakness, especially of facial muscles and respiratory muscles. PD manifests as tremors and difficulty moving and walking.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

7. A patient has symptoms that are characteristic of multiple sclerosis (MS). Which diagnostic tests are likely to be ordered to aid in the diagnosis of this patient?

- a. Cerebrospinal fluid (CSF) analysis and magnetic resonance imaging (MRI)
- b. CSF proteins and an angiography
- c. Serum albumin and a computed tomography (CT) scan
- d. Serum anti-acetylcholine antibodies and x-rays

ANS: A

Laboratory tests that may suggest MS include CSF analysis, visual evoked potential (VEP) testing, and MRI.



DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

8. The nurse is caring for a patient who has recurrent muscle spasms. The provider has ordered metaxalone (Skelaxin) to treat the spasms. The nurse learns that the patient has a history of drug and alcohol abuse. The nurse will contact the provider to discuss switching this patient to which medication?

- a. Carisoprodol (Soma)
- b. Chlorzoxazone (Parafon forte DSC)
- c. Cyclobenzaprine (Flexeril)N
- d. Methocarbamol (Robaxin)

ANS: C

Cyclobenzaprine is a muscle relaxant that does not cause drug dependence. The other muscle relaxants can cause drug dependence.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse provides teaching to a patient who will begin taking cyclobenzaprine (Flexeril) to treat acute muscle spasms. Which statement by the patient indicates a need for further teaching?

- a. "I may experience dizziness and drowsiness when I take this drug."
- b. "I should not consume alcohol while taking this medication."
- c. "I should take this medication with food to decrease stomach upset."
- d. "I will take this medication for 3 months and then stop taking it."

ANS: D

Most centrally acting muscle relaxants used for acute spasms are taken for no longer than 3 weeks and should be tapered over 1 week to avoid rebound spasms. Patients may experience dizziness

and drowsiness. Alcohol will compound the central nervous system sedative effects. To decrease gastrointestinal upset, the nurse should counsel the patient to take it with food.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is performing an admission assessment on a patient who has been taking carisoprodol (Soma) for 3 weeks to treat muscle spasms. The patient reports that the muscle spasms have resolved. The nurse will contact the provider to discuss

- a. changing to cyclobenzaprine (Flexeril).
- b. continuing the carisoprodol for 1 more week.
- c. discontinuing the carisoprodol now.
- d. ordering a taper of the carisoprodol.

ANS: D

Muscle relaxants can cause drug dependence and should not be withdrawn abruptly. The nurse should discuss a drug taper. Changing to a different muscle relaxant (cyclobenzaprine) is not recommended.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is teaching a group of nursing students about multiple sclerosis (MS). Which statement by the nurse is correct?

- a. "MS is characterized by degeneration of neurons and nerves in the brain and spinal cord."
- b. "MS is characterized by lesions or plaques on myelin sheaths of nerves."
- c. "MS is characterized by neuritic plaques and neurofibrillary tangles in the CNS."
- d. "MS is characterized by weakness in muscles and decreased nerve impulses caused by decreased ACh."

ANS: B

MS is characterized by lesions or plaques on myelin sheaths of nerves.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is caring for a patient who has multiple sclerosis (MS). The patient is experiencing an acute attack. Which drug does the nurse anticipate the provider will order?

- a. Methylprednisolone (Solu-Medrol)
- b. Mitoxantrone
- c. Glatiramer acetate (Copaxone)
- d. Interferon-B (IFN-B)

ANS: A

Methylprednisolone (Solu-Medrol) is given to treat an acute attack of MS. Glatiramer acetate and interferon are used for remission-exacerbation states. Mitoxantrone is given for chronic, progressive symptoms.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is performing a health history on a patient who has multiple sclerosis. The patient reports episodes of muscle spasticity and recurrence of muscle weakness and diplopia. The nurse will expect this patient to be prescribed which medication?

- a. Methylprednisolone (Solu-Medrol)
- b. Mitoxantrone
- c. Cyclobenzaprine (Flexeril)

- d. Interferon-B (IFN-B)

ANS: D

This patient is showing signs of remission and exacerbation of MS symptoms. Interferon is used to treat this phase. Methylprednisolone (Solu-Medrol), a corticosteroid, is used to manage exacerbations of MS. Mitoxantrone is used for chronic, progressive symptoms.

Cyclobenzaprine is a centrally acting muscle relaxant that is used for muscle spasms to decrease pain and increase range of motion.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is preparing to care for a patient who has multiple sclerosis (MS). The nurse learns that the patient receives fingolimod. The nurse knows that which of the following is FALSE about fingolimod?

- a. It is used for treatment of relapsing forms of MS
- b. It is administered IV
- c. Fingolimod treatment requires CBC, ECG and LFT monitoring
- d. Diarrhea, headache and nausea are common side effects

N

ANS: B

Fingolimod is orally administered. It is used to treat relapsing forms of MS. Common side effects include diarrhea, headache and nausea, and treatment requires monitoring of CBC, ECG and LFTs.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. Which agent listed below is used in surgery to achieve neuromuscular blockade and paralysis?

- a. Baclofen (Lioresal)

- b. Chlorzoxazone (Parafon forte)
- c. Pancuronium bromide (Pavulon)
- d. Methocarbamol (Robaxin)

ANS: C

Pancuronium bromide is used as a depolarizing muscle relaxant during anesthesia. Baclofen is used for muscle spasm caused by MS or spinal cord injury. Chlorzoxazone and methocarbamol are used for acute muscle spasms.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is preparing to administer methocarbamol (Robaxin) to a patient who is experiencing acute muscle spasms. The nurse notes discoloration of the patients urine. What will the nurse do?

- a. Administer the next dose of methocarbamol since this is a harmless side effect.
- b. Contact the provider to discuss changing to cyclobenzaprine (Flexeril).
- c. Obtain an order for a complete blood count to evaluate blood loss.
- d. Request an order for liver function tests since this indicates hepatotoxicity.

ANS: A

Urine discoloration can occur in patients taking methocarbamol, and this is a harmless side effect. There is no need to change medications or order lab tests.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

MULTIPLE RESPONSE

1. A client with myasthenia gravis is experiencing a cholinergic crisis. Which symptoms are associated with this condition? (Select all that apply.)

- a. Bradycardia
- b. Rash
- c. Vomiting
- d. Fever
- e. Drooling
- f. Weakness

ANS: A, C, E, F N

Bradycardia, vomiting, drooling, and weakness can all occur with cholinergic crisis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 22: Antipsychotics and Anxiolytics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is caring for a patient who is taking chlorpromazine HCl (Thorazine) 75 mg BID to treat schizophrenia. A family member tells the nurse that the patient's agitation, hallucinations, and delusional symptoms have improved with use of the drug, but the patient continues to withdraw from social interaction and won't bathe unless reminded to do so. The nurse will tell the family member that:

- a. all symptoms will eventually resolve over time with this medication.
- b. the patient may need an increased dose of their current antipsychotic medication.
- c. these results may indicate that the patient does not have schizophrenia.

- d. they should consider discussing changing the chlorpromazine to an atypical antipsychotic.

ANS: D

Chlorpromazine is a typical antipsychotic medication; drugs in this class manage positive symptoms rather than the negative symptoms of withdrawal and poor self-care. It is not likely that the negative symptoms will improve over time with this medication. Atypical antipsychotics can help with both positive and negative symptoms, so it would be worthwhile discussing a change in medication to see if the patient's negative symptoms could be improved. Increasing the dose will not improve control of negative symptoms. This patient exhibits signs of schizophrenia.

N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention MSC: NCLEX: Psychosocial Integrity

2. The nurse is assessing a young adult patient with schizophrenia who recently began taking fluphenazine (Prolixin). The patient is exhibiting spasms of facial muscles along with grimacing, and the nurse notes upward eye movements. The nurse suspects which side effect?

- a. Acute dystonia
- b. Akathisia
- c. Pseudoparkinsonism
- d. Tardive dyskinesia

ANS: A

Acute dystonia can occur within days of taking typical antipsychotics, and facial muscle spasms, grimacing, and upward eye movements are characteristic of this side effect. Akathisia is characterized by restlessness, pacing, and difficulty standing still. Pseudoparkinsonism is characterized by stooped posture, pill-rolling, shuffling gait, and tremors at rest. Tardive dyskinesia manifests as protrusion and rolling of the tongue, smacking of the lips, and involuntary movement of the body and extremities.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is preparing to administer loxapine (Loxitane) 50 mg to a patient who has schizophrenia. The patient has been taking this medication twice daily for 15 months. The nurse notes smacking lip movements and involuntary movements of all extremities. Which initial action by the nurse would be most appropriate?

- a. Administer the medication as ordered to treat these symptoms of psychosis.
- b. Hold the dose and notify the provider of these medication adverse effects.
- c. Request an order for an anticholinergic medication such as benztropine (Cogentin).
- d. Suggest that the provider increase the dose to 125 mg twice daily.

ANS: B

Tardive dyskinesia manifests as protrusion and rolling of the tongue, smacking of the lips, and involuntary movement of the body and extremities and is a serious adverse effect of antipsychotic medications. The provider should be notified, so the drug can be stopped and a different medication ordered. These are not symptoms of psychosis. Anticholinergic medications are used to combat acute dystonia. Increasing the dose of this medication would potentially exacerbate these adverse effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who takes loxapine (Loxitane) to treat schizophrenia is noted to be restless and fidgety and is pacing around the room. The nurse caring for this patient will perform which action?

- a. Contact the provider to discuss changing to benztropine (Cogentin).
- b. Notify the provider of these symptoms and request an order for lorazepam (Ativan).

N

- c. Question the patient about adherence to the drug regimen.
- d. Recognize that patients with schizophrenia normally present in this fashion.

ANS: B

The patient is exhibiting signs of akathisia and should be treated with an antianxiety drug. Benztropine is an anticholinergic used to combat acute dystonia. These are not signs of psychosis, so it is not necessary to question whether or not the patient is taking the medication.



DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient arrives in the emergency department with dehydration. The patient reports taking fluphenazine (Prolixin) to treat schizophrenia. The nurse notes rigid muscles and an altered mental status. The patient has a temperature of 103.6° F, a heart rate of 98 beats per minute, and a blood pressure of 90/58 mm Hg. The nurse will anticipate administering which medication?

- a. Dantrolene (Dantrium)
- b. Haloperidol (Haldol)
- c. Propranolol (Inderal)
- d. Tetrabenazine (Xenazine)

ANS: A

The patient is exhibiting signs of neuroleptic malignant syndrome (NMS). Muscle relaxants, such as dantrolene, are usually given. Haloperidol is used to treat psychosis. Propranolol is used for treating akathisia. Tetrabenazine is sometimes used to treat symptoms of tardive dyskinesia.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The parent of a young adult who has schizophrenia is concerned that the patient spits out pills that are given. The nurse will suggest contacting the patient's provider to discuss which intervention?

- a. Changing to a liquid or injectable form of the medication
- b. Providing a home health nurse to supervise medication administration
- c. Teaching the patient the importance of taking the medication

- d. Instruct the parent to administer another dose if they suspect the first dose wasn't swallowed

ANS: A

Noncompliance is common with antipsychotic medications. If patients spit out or hide pills, a liquid or injectable form can be considered. A home health nurse is costly and unnecessary. Teaching the patient the importance of the medication is essential, but not always effective if the patient does not want to take their medication. It is important not to double up on doses, so administering extra doses when it is suspected a dose was spit out would not be advised.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer intramuscular haloperidol (Haldol) to a patient who has schizophrenia. What action will the nurse perform?

- a. Massage the site after injecting the medication to ensure complete absorption.
- b. Teach the patient to return every week to receive medication doses.
- c. Use a small-bore needle when injecting the medication.
- d. Use the Z-track method and inject the medication into deep muscle tissue.

ANS: D

Haloperidol is a viscous liquid and should be injected deep into muscle tissue using a Z-track method. The injection site should not be massaged. Injections of long-term preparations of haloperidol are given every 2 to 4 weeks. Nurses should use a large-bore needle when injecting haloperidol.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is teaching a patient who will be discharged home on a typical antipsychotic medication to treat schizophrenia. Which statement by the patient indicates a need for further teaching?

- a. "I should not drink alcohol while taking this medication."

- b. "I should use a heating pad to treat muscle spasms while taking this medication."
- c. "I should use sunscreen while taking this medication."
- d. "I will need frequent blood tests while taking this medication."

ANS: B

Dystonia can cause muscle spasms and should be reported to the provider, who can prescribe medications to treat this adverse effect. Patients should not drink alcohol, should use sunscreen, and will need close monitoring of lab values while taking these medications.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who is about to begin taking the atypical antipsychotic medication clozapine (Clozaril) is concerned about side effects. What information will the nurse include when teaching the patient about this medication?

- a. "The most common side effects with this medication include dry mouth, constipation, and urinary retention."
- b. "The most common side effects that you may experience are weight gain, drowsiness, and headaches."
- c. "You will not experience extrapyramidal side effects with this medication."
- d. "You will not need frequent lab work while taking this medication."

ANS: B

Weight gain, drowsiness, and headaches are common side effects of non-typical antipsychotic medications. Anticholinergic side effects are less likely than with typical antipsychotics.

Extrapyramidal side effects can occur, even though they are less likely. Clozapine can cause agranulocytosis, so patients who are taking this drug require frequent monitoring.

N

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A family member of a patient who has been taking fluphenazine (Prolixin) for 3 months calls to report that the patient is exhibiting agitation and restlessness. The nurse learns that the patient's delusional thinking and hallucinations have stopped since taking the medication. The nurse will perform which action?

- a. Reassure the family member that tolerance to these side effects will subside over time.
- b. Remind the family member that complete drug effects may not occur for several more weeks.
- c. Suggest that the family member contact the provider to discuss an order for a medication to help with the agitation and restlessness.
- d. Tell the family member to withhold the medication and notify the patient's provider.

ANS: C

The patient is exhibiting signs of akathisia and should receive a benzodiazepine. Patients usually do not experience tolerance to these drug side effects. The patient is experiencing resolution of symptoms. Discontinuing antipsychotics abruptly may lead to withdrawal symptoms.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient has been taking risperidone (Risperdal) for 2 weeks. The patient reports drowsiness and headache. What will the nurse do?

- a. Counsel the patient to request changing to aripiprazole (Abilify).
- b. Explain to the patient that these are common side effects of the medication.
- c. Suggest that the patient have serum glucose testing.
- d. Suggest that these may be signs of agranulocytosis.

ANS: B

Drowsiness and headaches are common side effects of atypical antipsychotics. It would be appropriate to counsel the patient to discuss the severity of these side effects with their provider. Changing to aripiprazole may not improve the symptoms, since this drug is in the same drug class. These symptoms do not indicate altered serum glucose levels or agranulocytosis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is performing a medication history on a patient who reports taking lorazepam (Ativan) for the past 6 months to treat an anxiety disorder. The patient states that the medication is not working as well as it previously did. The nurse will:

- a. contact the provider to discuss changing to another benzodiazepine.
- b. tell the patient to double their dose.
- c. suspect worsening of the anxiety disorder.
- d. understand that the patient has developed tolerance to this drug.

ANS: D

It is recommended that benzodiazepines be prescribed no longer than 3 or 4 months since the effectiveness lessens after 4 months as patients develop tolerance to the drug. Changing to another benzodiazepine will likely not change this, and it would be inappropriate to recommend that the patient double their dose without further evaluation. This does not indicate worsening of the underlying disorder.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient who is taking chlorpromazine calls the clinic to report having reddish-brown urine. What action will the nurse take?

- a. Notify the provider and request orders for creatinine clearance and BUN levels.
- b. Reassure the patient that this is a harmless side effect of this medication.

- c. Tell the patient to come to the clinic for a urinalysis.
- d. Tell the patient to discard any drug on hand and request a new prescription.

ANS: B

Aliphatic phenothiazines, such as chlorpromazine, can cause a harmless pink or red-brown urine discoloration. There is no need to evaluate renal function with creatinine clearance, BUN, or urinalysis. The discoloration does not indicate that the medication has expired.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient has begun taking buspirone hydrochloride (BuSpar) 7.5 mg twice daily to treat acute anxiety and calls 1 week later to report little change in symptoms. What will the nurse tell the patient?

- a. "Therapeutic effects may not be evident until you have taken the medication for several weeks."
- b. "The provider may need to increase the dose to 15 mg twice daily."
- c. "Notify the provider and request an order for another anxiolytic."
- d. "Stop taking the drug and notify the provider that it doesn't work."

ANS: A

Buspirone hydrochloride may not be effective until 1 to 2 weeks after continuous use. It is not necessary to increase the dose at this time.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient who is taking fluphenazine (Prolixin) to treat psychosis is experiencing symptoms of acute dystonia. While performing a medication history, the nurse learns that the patient takes herbal medications. Which herbal supplement would be of concern?

- a. Ginkgo
- b. Ginseng
- c. Kava kava
- d. St. John's wort N

ANS: C

Kava may increase the risk and severity of dystonia when taken with phenothiazines.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient is brought to the emergency department with decreased respirations and somnolence. The nurse notes a heart rate of 60 beats per minute and a blood pressure of 80/58 mm Hg. The patient is known to take alprazolam (Xanax) to treat anxiety. Which medication will the nurse anticipate the provider to order?

- a. Benztropine (Cogentin)
- b. Flumazenil (Romazicon)
- c. Lorazepam (Ativan)
- d. Propranolol (Inderal)

ANS: B

Flumazenil is a benzodiazepine antagonist used to treat overdose of benzodiazepines. This patient is unconscious and has bradycardia and hypotension, so the antagonist medication is indicated. Benztropine is an anticholinergic used to treat acute dystonia in patients taking phenothiazines. Lorazepam is a benzodiazepine and would only intensify the symptoms.

Propranolol is a beta blocker used to treat akathisia in patients taking phenothiazines.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient arrives in the emergency department complaining of difficulty breathing, dizziness, sweating, and heart palpitations. The patient reports having had similar episodes previously due to stress at work. The nurse will expect the provider to order which medication?

- a. Flumazenil (Romazicon)
- b. Haloperidol (Haldol)
- c. Lorazepam (Ativan)
- d. Propranolol (Inderal)

ANS: C

The patient is exhibiting signs of acute anxiety, so the anxiolytic lorazepam would be the appropriate agent of those listed to be administered. Flumazenil is a benzodiazepine antagonist, given for overdose of benzodiazepines. Haloperidol is given for acute psychosis. Propranolol is a beta blocker, used to treat akathisia in patients taking phenothiazines.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. The nurse is teaching a patient about taking a benzodiazepine to treat grief-related anxiety. Which statement by the patient indicates understanding of the teaching?

- a. "I may have wine with dinner to help with relaxation."
- b. "I may need to take this medication forever."
- c. "I may stop taking the medication when my symptoms go away."
- d. "I should try psychotherapy or a support group in addition to the medication."

ANS: D

Psychotherapy or support groups should be part of therapy, with anxiolytics added as needed. Patients taking benzodiazepines should not consume alcohol. Anxiolytic medications are generally given for a limited length of time, particularly when treating grief-related anxiety. Patients should not stop the medications abruptly.



DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 23: Antidepressants and Mood Stabilizers

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A nurse performs a medication history on a newly admitted patient. The patient reports taking amitriptyline (Elavil) 75 mg at bedtime for 6 weeks to treat depression. The patient reports having continued fatigue, lack of energy, and no improvement in mood. The nurse will contact the provider to discuss which intervention?

- a. Beginning to down-taper the amitriptyline
- b. Changing to a morning dose schedule
- c. Giving the amitriptyline twice daily
- d. Increasing the dose of amitriptyline

ANS: A

The response to tricyclic antidepressants (TCAs) should occur after 2 to 4 weeks of therapy. If there is no improvement at that time, the TCA should be gradually withdrawn and an agent from another class should be prescribed. TCAs should never be stopped abruptly. TCAs cause fatigue and drowsiness, so they should be given at bedtime. Changing the dose or the dosing schedule is not indicated in this scenario.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is teaching a patient who will begin taking doxepin (Sinequan) to treat depression. Which statement by the patient indicates a need for further teaching?

- a. "I should expect results within 2 to 4 weeks."
- b. "I should increase fluids and fiber while taking this medication to avoid constipation."
- c. "I should take care when rising from a sitting to standing position."
- d. "I will take the medication in the morning before breakfast."

ANS: D

Tricyclic antidepressants (TCAs) should begin to show effects within 1 to 4 weeks. Tricyclic antidepressants are known to cause orthostatic hypotension and constipation, so patients should be counseled on how to manage these side effects. TCAs should be taken at bedtime because of their tendency to cause drowsiness.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient who is taking amitriptyline (Elavil) reports constipation and dry mouth. The patient notes that these side effects are a nuisance, but not severe. The nurse will give the patient which instruction?

- a. Increase fluid intake.
- b. Notify the provider.
- c. Request another antidepressant.
- d. Stop taking the medication immediately.

ANS: A

Constipation and dry mouth are common side effects of tricyclic antidepressants (TCAs), and patients should be taught to manage these symptoms. There is no need to notify the provider or to switch medications unless the side effects become too uncomfortable. Patients should not stop taking TCAs abruptly.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has had a loss of interest in most activities, weight loss, and insomnia is diagnosed with major depressive disorder and will begin taking fluoxetine (Prozac) daily. The patient asks about the weekly dosing that a family member follows. What will the nurse tell the patient about a weekly dosing regimen?

- a. It can be used after daily maintenance dosing proves effective and safe.
- b. It is used after a trial of tricyclic antidepressant medication fails.
- c. It is not effective for this type of depression and its symptoms.
- d. It will cause more adverse effects than daily dosing regimens.

ANS: A

Before weekly dosing is begun, the patient should respond to a daily maintenance dose of 20 mg/day without serious effects. It is not necessary to undergo a trial of tricyclic antidepressants (TCAs). Weekly dosing is used for this type of depression, and although it may have some adverse effects, these are not more common than with daily dosing.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient has been taking sertraline (Zoloft) 20 mg/mL oral concentrate, 1 mL daily for several weeks and reports being unable to sleep well. The patient's depressive symptoms are well managed on the current dose. What will the nurse do next?

- a. Ask the patient what time of day the medication is taken.
- b. Counsel the patient to take the medication at bedtime.
- c. Recommend asking the provider about weekly dosing.
- d. Suggest that the patient request a lower dose.

ANS: A

Selective serotonin reuptake inhibitors (SSRIs) can cause nervousness and insomnia. Patients can minimize these effects by taking the drug in the morning. The nurse should assess this with this patient. Taking the medication at bedtime will only increase the insomnia.

Requesting a lower dose or changing to weekly dosing is not recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient has been taking paroxetine (Paxil) 20 mg per day for 2 weeks and reports a decrease in libido. Which action will the nurse take?

- a. Counsel the patient to take the medication with food.
- b. Reassure the patient that this side effect can decrease over time.
- c. Suggest that the patient discuss a lower dose with the provider.
- d. Tell the patient to stop taking the drug and contact the provider.

ANS: B

Sexual side effects can occur with paroxetine, but often improve or cease after 1 to 4 weeks of use. Taking the medication with food will not improve this side effect. Lowering the dose is not indicated. Patients should not abruptly stop taking SSRIs. If the patient continues to have sexual side effects after continued use they should discuss with their provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient who has been diagnosed with social anxiety disorder will begin taking venlafaxine (Effexor). The nurse who performs a medication and dietary history will be concerned about ingestion of which substance or drug?

- a. Coffee
- b. Grapefruit juice

- c. Oral hypoglycemic drug
- d. St. John's wort

ANS: D

The concurrent interaction of venlafaxine and St. John's wort may increase the risk of serotonin syndrome and neuroleptic malignant syndrome. Oral hypoglycemic drugs are concerning for patients who take lithium. Coffee and grapefruit juice are to be avoided by patients who take monoamine oxidase inhibitors.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A male patient has been taking venlafaxine (Effexor) 37.5 mg daily for 2 weeks and reports an increase in blood pressure. The nurse understands that this is due to which of the following?

- a. Increased serotonin levels.
- b. Increased norepinephrine levels.
- c. Increased dopamine levels.
- d. Increased acetylcholine levels.

ANS: B

Venlafaxine is a serotonin norepinephrine reuptake inhibitor (SNRI) by reducing norepinephrine reuptake, norepinephrine levels are increased which can result in an increase in blood pressure.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has been taking a monoamine oxidase (MAO) inhibitor for several months will begin taking amoxapine (Asendin) instead of the MAO inhibitor. The nurse will counsel the patient to begin taking the amoxapine:

- a. along with the MAO inhibitor for several months.
- b. at least 14 days after discontinuing the MAO inhibitor.

- c. the day after the last dose of the MAO inhibitor.
- d. while withdrawing the MAO inhibitor over several weeks.

ANS: B

Amoxapine is an atypical antidepressant that should not be taken with MAO inhibitors and should not be used within 14 days of taking a MAO inhibitor.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who has been diagnosed with depression asks why the provider has not ordered a monoamine oxidase (MAO) inhibitor to treat the disorder. The nurse will explain to the patient that MAO inhibitors:

- a. are more expensive than other antidepressants.
- b. are no longer approved for treating depression.
- c. can cause profound hypotension.
- d. require strict dietary restrictions.

ANS: D

MAO inhibitors have many food and drug interactions that can be fatal, and patients must adhere to strict dietary restrictions while taking these drugs. They are not more expensive than the newer antidepressants. They remain approved for treating depression. MAO inhibitors can cause profound hypertension in the presence of excess tyramine consumption.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who takes a monoamine oxidase (MAO) inhibitor asks the nurse about taking over-the-counter medications to treat cold symptoms. Which medication will the nurse counsel the patient to avoid while taking a MAO inhibitor?

- a. Diphenhydramine
- b. Guaifenesin
- c. Pseudoephedrine
- d. Saline nasal spray

ANS: C

MAO inhibitors can cause hypertensive crises, which can be fatal when taken with sympathomimetic drugs such as pseudoephedrine.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient who has major depressive disorder has been taking fluoxetine (Prozac) 20 mg daily for 3 months and reports improved mood, less fatigue, and an increased ability to concentrate. The patient's side effects have diminished. The only complaint from the patient is regarding the number of medications she has to take daily. What will the nurse counsel this patient to discuss with the provider?

- a. Changing to once-weekly dosing
- b. Decreasing the dose to 10 mg daily
- c. Discontinuing the medication
- d. Increasing the dose to 30 mg daily

ANS: A

Once patients have demonstrated control of symptoms with decreased side effects on the maintenance dose of 20 mg daily, patients may be considered for once-weekly dosing. The 20-mg dose is maintenance dosing, so decreasing or increasing the dose is not indicated.

Patients should not stop taking the medication abruptly.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient who has been diagnosed with major depression disorder has been ordered to take doxepin (Sinequan). The nurse will contact the provider if the patient's medical history reveals a history of which condition?

- a. Asthma
- b. Glaucoma
- c. Hypertension
- d. Hypoglycemia

ANS: B

Antidepressants, such as doxepin, that cause anticholinergic-like symptoms are contraindicated if the patient has glaucoma.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is preparing to administer a dose of lithium (Lithobid) to a patient who has been taking the drug as maintenance therapy to treat bipolar disorder. The nurse assesses the patient and notes tremors and confusion. The patient's latest serum lithium level was 2 mEq/L. Which action will the nurse take?

- a. Administer the dose.
- b. Hold the dose and notify the provider.
- c. Request an order for a higher dose.
- d. Request an order for a lower dose.

ANS: B

The patient has symptoms of lithium toxicity, and the serum drug level is in the toxic range. The nurse should hold the dose and notify the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



15. The nurse assesses a patient who is taking lithium (Lithobid) and notes a large output of clear, dilute urine. The nurse suspects which cause for this finding?

- a. Cardiovascular complications
- b. Expected lithium side effects
- c. Increased mania
- d. Lithium toxicity

ANS: D

An increased output of dilute urine is a sign of lithium toxicity.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse provides teaching for a patient who will begin taking lithium (Lithobid). Which statement by the patient indicates understanding of the teaching?

- a. "I may drink tea or cola but not coffee."
- b. "I may stop taking the drug when mania symptoms subside."
- c. "I should consume a sodium-restricted diet."
- d. "I should drink 2 to 3 liters of fluid each day."

ANS: D

Patients taking lithium should be encouraged to maintain adequate fluid intake of 2 to 3 L/day initially and then 1 to 2 L/day as maintenance. Patients should not drink any

caffeine-containing drinks, including tea and cola. Patients must continue taking lithium even when symptoms subside, or else symptoms will recur. It is not necessary to consume a sodium-restricted diet.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient who has recently begun taking lithium (Lithobid) calls the clinic to report nausea, vomiting, anorexia, and hand tremor. What will the nurse do next?

- a. Contact the provider to obtain an order for a serum lithium level.
- b. Reassure the patient that these symptoms are common and transient.
- c. Tell the patient that the lithium dose is probably too low.
- d. Tell the patient to stop taking the medication immediately.

ANS: A

Early symptoms of lithium toxicity include nausea, vomiting, anorexia, and tremor. The nurse should obtain an order for a lithium level to evaluate this. Patients should be encouraged to report these symptoms if they occur. Patients should never be counseled to stop the medication abruptly.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. The nurse is preparing to administer paroxetine HCl (Paxil) to a 70-year-old patient. The nurse understands that this patient may require

- a. a decreased dose.
- b. an increased dose.
- c. every other day dosing.
- d. more frequent dosing.

ANS: A

Older adults usually need a lower dose of antidepressants.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. A patient who has a history of migraine headaches is diagnosed with bipolar disorder. The nurse might expect the provider to order which medication for this patient?

- a. Carbamazepine (Tegretol)
- b. Divalproex (Valproate)
- c. Lamotrigine (Lamictal)
- d. Lithium citrate (Eskalith)

ANS: B

All of these medications may be used to treat bipolar disorder, but divalproex also carries an indication for migraine prophylaxis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. The nurse is teaching a patient about foods to avoid when taking isocarboxazid (Marplan). Which foods will the nurse instruct the patient to avoid? (Select all that apply.)

- a. Bananas
- b. Bread
- c. Eggs
- d. Red wine
- e. Sausage
- f. Yogurt

ANS: A, D, E, F

Aged cheeses and wines are the chief foods that are prohibited. Any food containing tyramine, which has sympathomimetic effects, can cause a hypertensive crisis. This includes bananas, red wine, sausage, and yogurt.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 24: Antiinflammatories

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A nursing student asks the nurse to explain the role of cyclooxygenase-2 (COX-2) and its role in inflammation. The nurse will explain that COX-2:
  - a. converts arachidonic acid into a chemical mediator for inflammation.
  - b. directly causes vasodilation and increased capillary permeability.
  - c. irritates the gastric mucosa to cause gastrointestinal upset.
  - d. releases prostaglandins, which cause inflammation and pain in tissues.

ANS: A

COX-2 is an enzyme that converts arachidonic acid into prostaglandins and their products, and this synthesis causes pain and inflammation. They do not act directly to cause inflammation. COX-1 irritates the gastric mucosa. COX-2 synthesizes but does not release prostaglandins.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A nursing student asks how nonsteroidal anti-inflammatory drugs (NSAIDs) work to suppress inflammation and reduce pain. The nurse will explain that NSAIDs:

- a. exert direct actions to cause relaxation of smooth muscle.
- b. inhibit the enzyme cyclooxygenase that is necessary for prostaglandin synthesis.
- c. interfere with neuronal pathways associated with prostaglandin action.
- d. suppress prostaglandin activity by blocking tissue receptor sites.

ANS: B

NSAIDs act by inhibiting COX-1 and COX-2 to help block prostaglandin synthesis. They do not have direct action on tissues, nor do they interfere with chemical receptor sites or neuronal pathways.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient is taking ibuprofen 400 mg every 4 hours to treat moderate arthritis pain and reports that it is less effective than before. What action will the nurse take?

- a. Counsel the patient to discuss a change in dose or changing to a prescription NSAID with the provider.
- b. Recommend adding aspirin to increase the antiinflammatory effect.
- c. Suggest asking the provider about a short course of corticosteroids.
- d. Tell the patient to increase the dose to 800 mg every 4 hours.

ANS: A

The patient should discuss a possible change in dose or changing to a prescription NSAID with the provider if tolerance has developed to the over-the-counter NSAID. Patients should not take aspirin with NSAIDs because of the increased risk of bleeding and gastrointestinal upset. Steroids are not the drugs of choice for arthritis because of their side effects and are not used unless inflammation is severe. A prescription NSAID would generally be used prior to starting corticosteroids. Increasing the dose will increase the potential for side effects but may not increase desired effects. It is important that the patient discuss any changes with their provider and not self-titrate the NSAID.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who is taking aspirin for arthritis pain asks the nurse why it also causes gastrointestinal upset. The nurse understands that this is because aspirin:

- a. increases gastrointestinal secretions.
- b. increases hypersensitivity reactions.
- c. inhibits both COX-1 and COX-2.
- d. selectively inhibits COX-2.

ANS: C

Aspirin is a non-specific COX-1 and COX-2 inhibitor. COX-1 protects the stomach lining, so when it is inhibited, gastric upset can occur. Aspirin does not increase gastrointestinal secretions or hypersensitivity reactions.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

5. A patient is taking aspirin for secondary prevention of myocardial infarction and is experiencing moderate gastrointestinal upset. The nurse will contact the patient's provider to discuss changing from aspirin to which of the following?

- a. A COX-2 inhibitor
- b. Celecoxib (Celebrex)
- c. Enteric-coated aspirin
- d. Ibuprofen

ANS: C

Aspirin is often used to inhibit platelet aggregation for cardiovascular prevention. Patients taking aspirin for this purpose would not benefit from COX-2 inhibitors, since the COX-1 enzyme is responsible for inhibiting platelet aggregation. The patient may benefit from taking an enteric-

coated aspirin product to lessen the gastrointestinal distress. Celecoxib and is a COX-2 selective inhibitor. Ibuprofen is not indicated for cardiovascular event prevention.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is performing a health history on a patient who has arthritis. The patient reports tinnitus. Suspecting a drug adverse effect, the nurse will ask the patient about which medication?

- a. Aspirin (Bayer)
- b. Acetaminophen (Tylenol)
- c. Anakinra (Kineret)
- d. Prednisone (Deltasone)

ANS: A

Aspirin causes tinnitus at low toxicity levels or in patients with hypersensitivity to aspirin. The nurse should question the patient about this medication. The other medications are less likely to contribute to this side effect.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is teaching a patient about using high-dose aspirin to treat arthritis. What information will the nurse include when teaching this patient?

- a. "A normal serum aspirin level is between 30 and 40 mg/dL."
- b. "You may need to stop taking this drug a week prior to surgery."
- c. "You will need to monitor aspirin levels if you are also taking warfarin."
- d. "Your stools may become dark, but this is a harmless side effect."

ANS: B

Aspirin should be discontinued prior to surgery to avoid prolonged bleeding time. A normal serum level is 15 to 30 mg/dL. Patients taking warfarin and aspirin will have increased amounts of warfarin, so the INR will need to be monitored. Tarry stools are a symptom of gastrointestinal bleeding and should be reported.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient who takes high-dose aspirin to treat rheumatoid arthritis has a serum salicylate level of 35 mg/dL. The nurse will perform which action?

- a. Assess the patient for signs of toxicity, such as tinnitus.
- b. Monitor the patient for signs of Reye's syndrome.
- c. Notify the provider of severe aspirin toxicity.
- d. Request an order for an increased aspirin dose.

ANS: A

Mild toxicity occurs at levels above 30 mg/dL, so the nurse should assess for signs of toxicity, such as tinnitus. This level will not increase the risk for Reye's syndrome. Severe toxicity occurs at levels greater than 50 mg/dL. The dose should not be increased.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse provides teaching for a patient who will begin taking indomethacin (Inderal) to treat rheumatoid arthritis. Which statement by the patient indicates a need for further teaching?

- a. "I should limit sodium intake while taking this drug."
- b. "I should take indomethacin on an empty stomach."
- c. "I will need to check my blood pressure frequently."



- d. "I will take the medication twice daily."

ANS: B

Indomethacin is very irritating to the stomach and should be taken with food. It can cause sodium retention and elevated blood pressure, so patients should limit sodium intake. The medication is taken twice daily.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is caring for a postpartum woman who is refusing opioid analgesics but is rating her pain as a 7 or 8 on a 10-point pain scale. The nurse will contact the provider to request an order for which analgesic medication?

- a. Diclofenac sodium (Voltaren)
- b. Ketoprofen (Orudis)
- c. Ketorolac (Toradol)
- d. Naproxen (Naprosyn)

ANS: C

Ketorolac is an injectable NSAID and has shown analgesic efficacy equal or superior to that of opioid analgesics. The other NSAIDs listed are not used for postoperative pain.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has osteoarthritis with mild to moderate pain asks the nurse about taking over-the-counter ibuprofen (Motrin). What will the nurse tell this patient?

- a. "It may take several weeks to achieve maximum therapeutic effects."
- b. "Unlike aspirin, there is no increased risk of bleeding with ibuprofen."

- c. "Take ibuprofen twice daily for maximum analgesic benefit."
- d. "Combine ibuprofen with naproxen for best effect."

ANS: A

OTC NSAIDs can be effective for mild to moderate arthritis pain, but the full effects may not appear for several weeks. NSAIDs carry a risk for bleeding. Ibuprofen is taken TID or QID. Ibuprofen and naproxen are both NSAIDs and ideally should not be combined.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is caring for a patient who has been taking an NSAID for 4 weeks for osteoarthritis. The patient reports decreased pain, but the nurse notes continued swelling of the affected joints. The nurse will perform which action?

- a. Assess the patient for drug-seeking behaviors.
- b. Notify the provider that the drug is not effective.
- c. Reassure the patient that swelling will decrease eventually.
- d. Remind the patient that this drug is given for pain only.

ANS: B

This medication is effective for both pain and swelling. After 4 weeks, there should be some decrease in swelling, so the nurse should report that this medication is ineffective. There is no indication that this patient is seeking an opioid analgesic. The drug should be effective within several weeks. NSAIDs are given for pain and swelling.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is caring for a patient who has rheumatoid arthritis and who is receiving infliximab (Remicade) IV every 8 weeks. Which laboratory test will the nurse anticipate that this patient will need?

- a. Calcium level
- b. Complete blood count
- c. Electrolytes
- d. Potassium

ANS: B

Infliximab is an immunomodulator and can cause agranulocytosis, so patients should have regular CBC monitoring.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is teaching a patient about taking colchicine to treat gout. What information will the nurse include when teaching this patient about this drug?

- a. Avoid all alcohol except beer.
- b. Include salmon in the diet.
- c. Increase fluid intake. N
- d. Take on an empty stomach.

ANS: C

The patient who is taking colchicine should increase fluid intake to promote uric acid excretion and prevent renal calculi. Foods rich in purine should be avoided, including beer, and some sea foods, such as salmon. Gastric irritation is a common problem, so colchicine should be taken with food.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. Which antigout medication is considered first-line to treat chronic tophaceous gout?

- a. Allopurinol (Zyloprim)
- b. Colchicine
- c. Probenecid (Benemid)
- d. Celecoxib (Celebrex)

ANS: A

Allopurinol inhibits the biosynthesis of uric acid and is used long-term to manage chronic gout. Colchicine does not inhibit uric acid synthesis or promote uric acid secretion and is not used for chronic gout. Probenecid can be used for chronic gout but is not the first choice.

Celecoxib is a COX-2 selective anti-inflammatory and does not have a role in treating chronic tophaceous gout.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is assessing a patient who has gout who will begin taking allopurinol (Zyloprim). The nurse reviews the patient's medical record and will be concerned about which of the following findings?

- a. History of kidney stones
- b. Increased serum uric acid
- c. Slight increase in the white blood count
- d. Increased serum glucose

ANS: A

Allopurinol use can increase the risk of kidney stones resulting from uric acid secretion. This can be prevented by increasing water intake and maintaining a urine pH above 6. A history of kidney stones would not be a contraindication to allopurinol use, but additional caution and patient teaching to prevent kidney stone formation is warranted.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse provides teaching for a patient who will begin taking allopurinol. Which statement by the patient indicates understanding of the teaching?

- a. "I should increase my vitamin C intake."
- b. "I will get yearly eye exams."
- c. "I will increase my protein Nintake."
- d. "I will limit fluids to prevent edema."

ANS: B

Patients taking allopurinol can have visual changes with prolonged use and should have yearly eye exams. It is not necessary to increase vitamin C. Protein can increase purine intake, which is not recommended. Patients should consume extra fluids.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. Which of the following DMARD medications is an IL-1 receptor antagonist?

- a. Etanercept (Enbrel)
- b. Anakinra (Kineret)
- c. Infliximab (Remicade)
- d. Rituximab (Rituxan)

ANS: B

Anakinra is a DMARD that works via antagonism of IL-1 receptors. Etanercept and infliximab are TNF inhibitors. Rituximab induces cell lysis of B cells. All of these agents are indicated to treat rheumatoid arthritis.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

MULTIPLE RESPONSE

1. Which are characteristic signs of inflammation? (Select all that apply.)
  - a. Edema
  - b. Erythema
  - c. Heat
  - d. Numbness
  - e. Pallor
  - f. Paresthesia

ANS: A, B, C

Edema, erythema, and heat are signs of inflammation. The other three are signs of neurocirculatory compromise.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 25: Analgesics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The nurse is evaluating a patient 2 hours after giving a dose of 30 mg of codeine with acetaminophen for postoperative pain following abdominal surgery. The patient reports a pain level of 7 on a scale of 1 to 10. The patient is not satisfied with their current level of pain relief. The nurse notes a heart rate of 110 beats per minute, a respiratory rate of 28 breaths per minute, and a blood pressure of 180/90 mm Hg. Which action will the nurse take?
- a. Administer the next dose of codeine 1 hour early.
  - b. Ask the provider if the codeine dose can be increased.
  - c. Contact the provider to ask if a dose of ibuprofen may be given now.
  - d. Request an order for oxycodone with acetaminophen (Percocet).

ANS: D

The patient is showing signs of moderate to severe pain unrelieved by codeine, so the nurse should request a more potent opioid analgesic such as oxycodone. Codeine is effective for mild to moderate pain so will not be effective for this patient even if the dose is increased. The medication should not be given more frequently than every 4 hours. Ibuprofen is used for musculoskeletal pain and not postoperative pain.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is teaching a female patient who will begin taking 2 tablets of 325 mg acetaminophen every 4 to 6 hours as needed for pain. Which statement by the patient indicates understanding of the teaching?

- a. "I may take acetaminophen up to 6 times daily if needed."
- b. "I should increase the dose of acetaminophen if I drink caffeinated coffee."
- c. "If I take oral contraceptive pills, I should use back-up contraception."
- d. "It is safe to take acetaminophen with any over-the-counter medications."

ANS: A

The maximum daily dose of acetaminophen is 4000 mg. If this patient takes 650 mg/dose 6 times daily, this amount is safe. Taking acetaminophen with caffeine increases the effect of the acetaminophen. Taking acetaminophen with OCPs decreases the effect of the acetaminophen but does not diminish the effect of the OCP. Many over-the-counter medications contain acetaminophen, so patients should be advised to read labels carefully to avoid overdose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The parent of a 5-year-old child asks the nurse to recommend an over-the-counter pain medication for the child. Which analgesic will the nurse recommend?

- a. Acetaminophen (Tylenol)
- b. Aspirin (Ecotrin)
- c. Diflunisal (Dolobid)
- d. Celecoxib (Celebrex)

ANS: A

Acetaminophen is a commonly used analgesic in children. Aspirin carries an increased risk of Reye's syndrome in children. Diflunisal (Dolobid) and celecoxib (Celebrex) are not available over the counter.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



4. The nurse is performing an admission assessment on an adolescent who reports taking extra-strength acetaminophen (Tylenol) regularly to treat daily headaches. The nurse will notify the patient's provider and discuss an order for which of the following?

- a. a selective serotonin receptor agonist (SSRA).
- b. hydrocodone with acetaminophen for headache pain.
- c. liver enzyme testing.
- d. serum glucose testing.

ANS: C

Large doses or overdoses of acetaminophen can be toxic to hepatic cells, so when large doses are administered over a long period, liver function should be assessed. Daily headaches are not typical of migraine headaches, so SSRA medication is likely not indicated. Hydrocodone with acetaminophen is not indicated without further evaluation of headaches. Serum glucose is not indicated.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is providing teaching to a patient who will begin taking aspirin to treat arthritis pain. Which statement by the patient indicates a need for further teaching?

- a. "I should increase fiber and fluids while taking aspirin."
- b. "I will call my provider if I experience significant abdominal pain."
- c. "I will drink a full glass of water with each dose."
- d. "I will notify my provider of ringing in my ears."

ANS: A

Aspirin is not constipating, so patients do not need to be counseled to consume extra fluids and fiber. Abdominal pain can occur with gastrointestinal bleeding, and tinnitus (ringing in the ears) can be an early sign of toxicity, so patients should be taught to contact their provider if these occur. Taking a full glass of water with each dose helps minimize gastrointestinal side effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. An adolescent female has dysmenorrhea associated with heavy menstrual periods. The patient's provider has recommended ibuprofen (Motrin). When teaching this patient about this drug, the nurse will tell her that ibuprofen:

- a. may decrease the effectiveness of oral contraceptive pills.
- b. may increase bleeding during her period.
- c. should be taken on an empty stomach to increase absorption.
- d. will decrease the duration of her periods.

ANS: B

When nonsteroidal anti-inflammatory drugs (NSAIDs) are used to treat dysmenorrhea, excess bleeding may occur during the first 2 days of a period. NSAIDs do not decrease the effect of OCPs. NSAIDs are irritating to the stomach, so patients should take it with food or a full glass of water. NSAIDs will not decrease the duration of periods.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The emergency department nurse is caring for a patient who has received morphine sulfate for severe pain following an injury. The nurse performs a drug history and learns that the patient takes St. John's wort for symptoms of depression. The nurse will observe this patient closely for an increase in which opioid adverse effect?

- a. Constipation
- b. Pruritus

- c. Respiratory depression
- d. Sedation

ANS: D

St. John's wort can increase the sedative effects of opioids. It does not enhance other side effects.

N

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Planning/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is performing an admission assessment on a stable patient admitted after a motor vehicle accident. The patient reports having "bad pain." What will the nurse do first?

- a. Administer acetaminophen (Tylenol).
- b. Ask the patient to rate the pain on a 1 to 10 scale.
- c. Attempt to determine what type of pain the patient has.
- d. Request an order for an intravenous opioid analgesic.

ANS: B

To ascertain severity of pain, the nurse should ask the patient to rate the pain on a scale of 1 to

10. Further assessments include location and type of pain. Pain medication should be given after the severity of pain is assessed so that an appropriate analgesic may be given.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse assumes care of a patient in the post-anesthesia care unit (PACU). The patient had abdominal surgery and is receiving intravenous morphine sulfate for pain. The patient is asleep and has not voided since prior to surgery. The nurse assesses a respiratory rate of 10 breaths per minute and notes hypoactive bowel sounds. The nurse will contact the surgeon primarily to report which condition?

- a. Paralytic ileus
- b. Respiratory depression
- c. Somnolence
- d. Urinary retention

ANS: B

The patient's respiratory rate of 10 breaths per minute is lower than normal and is a sign of respiratory depression, which is a common adverse effect of opioid analgesics. The other effects may occur with opioids but are also not expected this soon after abdominal surgery.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. One hour after receiving intravenous morphine sulfate, a patient reports generalized itching. The nurse assesses the patient and notes clear breath sounds, no rash, respirations of 14 breaths per minute, a heart rate of 68 beats per minute, and a blood pressure of 110/70 mm Hg. Which action will the nurse take?

- a. Administer naloxone to reverse opiate overdose.
- b. Have resuscitation equipment available at the bedside.
- c. Prepare an epinephrine injection in case of an anaphylactic reaction.
- d. Reassure the patient that this is a common side effect of this drug.

ANS: D

Pruritus is a common opioid side effect and can be managed with diphenhydramine. Patients developing anaphylaxis will have urticaria and hypotension, and these patients will need epinephrine and resuscitation. Respiratory depression is a sign of morphine overdose, which will require naloxone.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse administers nalbuphine (Nubain) to a patient who is experiencing severe pain. Which statement by the patient indicates a need for further teaching about this drug?

- a. "I may experience unusual dreams while taking this medication."
- b. "I may need to use a laxative when taking this drug."
- c. "I should ask for assistance when I get out of bed."
- d. "I should expect to have more frequent urination."

ANS: D

A common side effect of opioid agents is urinary retention. Patients should notify the nurse if they cannot void. Side effects may include unusual dreams, constipation, and dizziness.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is caring for a patient who was admitted with a fractured leg and for observation of a closed head injury after a motor vehicle accident. The patient reports having pain at a level of 3 on a 1 to 10 pain scale. The nurse will expect the provider to order which analgesic medication for this patient?

- a. Acetaminophen (Tylenol) PO
- b. Hydromorphone HCl (Dilaudid) IM
- c. Morphine sulfate PCA
- d. Transdermal fentanyl (Duragesic)

ANS: A

Use of opioid analgesics is contraindicated for patients with head injuries because of the risk of increased intracranial pressure. If opioids are necessary because of severe pain, they must be given in reduced doses. This patient is experiencing mild pain, so acetaminophen is an appropriate analgesic.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. Which patient may require a higher than expected dose of an opioid analgesic?

- a. A patient with cancer
- b. A patient with a concussion
- c. A patient with hypotension
- d. A patient 3 days after surgery

ANS: A

Opioids are titrated for oncology patients until pain relief is achieved or the side effects become intolerable, and extremely high doses may be required. Patient with closed head injuries should not receive opioids due to the risk of increased intracranial pressure. Patients with hypotension should receive reduced doses to prevent further decrease in blood pressure. Patients who are 3 days postoperation should not be experiencing severe pain.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse assesses an older patient 60 minutes after administering 4 mg of intravenous

morphine sulfate (MS) for postoperative pain. The patient's analgesia order is for 2 to 5 mg of MS IV every 2 hours. The nurse notes that the patient is lying very still. The patient's heart rate is 96 beats per minute, respiratory rate is 14 breaths per minute, and blood pressure is 140/90 mm Hg. When asked to rate the level of pain, the patient replies "just a 5." The nurse will perform which action?

- a. Give 3 mg of MS at the next dose.
- b. Give 5 mg of MS at the next dose.
- c. Request an order for an oral opioid to give now.
- d. Request an order for acetaminophen to give now.

ANS: B

Older patients often minimize pain when asked, so the nurse should evaluate nonverbal cues to pain such as elevated heart rate and blood pressure and the fact that the patient is lying very still. The nurse should increase the dose the next time the pain medication is given.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A postoperative patient has a history of opioid abuse. Which analgesic medication will the nurse expect the provider to order for this patient?

- a. Buprenorphine (Buprenex)
- b. Butorphanol tartrate (Stadol)
- c. Naloxone (Narcan)
- d. Pentazocine (Talwin)

ANS: A

Buprenorphine is an opioid agonist–antagonist analgesic and was developed to help decrease opioid abuse. Butorphanol and pentazocine are also in this class, but reports say that they cause dependence. Naloxone is an opioid antagonist and is given to reverse the effects of opioids if toxicity occurs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse checks on a patient who received a dose of sumatriptan (Imitrex) for treatment of a migraine headache 15 minutes ago. The patient reports moderate improvement in headache pain and reports feeling dizzy. The nurse notes a blood pressure of 160/85 mm Hg. Which action by the nurse would be most appropriate?

- a. Notify the provider of the dizziness.
- b. Notify the provider of the increased blood pressure.
- c. Plan to administer a second dose in 30 minutes.
- d. Request an order for intranasal sumatriptan.

ANS: B

Triptans can cause increased blood pressure, which is an adverse drug reaction and should be reported to the provider. Dizziness is a common side effect but not potentially life-threatening. A

second dose can be given after 2 hours as needed, but giving a second dose should be first confirmed with the provider due to the observed elevation in blood pressure. Intranasal sumatriptan has the same adverse effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse is caring for a 6-year-old child who had surgery that morning. The child is awake and lying very still in bed and won't respond when the nurse asks about pain. The nurse will perform which action?

- a. Ask the child to rate the pain on a scale of 1 to 10.
- b. Encourage the child to request pain medication when needed.
- c. Evaluate the child's pain using an "ouch" scale.
- d. Plan to administer pain medication if the child begins to cry.

ANS: C

Some children will not verbalize discomfort even when they have severe pain because they fear injections. Nurses may use an "ouch" scale or a faces scale to evaluate pain if the child won't respond. Waiting for severe pain is not appropriate.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



N

Chapter 26: Antibacterials

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. The nurse is caring for a patient who is receiving an intravenous antibiotic. The nurse notes that the provider has ordered serum drug peak and trough levels. The nurse understands that these tests are necessary for which type of drugs?

- a. Drugs with a broad spectrum
- b. Drugs with a narrow spectrum
- c. Drugs with a broad therapeutic index
- d. Drugs with a narrow therapeutic index

ANS: D

Medications with a narrow therapeutic index have a limited range between the therapeutic dose and a toxic dose. It is important to monitor these medications closely by evaluating regular serum peak and trough levels.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is caring for a patient who is receiving an intravenous antibiotic. The patient has a serum drug trough of 1.5 mcg/mL. The normal trough for this drug is 1.7 to 2.2 mcg/mL. What will the nurse expect the patient to experience?

- a. Inadequate therapeutic effects
- b. Increased risk for superinfection
- c. Excessive adverse effects
- d. Signs of drug toxicity

ANS: A

Low peak levels indicate that the medication is below the therapeutic level. They do not indicate altered risk for superinfection. Because drug levels are lower than indicated it would not be expected to see excessive adverse effects or signs of drug toxicity.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Analysis/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is teaching a nursing student about the minimal effective concentration (MEC) of antibiotics. Which statement by the nursing student indicates understanding of this concept?

- a. "A serum drug level greater than the MEC ensures that the drug is bacteriostatic."
- b. "A serum drug level greater than the MEC broadens the spectrum of the drug."
- c. "A serum drug level greater than the MEC is sufficient to halt the growth of the microorganism."
- d. "A serum drug level greater than the MEC increases the therapeutic index."

ANS: C

The MEC is the minimum amount of drug needed to halt the growth of a microorganism. A level greater than the MEC helps eradicate infections. Drugs at or above the MEC are usually bactericidal, not bacteriostatic. Raising the drug level does not usually broaden the spectrum or increase the therapeutic index of a drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for a patient who has recurrent urinary tract infections. The patient's current infection is not responding to an antibiotic that has been used successfully several times in the past. The nurse understands that this is most likely due to:

- a. acquired bacterial resistance.
- b. cross-resistance.
- c. inherent bacterial resistance.
- d. transferred resistance.

ANS: A

Acquired resistance occurs when an organism has been exposed to the antibacterial drug and becomes resistant over time. Cross-resistance occurs when an organism that is resistant to one drug is also resistant to another. Inherent resistance occurs without previous exposure to the drug. Transferred resistance occurs when the resistant genes of one organism are passed to another organism.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is preparing to administer amoxicillin (Amoxil) to a patient and learns that the patient previously experienced a rash when taking penicillin. Which action will the nurse take?

- a. Administer the amoxicillin and have epinephrine available.
- b. Ask the provider to order an antihistamine.
- c. Contact the provider to discuss using a different antibiotic.
- d. Request an order for a beta-lactamase resistant drug.

ANS: C

Patients who have previously experienced manifestations of allergy to a penicillin should not use penicillins again unless necessary. The nurse should contact the provider to discuss using another antibiotic from a different class. Epinephrine and antihistamines are useful when patients are experiencing allergic reactions, depending on severity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing to administer an antibiotic to a patient who has been receiving the antibiotic for 2 days after a culture was obtained. The nurse notes increased erythema and swelling, and the patient has a persistent high fever of 39° C. What is the nurse's next best action?

- a. Administer the antibiotic as ordered.
- b. Contact the provider to request another culture.
- c. Discuss the need to add a second antibiotic with the provider.
- d. Review the sensitivity results from the patient's culture.

ANS: D

The sensitivity results from the patient's culture will reveal whether the organism is sensitive or resistant to a particular antibiotic. The patient is not responding to the antibiotic being given, so the antibiotic should be held and the provider notified. Another culture is not indicated. Antibiotics should be added only when indicated by the sensitivity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer the first dose of an antibiotic to a patient admitted for a urinary tract infection. Which action is most important prior to administering the antibiotic?
- a. Administering a small test dose to determine whether hypersensitivity exists
  - b. Having epinephrine available in the event of a severe hypersensitivity reaction
  - c. Monitoring baseline vital signs, including temperature and blood pressure
  - d. Obtaining a urine specimen for culture and sensitivity

ANS: D

To obtain the most accurate culture, the specimen should be obtained before antibiotic therapy begins. It is important to obtain cultures when possible to correctly identify the organism and help determine which antibiotic will be most effective. Administering test doses to determine hypersensitivity is sometimes done when there is a strong suspicion of allergy when a particular antibiotic is needed. Epinephrine is kept close at hand when there is a strong suspicion of allergy.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

8. A patient is admitted to the hospital for treatment of pneumonia after complaining of high fever and shortness of breath. The patient was not able to produce sputum for a culture. The nurse will expect the patient's provider to order which of the following?
- a. a broad-spectrum antibiotic.
  - b. a narrow-spectrum antibiotic.
  - c. multiple antibiotics.

- d. the pneumococcal vaccine.

ANS: A

Broad-spectrum antibiotics are frequently used to treat infections when the offending organism has not been identified by culture and sensitivity (C&S). Narrow-spectrum antibiotics are usually effective against one type of organism and are used when the C&S indicates sensitivity to that antibiotic. The use of multiple antibiotics, unless indicated by C&S, can increase resistance. The pneumococcal vaccine is used to prevent, not treat, an infection.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is teaching a patient who will be discharged home from the hospital to take amoxicillin (Amoxil) twice daily for 10 days. Which statement by the nurse is correct?

- a. "Discontinue the antibiotic when your temperature returns to normal and your symptoms have improved."
- b. "If diarrhea occurs, stop taking the drug immediately and contact your provider."
- c. "Stop taking the drug and notify your provider if you develop a rash while taking this drug."
- d. "You may save any unused antibiotic to use if your symptoms recur."

ANS: C

Patients who develop signs of allergy, such as rash, should notify their provider before continuing medication therapy. Patients should be counseled to continue taking their antibiotics until completion of the prescribed regimen even when they feel well. Diarrhea is an adverse effect but does not warrant cessation of the drug. Before deciding to stop taking a medication due to a side effect, encourage the patient to contact the provider first. Patients should discard any unused antibiotic.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is preparing to administer the first dose of intravenous ceftriaxone (Rocephin) to a patient. When reviewing the patient's chart, the nurse notes that the patient previously experienced a rash when taking amoxicillin. What is the nurse's next action?

- a. Administer the drug and observe closely for hypersensitivity reactions.
- b. Ask the provider whether a cephalosporin from a different generation may be used.
- c. Contact the provider to report drug hypersensitivity.
- d. Notify the provider and suggest an oral cephalosporin.

ANS: A

A small percentage of patients who are allergic to penicillin could also be allergic to a cephalosporin product. Patients should be monitored closely after receiving a cephalosporin if they are allergic to penicillin. There is no difference in hypersensitivity potential between different generations or method of delivery of cephalosporins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is preparing to give a dose of a cephalosporin medication to a patient who has been receiving the antibiotic for 2 weeks. The nurse notes ulcers on the patient's tongue and buccal mucosa. Which action will the nurse take?

- a. Hold the drug and notify the provider.
- b. Obtain an order to culture the oral lesions.
- c. Gather emergency equipment to prepare for anaphylaxis.
- d. Report a possible superinfection side effect of the cephalosporin.

ANS: D

The patient's symptoms may indicate a superinfection and should be reported to the physician so it can be treated; however, the drug does not need to be held. It is not necessary to culture the lesions. The symptoms do not indicate impending anaphylaxis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is providing teaching to a patient who will begin taking a cephalosporin to treat an infection. Which statement by the patient indicates a need for further teaching?

- a. "I may stop taking the medication if my symptoms clear up."
- b. "I should eat yogurt while taking this medication."
- c. "I should stop taking the drug and call my provider if I develop a rash."
- d. "I will not consume alcohol while taking this medication."

ANS: A

Patients should take all of an antibiotic regimen even after symptoms clear to ensure complete treatment of the infection. Patients are often advised to eat yogurt or drink buttermilk to prevent superinfection. A rash is a sign of hypersensitivity, and patients should be counseled to stop taking the drug and notify the provider if this occurs. Alcohol consumption may cause adverse effects and should be avoided by patients while they are taking cephalosporins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is caring for a patient who takes low-dose erythromycin as a prophylactic medication. The patient will begin taking cefaclor for treatment of an acute infection. The nurse should discuss this with the provider because taking both of these medications simultaneously can cause which effect?

- a. Decreased effectiveness of cefaclor
- b. Increased effectiveness of cefaclor
- c. Decreased effectiveness of erythromycin
- d. Increased effectiveness of erythromycin

ANS: A N

The interaction of cefaclor and erythromycin will produce a decrease in the action of the cefaclor.



DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient is receiving high doses of cefazolin. Which laboratory values will this patient's nurse monitor closely?

- a. Blood urea nitrogen (BUN), serum creatinine, and liver function tests
- b. Complete blood count and electrolytes
- c. Serum calcium and magnesium
- d. Serum glucose and lipids

ANS: A

Cefazolin will produce an increase in the patient's BUN, creatinine, AST, ALT, ALP, LDH, and bilirubin.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient will begin taking amoxicillin. The nurse should instruct the patient to avoid which foods?

- a. Green leafy vegetables
- b. Beef and other red meat
- c. Coffee, tea, and colas
- d. Acidic fruits and juices

ANS: D

Acidic fruits and juices should be avoided while the client is being treated with amoxicillin because amoxicillin can be irritating to the stomach. Stomach irritation will be increased with the ingestion of citrus and acidic foods. Amoxicillin may also be less effective when taken with acidic fruit or juice.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The patient will begin taking penicillin G procaine (Wycillin). The nurse notes that the solution is milky in color. What action will the nurse take?

- a. Call the pharmacist and report the milky color.
- b. Add normal saline to dilute the medication.
- c. Call the physician and report the milky appearance.
- d. Administer the medication as ordered by the physician.

ANS: D

Penicillin G procaine (Wycillin) has a milky appearance; therefore, the appearance should not concern the nurse.

17. 17.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

The nurse caring for a patient who will receive penicillin to treat an infection asks the patient

about previous drug reactions. The patient reports having had a rash when taking amoxicillin (Amoxil). The nurse will contact the provider to:

- a. discuss giving a smaller dose of penicillin.
- b. discuss using erythromycin (E-Mycin) instead of penicillin.
- c. request an order for diphenhydramine (Benadryl).
- d. discuss giving a larger dose of penicillin.

ANS: B

Erythromycin is the drug of choice when penicillin is not an option. Giving smaller or larger doses of penicillin does not prevent hypersensitivity reactions. Benadryl is useful when a hypersensitivity reaction has occurred. A small percentage of patients allergic to penicillins may be hypersensitive to cephalosporins.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. A patient is diagnosed with mycoplasma pneumonia. Which antibiotic will the nurse expect the provider to order to treat this infection?

- a. Azithromycin (Zithromax)
- b. Clarithromycin (Biaxin)
- c. Erythromycin (E-Mycin)
- d. Fidaxomicin (Dificid)

ANS: C

Erythromycin is the drug of choice for treating mycoplasma pneumonia.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. The nurse is caring for several patients who are receiving antibiotics. Which order will the nurse question?

- a. Azithromycin (Zithromax) 500 mg IV in 500 mL fluid
- b. Azithromycin (Zithromax) 500 mg PO once daily
- c. Erythromycin 300 mg IM QID
- d. Erythromycin 300 mg PO QID

ANS: C

Erythromycin and other macrolides should not be given intramuscularly because they cause painful tissue irritation.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. The nurse is caring for a patient who is receiving a high dose of intravenous azithromycin to treat an infection. The patient is also taking acetaminophen for pain. The nurse should expect to review which lab values when monitoring for this drug's side effects?

- a. Complete blood counts
- b. Electrolytes
- c. Liver enzymes
- d. Urinalysis

ANS: C

High doses of macrolides, when taken with other, potentially hepatotoxic drugs such as acetaminophen may cause hepatotoxicity, so liver enzymes should be carefully monitored.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. The nurse provides home-care instructions for a patient who will take a high dose of azithromycin after discharge from the hospital. Which statement by the patient indicates understanding of the teaching?

- a. "I may take antacids 2 hours before taking this drug."
- b. "I should take acetaminophen for fever or mild pain."
- c. "I should not report watery diarrhea if it occurs as this is common."
- d. "I should avoid dairy products while taking this drug."

ANS: A

Azithromycin peak levels may be reduced by antacids when taken at the same time, so patients should be cautioned to take antacids 2 hours before or 2 hours after taking the drug. High-dose azithromycin carries a risk for hepatotoxicity when taken with other potentially hepatotoxic drugs such as acetaminophen. Diarrhea may indicate pseudomembranous colitis and should be reported. There is no restriction for dairy products when taking azithromycin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

22. The nurse is preparing to administer clarithromycin to a patient. When performing a medication history, the nurse learns that the patient takes warfarin to treat atrial fibrillation. The nurse will perform which action?

- a. Ask the provider if azithromycin may be used instead of clarithromycin.
- b. Obtain an order for continuous cardiovascular monitoring.
- c. Request an order for periodic serum warfarin levels.
- d. Withhold the clarithromycin and notify the provider.

ANS: C

Macrolides can increase serum levels of other drugs such as warfarin. If these drugs are used with macrolides, serum drug levels should be monitored. All macrolides have this drug interaction.

Cardiovascular monitoring is not indicated. The drug may be given as long as serum drug levels are monitored.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

23. A female patient who is allergic to penicillin will begin taking an antibiotic to treat a lower respiratory tract infection. The patient tells the nurse that she almost always develops a vaginal yeast infection when she takes antibiotics and that she will take fluconazole (Diflucan) with the antibiotic being prescribed. Which macrolide order would the nurse question for this patient?

- a. Azithromycin (Zithromax)
- b. Clarithromycin (Biaxin) N
- c. Erythromycin (E-Mycin)
- d. Fidaxomicin (Difcid)

ANS: C

When erythromycin is given concurrently with fluconazole, erythromycin blood concentration and the risk of sudden cardiac death increase.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

24. The nurse is preparing to give a dose of oral clindamycin (Cleocin) to a patient who is being treated for a skin infection caused by *Staphylococcus aureus*. The patient has had several doses of the medication and reports having nausea. Which action will the nurse take next?

- a. Administer the next dose when the patient has an empty stomach.
- b. Hold the next dose and contact the patient's provider.
- c. Instruct the patient to take the next dose with a full glass of water.
- d. Request an order for an antacid to give along with the next dose.

ANS: C

Clindamycin should be taken with a full glass of water to minimize gastrointestinal (GI) irritation such as nausea, vomiting, and stomatitis. Giving the medication on an empty stomach will increase the likelihood of GI upset. It is not necessary to hold the next dose or to give an antacid.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

25. The nurse assumes care for a patient who is currently receiving a dose of intravenous vancomycin (Vancocin) infusing at 20 mg/min. The nurse notes red blotches on the patient's face, neck, and chest and assesses a blood pressure of 80/55 mm Hg. Which action will the nurse take?

- a. Request an order for IV epinephrine to treat anaphylactic shock.
- b. Slow the infusion to 10 mg/min and observe the patient closely.
- c. Stop the infusion and obtain an order for a BUN and serum creatinine.
- d. Suspect Stevens-Johnson syndrome and notify the provider immediately.

ANS: B

When vancomycin is infused too rapidly, "red man" syndrome may occur; the rate should be 10 mg/min to prevent this. This is a toxic reaction, not an allergic one, so epinephrine is not indicated. Stevens-Johnson syndrome is characterized by a rash and fever. Red man syndrome is not related to renal function.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

26. The nurse is caring for a patient who will begin taking doxycycline to treat an infection. The nurse should plan to give this medication:

- a. 1 hour before or 2 hours after a meal.
- b. with an antacid to minimize GI irritation.
- c. with food to improve absorption.
- d. with small sips of water.

ANS: C

Doxycycline is a lipid-soluble tetracycline and is better absorbed when taken with milk products and food. It should not be taken on an empty stomach. Antacids impair absorption of tetracyclines. Small sips of water are not necessarily indicated.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

27. The nurse is caring for a 7-year-old patient who will receive oral antibiotics. Which antibiotic order will the nurse question for this patient?

- a. Azithromycin (Zithromax)
- b. Clarithromycin (Biaxin)
- c. Clindamycin (Cleocin)
- d. Tetracycline (Sumycin)

ANS: D

Tetracyclines should not be given to children younger than 8 years of age because they irreversibly discolor the permanent teeth.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

28. The nurse is caring for a patient who is receiving a high dose of tetracycline (Sumycin). Which laboratory values will the nurse expect to monitor while caring for this patient?



- a. Blood urea nitrogen (BUN) and creatinine levels
- b. Complete blood counts
- c. Electrolytes
- d. Prothrombin time

ANS: A

High doses of tetracyclines can lead to nephrotoxicity, especially when given along with other nephrotoxic drugs. Renal function tests should be performed to monitor for nephrotoxicity.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

29. A female patient will receive doxycycline to treat a sexually transmitted illness (STI). What information will the nurse include when teaching this patient about this medication?

- a. Nausea and vomiting are uncommon adverse effects.
- b. The drug may cause possible teratogenic effects.
- c. Increase intake of dairy products with each dose of this medication.
- d. Use a back-up method of contraception if taking oral contraceptives.

ANS: D

The desired action of oral contraceptives can be lessened when taken with tetracyclines, so patients taking oral contraceptives should be advised to use a back-up contraception method while taking tetracyclines. Nausea and vomiting are common adverse effects. Doxycycline should not be taken with dairy products. Tetracycline may cause teratogenic effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

30. The nurse is preparing to administer a maintenance dose of intravenous gentamicin to an infant through an intermittent needle. The nurse notes that the infant has not had a wet diaper for several hours. The nurse will perform which action?

- a. Administer the medication and give the infant extra oral fluids.
- b. Contact the provider to request adding intravenous fluids when giving the medication.
- c. Give the medication and obtain a serum peak drug level 45 minutes after the dose.
- d. Hold the dose and contact the provider to request a serum trough drug level.

ANS: D

Gentamicin can cause nephrotoxicity. When changes in urine output occur, the provider should be notified, and serum trough levels should be obtained to make sure the drug is not at a toxic level. If the drug level is determined to be safe, giving extra fluids either orally or intravenously may be indicated. Serum peak levels give information about therapeutic levels but are not a substitution for avoiding nephrotoxicity in the face of possible oliguria.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

31. The nurse is caring for a 70-kg patient who is receiving gentamicin (Garamycin) 85 mg 4 times daily. The patient reports experiencing ringing in the ears. The nurse will contact the provider to discuss which of the following?

- a. decreasing the dose to 50 mg QID.
- b. giving the dose 3 times daily.
- c. obtaining a serum drug level.
- d. ordering a hearing test.

ANS: C

Aminoglycosides can cause ototoxicity. Any changes in hearing should be reported to the provider so that serum drug levels can be monitored. The dose is correct for this patient's weight (5 mg/kg/day in 4 divided doses). A hearing test is not indicated unless changes in hearing persist.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

32. The nurse is preparing to begin a medication regimen for a patient who will receive intravenous ampicillin and gentamicin. Which is an important nursing action?

- a. Administer each antibiotic to infuse over 15 to 20 minutes.
- b. Order serum peak and trough levels of ampicillin.
- c. Prepare the schedule so that the drugs are given at the same time.
- d. Set up separate tubing sets for each drug labeled with the drug name and date.

ANS: D

Intravenous aminoglycosides can be given with penicillins and cephalosporins but should not be mixed in the same container. The IV line should be flushed between antibiotics, or separate tubing sets may be set up. Gentamicin must be infused over 30 to 60 minutes. It is not

necessary to measure ampicillin peak and trough levels. Giving the drugs at the same time increases the risk of mixing them together.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

33. The nurse is reviewing a patient's chart prior to administering gentamicin (Garamycin) and notes that the last serum peak drug level was 9 mcg/mL and the last trough level was 2 mcg/mL. What action will the nurse take?

- a. Administer the next dose as ordered.
- b. Obtain repeat peak and trough levels before giving the next dose.
- c. Report possible drug toxicity to the patient's provider.
- d. Report a decreased drug therapeutic level to the patient's provider.

ANS: C

Gentamicin peak values should be 5 to 8 mcg/mL, and trough levels should be 0.5 to 2 mcg/mL. Peak levels give information about whether or not a drug is reaching potentially toxic levels, while

trough levels indicate whether a therapeutic level is maintained. This drug is at a toxic level, and the next dose should not be given.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

34. The nurse is providing discharge teaching for a patient who will receive oral levofloxacin (Levaquin) to treat pneumonia. The patient takes an oral hypoglycemic medication and uses over-the-counter (OTC) antacids to treat occasional heartburn. The patient reports frequent arthritis pain and takes acetaminophen when needed. Which statement by the nurse is correct when teaching this patient?

- a. "You may take antacids with levofloxacin to decrease gastrointestinal upset."
- b. "You may take nonsteroidal anti-inflammatory medications (NSAIDs) for arthritis pain."
- c. "You should monitor your serum glucose more closely while taking levofloxacin."
- d. "You should take levofloxacin on an empty stomach to improve absorption."

ANS: C

Levofloxacin may increase the effects of oral hypoglycemic medications, so patients taking these should be advised to monitor their glucose levels closely. Antacids decrease the absorption of levofloxacin and should be given 2 hours before or after the antibiotic. NSAIDs taken with levofloxacin can cause central nervous system reactions, including seizures. The drug can be taken with food.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

35. Which is a characteristic that distinguishes sulfonamides from other drugs used to treat bacterial infection?

- a. Sulfonamides are bactericidal.

- b. Sulfonamides are not derived from biologic substances.
- c. Sulfonamides have antifungal and antiviral properties.
- d. Sulfonamides increase bacterial synthesis of folic acid.

ANS: B

Sulfonamides are not derived from biologic substances. They are bacteriostatic, not bactericidal. They are not antifungals or antivirals. They act by decreasing bacterial synthesis of folic acid.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: N/A MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

36. The nurse is counseling a patient who will begin taking a sulfonamide drug to treat a urinary tract infection. What information will the nurse include in teaching?

- a. "Drink several quarts of water daily."
- b. "If stomach upset occurs, take an antacid."
- c. "This is a safe drug to take while pregnant."
- d. "Sore throat is a common, harmless side effect."

ANS: A

Patients should drink several quarts of water daily while taking sulfonamides to prevent crystalluria. Patients should not take antacids with sulfonamides. Sulfonamides should be avoided during pregnancy to avoid congenital malformations, neural tube defects, and kernicterus. Sore throat should be reported.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

37. A female patient who is taking trimethoprim-sulfamethoxazole (TMP-SMZ) (Bactrim, Septra) to treat a urinary tract infection reports vaginal itching and discharge. The nurse will perform which action?

- a. Ask the patient if she might be pregnant.
- b. Reassure the patient that this is a normal side effect.
- c. Report a possible superinfection to the provider.
- d. Suspect that the patient is having a hematologic reaction.

ANS: C

Superinfection can occur with a secondary infection. Vaginal itching and discharge is a sign of superinfection. This is not symptomatic of pregnancy. These are not common side effects and do not indicate a hematologic reaction.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

38. A patient who will begin taking trimethoprim–sulfamethoxazole (TMP--SMX) asks the nurse why the combination drug is necessary. The nurse will explain that the combination is used to:

- a. broaden the antibacterial spectrum.
- b. produce a synergistic effect.
- c. improve the taste.
- d. minimize toxic effects.

N

ANS: B

The combination drug is used to produce a synergistic effect that increases the desired drug response. It does not broaden the spectrum, improve the taste, or decrease toxicity.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

39. The nurse is preparing to administer trimethoprim–sulfamethoxazole (TMP–SMX) to a patient who is being treated for a urinary tract infection. The nurse learns that the patient has type 2 diabetes mellitus and takes a sulfonylurea oral antidiabetic drug. The nurse will monitor this patient closely for which effect?

- a. Headaches
- b. Hypertension
- c. Hypoglycemia
- d. Superinfection

ANS: C

Taking oral antidiabetic agents (sulfonylurea) with sulfonamides increases the hypoglycemic effect. Sulfonylureas do not increase the incidence of headaches, hypertension, or superinfection when taken with sulfonamides. Examples of antidiabetic sulfonylurea medications are glipizide, glimepiride, glyburide, tolazamide, and tolbutamide.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

40. The nurse is preparing to give a dose of trimethoprim–sulfamethoxazole (TMP–SMX) and learns that the patient takes warfarin (Coumadin). The nurse will request an order for:

- a. a decreased dose of TMP–SMX.
- b. a different antibiotic.
- c. an increased dose of warfarin.
- d. coagulation studies.

ANS: D

Sulfonamides can increase the anticoagulant effects of warfarin. The nurse should request INR levels. An increased dose of warfarin would likely lead to toxicity and to undesirable anticoagulation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

41. A patient who is taking trimethoprim–sulfamethoxazole (TMP–SMX) calls to report developing an all-over rash. The nurse will instruct the patient to perform which action?

- a. Increase fluid intake.
- b. Take diphenhydramine.
- c. Stop taking TMP–SMX immediately.
- d. Continue taking the medication.

ANS: C

A rash can indicate a serious drug reaction. Patients should stop taking the drug immediately and notify the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC:

NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

42. The nurse is caring for a patient who is receiving sulfadiazine. The nurse knows that this patient's daily fluid intake should be at least which amount?

- a. 1000 mL/day
- b. 1200 mL/day
- c. 2000 mL/day
- d. 2400 mL/day

ANS: C

To prevent crystalluria, patients should consume at least 2000 mL/day when taking sulfonamides.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



43. A patient taking trimethoprim–sulfamethoxazole (TMP–SMX) to treat a urinary tract infection complains of a sore throat. The nurse will contact the provider to request an order for which laboratory test(s)?

- a. Complete blood count with differential
- b. Throat culture
- c. Urinalysis
- d. Coagulation studies

ANS: A

A sore throat can indicate a life-threatening anemia, so a complete blood count with differential should be ordered.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

44. The nurse is caring for a patient who is ordered to receive PO trimethoprim–sulfamethoxazole (TMP–SMX) 160/800 QID to treat a urinary tract infection caused by E. coli. The nurse will contact the provider to clarify the correct:

- a. dose.
- b. drug.
- c. frequency.
- d. route.

ANS: C

TMP–SMX is taken twice daily. This is the correct dose, drug, and route to treat this condition.

45. 45.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

The nurse is preparing to give a second dose of trimethoprim–sulfamethoxazole (TMP–SMX) to a patient and notes a petechial rash on the patient’s extremities. The nurse will perform which action?

- a. Hold the dose and notify the provider.
- b. Request an order for a blood glucose level.
- c. Request an order for a BUN and creatinine level.
- d. Request an order for diphenhydramine (Benadryl).

ANS: A

A petechial rash can indicate a severe adverse reaction and should be reported before administering the dose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

46. The nurse is caring for a patient who is taking trimethoprim–sulfamethoxazole (TMP–SMX). The nurse learns that the patient takes an angiotensin-converting enzyme (ACE) inhibitor. To monitor for drug interactions, the nurse will request an order for which laboratory test(s)?

- a. A complete blood count
- b. BUN and creatinine
- c. Electrolytes

- d. Glucose

ANS: C

TMP–SMX can result in hyperkalemia when taken with an ACE inhibitor.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

47. A child who weighs 10 kg will begin taking oral trimethoprim–sulfamethoxazole (TMP–SMX). The liquid preparation contains 40 mg of TMP and 200 mg of SMX per 5 mL. The nurse determines that the child's dose should be 8 mg of TMP and 40 mg of SMX/kg/day divided into two doses. Which order for this child is correct?

- a. 5 mL PO BID
- b. 5 mL PO daily
- c. 10 mL PO BID
- d. 10 mL PO daily

ANS: A

This child should receive (10 kg ÷ 8 mg) 80 mg of TMP and (10 kg ÷ 40 mg) 400 mg of SMX per day. When divided into two doses, the correct dose is 40 mg TMP and 200 mg SMX, or 5 mL per dose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. Which actions can contribute to bacterial resistance to antibiotics? (Select all that apply.)
  - a. Frequent use of antibiotics
  - b. Giving large doses of antibiotics
  - c. Skipping doses

- d. Taking a full course of antibiotics
- e. Treating viral infections with antibiotics

ANS: A, C, E

Frequent use of antibiotics increases the exposure of bacteria to an antibiotic and results in acquired resistance. Skipping doses of an antibiotic can lead to incomplete treatment of an infection, and the remaining bacteria may develop acquired resistance. Treating viral infections with antibiotics is unnecessary and may cause acquired resistance to develop from unneeded exposure to a drug. Infections adequately treated with an antibiotic do not result in resistance.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Analysis

MSC: NCLEX: Physiological Integrity: Basic Care and Comfort: Nutrition

## Chapter 27: Antituberculars, Antifungals, and Antivirals

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

- 1. Which person should be treated with prophylactic antitubercular medication?
  - a. A child who attends the same school with a child who has tuberculosis
  - b. A nurse who is working in a hospital
  - c. An individual who is HIV-positive with a negative TB skin test
  - d. A patient with latent TB as evidence by a positive tuberculin skin test

ANS: D

Prophylactic antituberculars are drugs to prevent TB disease in individuals with latent TB infection. Attending the same school does not necessarily mean close contact occurs. Health care professionals do not need prophylactic treatment. HIV-positive individuals with negative TB skin tests do not need prophylaxis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who has chronic liver disease reports contact with a person who has tuberculosis (TB). The nurse will counsel this patient to contact the provider to discuss which of the following?

- a. a chest x-ray.
- b. a TB skin test.
- c. liver function tests (LFTs).
- d. prophylactic antitubercular drugs.

ANS: B

Patients who have exposure to TB should have a TB skin test. A chest x-ray is performed if the skin test is positive. LFTs do not need to be done simply because of TB exposure. This patient is not a candidate for antitubercular drug prophylaxis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient who has tuberculosis asks the nurse why three drugs are used to treat this disease. The nurse will explain that multidrug therapy is used to reduce the likelihood of:

- a. disease relapse.
- b. drug hypersensitivity reactions.
- c. drug resistance.
- d. drug adverse effects.

ANS: C

Without multidrug therapy, patients easily develop resistance to antitubercular drugs. Using more than one antitubercular drug does not prevent relapse, hypersensitivity reactions, or adverse effects.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient is being treated with isoniazid (INH), rifampin, and pyrazinamide in phase I of treatment for tuberculosis. The organism develops resistance to isoniazid. Which drug will the nurse anticipate the provider will order to replace the isoniazid?

- a. Ciprofloxacin (Cipro)
- b. Ethambutol (Myambutol)
- c. Kanamycin
- d. Streptomycin sulfate

ANS: B

If there is bacterial resistance to isoniazid, the first phase may be changed to ethambutol, rifampin, and pyrazinamide. Ciprofloxacin, kanamycin, and streptomycin are not generally first-line antitubercular drugs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a patient who is diagnosed with tuberculosis. The patient tells the nurse that the provider plans to order a prophylactic antitubercular drug for family members and asks which drug will be ordered. The nurse will expect the provider to order which drug?

- a. Isoniazid (INH)
- b. Pyrazinamide
- c. Rifampin (Rifadin) N
- d. Streptomycin

ANS: A

INH is the drug of choice for prophylactic treatment of patients who have had close contact with a patient who has tuberculosis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse caring for a patient who has tuberculosis and who is taking isoniazid, rifampin, and streptomycin reviews the medical record and notes the patient's sputum cultures reveal resistance to streptomycin. The nurse will anticipate that the provider will take which action?

- a. Add ethambutol (Myambutol).
- b. Change the streptomycin to clarithromycin.
- c. Change the streptomycin to kanamycin.
- d. Order renal function tests.

ANS: C

The patient's current regimen is first-phase treatment. If resistance to streptomycin develops, the provider can change to kanamycin or to ciprofloxacin. Ethambutol is added if there is resistance to isoniazid. Clarithromycin is used during phase II. Renal function tests are not indicated.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient who is taking isoniazid (INH) as part of a two-drug tuberculosis treatment regimen reports tingling of the fingers and toes. The nurse will recommend discussing which treatment with the provider?

- a. Adding pyrazinamide
- b. Changing to ethambutol

- c. Increasing oral fluid intake
- d. Taking pyridoxine (B6)

ANS: D

Peripheral neuropathy is an adverse reaction to INH, so pyridoxine is usually given to prevent this. It is not necessary to change medications. Increasing fluids will not help with this.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is teaching a patient about rifampin. Which statement by the patient indicates understanding of the teaching?

- a. "I should not wear soft contact lenses while taking rifampin."
- b. "I will need regular eye examinations while taking this drug."
- c. "I will report orange urine to my provider immediately."
- d. "I understand that renal toxicity is a common adverse effect."

ANS: A

Patients taking rifampin should be warned that urine, feces, saliva, sputum, sweat, and tears may turn a harmless red-orange color. Patients should not wear soft contact lenses to avoid

permanent staining. Regular eye exams are necessary for patients who receive isoniazid and ethambutol. Orange urine is a harmless side effect and does not need to be reported. Renal toxicity is not common with rifampin.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has completed the first phase of a three-drug regimen for tuberculosis has a positive sputum acid-bacilli test. The nurse will tell the patient that:



- a. drug resistance has probably occurred.
- b. it may be another month before this test is negative.
- c. the provider will change the pyrazinamide to ethambutol.
- d. there may be a need to remain in the first phase of therapy for several weeks.

ANS: B

The goal is for the patient's sputum test to be negative 2 to 3 months after the therapy. The positive test does not indicate drug resistance. The provider will not change the drugs or keep the patient in the first phase longer than planned.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is teaching a nursing student about the antifungal drug amphotericin B. Which statement by the student indicates a need for further teaching?

- a. "Amphotericin B may be given intravenously or by mouth."
- b. "Patients who take this drug should have potassium and magnesium levels assessed."
- c. "Patients with renal disease should not take amphotericin B."
- d. "This drug is used for severe systemic infections."

ANS: A

Amphotericin B is not absorbed from the gastrointestinal tract, so is not given by mouth. It can cause nephrotoxicity and electrolyte imbalance. It is highly toxic and is reserved for severe, systemic infections.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has oral candidiasis will begin using nystatin suspension to treat the infection. What information will the nurse include when teaching this patient?

- a. "Coat the buccal mucosa with the drug and then rinse your mouth."

- b. "Put the pill under the tongue and let it dissolve."
- c. "Mix the suspension with 4 ounces of water and then drink it."
- d. "Swish the liquid in your mouth and then swallow after a few minutes."

ANS: D

Patients should be taught to swish the suspension in the mouth to coat the tongue and buccal mucosa and then either dispose of or swallow the medication. It should not be diluted with water or swallowed with water. Oral suspension is the preferred route for treating oral thrush.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient will begin taking streptomycin as part of the medication regimen to treat tuberculosis. Before administering this medication, the nurse will review which laboratory values in the patient's medical record?

- a. Complete blood count (CBC) with differential white cell count
- b. Blood urea nitrogen (BUN) and creatinine
- c. Potassium and magnesium levels
- d. Serum fasting glucose

ANS: B

Streptomycin can cause significant renal toxicity.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient is diagnosed with histoplasmosis and will begin taking ketoconazole. What information will the nurse include when teaching this patient about this medication?

- a. "Take the medicine twice daily."
- b. "Take the medication with food."

- c. "You may consume small amounts of alcohol."
- d. "You will not need lab tests while taking this drug."

ANS: B

Ketoconazole should be taken with food. It is administered once daily. Patients taking antifungals should not consume alcohol. Antifungals can cause liver and renal toxicity, so patients will need lab monitoring.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient who has AIDS is at risk to contract aspergillosis. The nurse will anticipate that which antifungal medication will be ordered prophylactically for this patient?

- a. Metronidazole (Flagyl)
- b. Micafungin (Mycamine)
- c. Posaconazole (Noxafil)
- d. Voriconazole (Vfend)

ANS: C

Posaconazole is given for prophylactic treatment of *Aspergillus* and *Candida* infections.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient is diagnosed with tinea capitis. The provider will order which systemic antifungal medication for this patient? N

- a. Anidulafungin (Eraxis)

- b. Fluconazole (Diflucan)
- c. Griseofulvin (Fulvicin)
- d. Ketoconazole (Nizoral)

ANS: C

Griseofulvin is used to treat tinea capitis. Anidulafungin is used to treat esophageal candidiasis, candidemia, and other Candida infections. Fluconazole is used to treat Candida infections and cryptococcal meningitis. Ketoconazole is used to treat Candida infections, histoplasmosis, blastomycosis, and other infections.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient who takes an oral sulfonylurea medication will begin taking fluconazole (Diflucan). The nurse will expect to monitor which lab values in this patient?

- a. Blood urea nitrogen (BUN) and creatinine
- b. Electrolytes
- c. Fluconazole levels
- d. Glucose

ANS: D

Patients taking sulfonylurea drugs may have altered serum glucose when taking antifungal medications.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient calls the clinic in November to report a temperature of 103° F, headache, a nonproductive cough, and muscle aches. The patient reports feeling well earlier that day. The nurse

will schedule the patient to see the provider and will expect the provider to order which medication?

- a. Amantadine HCl (Symmetrel)
- b. Influenza vaccine
- c. Oseltamivir phosphate (Tamiflu)
- d. An over-the-counter drug for symptomatic treatment

ANS: C

Current recommendations for the treatment of influenza types A and B are oseltamivir or zanamivir. Amantadine and rimantadine were formally used for prophylaxis and treatment against influenza A virus; but because of resistance in circulating influenza A, amantadines are not recommended. Influenza A is sensitive to oseltamivir and zanamivir. The influenza vaccine may be given later to protect against other strains. Over-the-counter medications may be used as adjunct treatment.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

18. A patient is diagnosed with influenza and will begin taking a neuraminidase inhibitor. The nurse knows that this drug is effective when taken within how many hours of onset of flu symptoms?

- a. 12 hours
- b. 24 hours
- c. 48 hours
- d. 72 hours

ANS: C

Neuraminidase inhibitors, such as zanamivir and oseltamivir, should be taken within 48 hours of onset of symptoms for best effect.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. The nurse receives an order to administer a purine nucleoside antiviral medication. The nurse understands that this medication treats which type of virus?

- a. Hepatitis virus
- b. Herpes virus
- c. HIV
- d. Influenza virus

ANS: B

Purine nucleosides, such as acyclovir, are used to treat herpes simplex viruses 1 and 2, herpes zoster virus, varicella-zoster virus, and cytomegalovirus.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. The nurse receives the following order for a patient who is diagnosed with herpes zoster virus: PO acyclovir (Zovirax) 400 mg TID for 7 to 10 days. The nurse will contact the provider to clarify which part of the order?

- a. Dose and frequency
- b. Frequency and duration
- c. Drug and dose
- d. Drug and duration

ANS: A

Acyclovir is used for herpes zoster, but the dose should be 800 mg 5 times daily for 7 to 10 days. The nurse should clarify the dose and frequency. For herpes simplex, 400 mg 3 times daily is correct.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. The nurse is teaching a patient who will receive acyclovir for a herpes virus infection. What information will the nurse include when teaching this patient?

- a. Blood cell counts should be monitored closely.
- b. Dizziness and confusion are harmless side effects.
- c. Increase fluid intake while taking this medication.
- d. Side effects are rare with this medication.

ANS: C

Patients taking acyclovir should increase fluid intake to maintain hydration. A complete blood count is not required, but WBC, platelets, hemoglobin, and hematocrit should be monitored. Dizziness and confusion should be reported to the provider. Antiviral medications have many side effects.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

22. A patient who is taking acyclovir (Zovirax) to treat an oral HSV-1 infection asks the nurse why oral care is so important. The nurse will tell the patient that meticulous oral care helps to:

- a. minimize transmission of disease.
- b. prevent gingival hyperplasia.
- c. reduce viral resistance to the drug.
- d. shorten the duration of drug therapy.

ANS: B

Good oral care can prevent gingival hyperplasia in patients with HSV-1.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

MULTIPLE RESPONSE

1. A client is being treated for tuberculosis. Which medications are used to treat this condition? (Select all that apply.)

- a. Streptomycin sulfate
- b. Amoxicillin (Amoxil)
- c. Ethambutol (Myambutol)
- d. Gentamicin (Garamycin)
- e. Rifabutin (Mycobutin)
- f. Ethionamide (Trecator-SC)
- g. Pyrazinamide

ANS: A, C, E, F, G

Streptomycin sulfate, ethambutol (Myambutol), rifabutin (Mycobutin), ethionamide (Trecator-SC), and pyrazinamide are used to treat tuberculosis. The other medications are not used.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. Which diseases are caused by herpes viruses? (Select all that apply.)

- a. Chicken pox
- b. Hepatitis N
- c. Influenza
- d. Mononucleosis
- e. Shingles



ANS: A, D, E

Herpes viruses cause chicken pox, mononucleosis, and shingles.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 28: Peptides, Antimalarials, and Anthelmintics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient who has traveled to an area with prevalent malaria has chills, fever, and diaphoresis. The nurse recognizes this as which phase of malarial infection?

- a. An erythrocytic phase
- b. An incubation phase
- c. A prodromal phase
- d. A tissue phase

ANS: A

The erythrocytic phase of malarial infection occurs when the parasite invades the red blood cells and is characterized by chills, fever, and sweating.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A patient is preparing to travel to a country with prevalent malaria. To prevent contracting the disease, the provider has ordered chloroquine HCl (Aralen). The nurse will instruct the patient to take this drug according to which schedule?

- a. 500 mg weekly beginning 2 weeks prior to travel and continuing for 8 weeks after travel
- b. 1000 mg weekly beginning 2 weeks prior to travel and continuing for 8 weeks after travel
- c. 500 mg once followed by 500 mg per dose in 6 hours, 24 hours, and 48 hours
- d. 1000 mg once daily for 2 days followed by 500 mg daily for 2 to 3 weeks

ANS: A

For malaria prophylaxis, chloroquine is started 2 weeks before entering an endemic area and then continued for 8 weeks after leaving the area. The dose is 500 mg weekly. The dosing schedule of 1000 mg once daily for 2 days followed by 500 mg daily for 2 to 3 weeks is used to treat acute malaria.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient is taking chloroquine (Aralen) to treat acute malaria. Which statement by the patient indicates understanding of this medication?

- a. "I should abstain from alcohol while taking this medication."
- b. "I will have to take this medication indefinitely to avoid recurrence of my infection."
- c. "I should report visual changes immediately."
- d. "I should take this drug on an empty stomach."

ANS: C

Patients taking chloroquine (Aralen) should report any visual changes or symptoms to the provider. One does not need to abstain from alcohol, but if the patient drinks large amounts of alcohol or has a liver disorder, the liver enzymes will require closer monitoring. The patient will likely need to be on therapy for 2-3 weeks, not indefinitely.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient will take an anthelmintic medication and asks the nurse about common side effects. The nurse will tell the patient that anthelmintic drugs:

- a. can cause hepatic toxicity.
- b. Most commonly cause orthostatic hypotension.
- c. Most commonly result in gastrointestinal (GI) side effects.
- d. have many serious adverse reactions.

ANS: C

Anthelmintic drugs have many GI side effects, including anorexia, nausea, vomiting, diarrhea, and cramps. Adverse reactions do not occur frequently given the short treatment duration of 1-3 days.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A child is being treated for pinworms, and the parent asks the nurse how to prevent spreading this to other family members. What will the nurse tell the parent?

- a. "Give your child baths every day."
- b. "Obtain a daily stool specimen from your child."
- c. "Change sheets, bedclothes, towels and underwear weekly."
- d. "Your child should wash hands well before meals and after using the toilet."

ANS: D

To prevent the spread of pinworms, good hand washing after toileting is recommended. Patients should take showers, not baths. It is not necessary to get regular stool specimens. Sheets, bedclothes, towels and underwear should ideally be changed daily.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A child is diagnosed with pinworms. Which anthelmintic drug will the provider likely order for this child?

- a. Bithionol (Bitin)
- b. Diethylcarbamazine (Hetrazan)
- c. Pyrantel pamoate (Pin Rid)
- d. Praziquantel (Biltricide)

ANS: C

Pyrantel pamoate is used to treat pinworms. The other drugs treat other types of parasites.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer an intravenous polymyxin antibiotic. The patient reports dizziness along with numbness and tingling of the hands and feet. The nurse will perform which action?

- a. Administer the drug since these are harmless side effects.
- b. Hold the drug and notify the provider of these adverse reactions.
- c. Obtain an order for an oral form of this medication.
- d. Request an order for serum electrolytes.

ANS: B

Polymyxins can cause nephrotoxicity and neurotoxicity. This patient has signs of neurotoxicity, so the nurse should notify the provider. These effects are generally reversible when the drug is discontinued. It is not correct to administer the drug when these symptoms are present. Polymyxins are not absorbed orally. Serum electrolytes are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A young adult female is prescribed metronidazole (Flagyl) to treat trichomoniasis. Which of the following is FALSE regarding metronidazole?

- a. Metronidazole is not appropriate for this patient because it is only indicated for bacterial infections.
- b. Alcohol use is contraindicated.
- c. Metronidazole is available in multiple dosage forms, including oral, topical, intravaginal, and IV products.
- d. Metronidazole can be used for both bacterial and protozoal infections.

ANS: A

Metronidazole can be used to treat both bacterial and protozoal infections and would be an appropriate therapy for treating trichomoniasis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient presents to the clinic with pediculosis (head lice). Which of the following will most likely be prescribed?

- a. metronidazole (Flagyl)
- b. ivermectin (Nix)
- c. chloroquine (Arelen)
- d. praziquantel (Biltricide)

ANS: B

Ivermectin is a broad-spectrum anthelmintic agent that is commonly used topically to treat head lice.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 29: HIV- and AIDS-Related Drugs

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is caring for a 55-year-old patient who has been HIV-infected for 15 years. The nurse understands that this patient:
- has an increased risk of transmitting the HIV infection.
  - is less likely to develop AIDS than younger persons with HIV infection.
  - is less likely to respond to antiretroviral agents.
  - may have comorbid illnesses that can complicate HIV.

ANS: D

Older HIV-infected patients may have age-related comorbid illness that can complicate management of HIV infection.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A patient who is newly diagnosed with HIV infection after a recent exposure calls to report fever, sore throat, myalgia, and night sweats. The nurse will notify the provider that this patient is most likely experiencing which of the following?
- acute retroviral syndrome.
  - AIDS.
  - an increased viral load. N

- d. an opportunistic infection.

ANS: A

Acute retroviral syndrome often occurs 2 to 12 weeks after exposure and is caused by rapid viral replication. This patient is experiencing symptoms of this syndrome. AIDS is a diagnosis that indicates advanced disease. Opportunistic infection symptoms are related to the type of infection.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

3. A patient with HIV infection has been receiving antiretroviral therapy for 2 months. At the initiation of treatment, the patient had a viral load (VL) of 60 copies/mL and a CD4 count of 450 cells/mm<sup>3</sup>. Today's lab results reveal a VL of 20 copies/mL and a CD4 cell count of 800 cells/mm<sup>3</sup>. How will the nurse interpret the patient's results?

- a. A drug-resistant strain is likely.
- b. The patient is progressing as expected.
- c. The patient's treatment goals have been met.
- d. Treatment failure has occurred.

ANS: B

The treatment goal would be a VL of <20 copies/mL and a CD4 cell count between 800 and 1200 cells/mm<sup>3</sup>. This goal should be achieved in 16 to 24 weeks. Since this patient has shown improvement, progress has been made, and treatment should continue. A drug-resistant strain is not likely to respond to therapy. Treatment failure is not evident.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A pregnant patient is HIV-positive. Which of the following is true of antiretroviral therapy during pregnancy?

- a. To avoid toxicity to the fetus, antiretroviral therapy is discontinued during pregnancy

- b. To minimize toxicity to the fetus, antiretroviral monotherapy is used
- c. Combination antiretroviral drug therapy is the standard of care during pregnancy
- d. Intravenous antiretroviral therapy is absolutely contraindicated

ANS: C

To prevent mother-to-child transmission of HIV, ART is recommended in all pregnant patients who test positive for HIV infection, regardless of virologic, immunologic, or clinical parameters.

Combination drug therapy is considered the standard of care for both treatment of maternal HIV infection and prophylaxis to reduce the risk for perinatal HIV transmission. The goal of ART is to achieve maximal and sustained viral suppression during pregnancy to prevent perinatal transmission of HIV. If viral load is greater than or equal to 400 copies/mL, IV zidovudine is recommended regardless of current ART.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

5. A patient who is HIV-positive begins therapy with the fixed-dose combination nucleoside reverse transcriptase inhibitor (NRTI) Combivir (lamivudine/zidovudine) twice daily. The patient is in the clinic for follow-up 1 week after initiation of therapy and reports having nausea. The patient's creatinine clearance is 40 mL/minute. Based on these findings, the nurse will perform which action?

- a. Instruct the patient to take the medication 60 minutes prior to meals.
- b. Notify the provider to discuss dose adjustments.
- c. Request an order for once-daily dosing of this medication.
- d. Suggest that the patient increase fluid intake.

ANS: B

Patients should have dosage adjustments of NRTIs if creatinine clearance is less than 50 mL/min. The patient will need single-dose medications so that adjustments can be made. Taking the medication prior to meals improves absorption of didanosine but does not alter the side effect of nausea for Combivir, which should subside in the next week or so. This combination product is not given once daily. Increasing fluid intake will not affect this

patient's symptoms.



DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient who has HIV infection will begin treatment with efavirenz. The nurse expects this agent to be given in combination with other antiretrovirals in order to:

- a. avoid development of psychiatric comorbidities.
- b. prevent dizziness, sedation, and nightmares.
- c. reduce viral resistance.
- d. prevent severe rash and hepatotoxicity.

ANS: C

Efavirenz is optimally given in combination with other antiretroviral agents. The primary reason for using combination products is to reduce viral resistance. Efavirenz should not be given to patients who have psychiatric histories. Efavirenz may cause dizziness, sedation, nightmares, rash, and hepatotoxicity, but this is not minimized with combination therapy.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient who is HIV-infected takes 800 mg of indinavir (Crixivan), a protease inhibitor medication. The provider has ordered adding ritonavir (Norvir) to the regimen. The nurse will teach the patient that the addition of ritonavir:

- a. allows decreasing the dosing from 3 times daily to twice daily.
- b. can lead to increased cholesterol and triglycerides.
- c. may worsen insulin resistance.
- d. will require increased dietary restrictions.

ANS: A

Ritonavir boosting is a mainstay of protease inhibitor therapy and can reduce dosing frequency and pill burden as well as overcome viral resistance. It does not increase the likelihood of elevated

cholesterol and triglycerides or insulin resistance and does not lead to increased dietary restrictions.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient will begin taking the protease inhibitor combination Kaletra (lopinavir/ritonavir). What information will the nurse include when teaching the patient about dietary changes?

- a. Consume a low-cholesterol diet.
- b. Consume more acidic foods.
- c. Take the pill on an empty stomach.
- d. Take the pill with fatty foods.

ANS: A

Protease inhibitors generally cause elevations of cholesterol and triglycerides, so patients should be counseled to consume a low-fat diet.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has recently begun antiretroviral therapy with a combination drug develops immune reconstitution inflammatory syndrome (IRIS) with mild symptoms. What does the nurse expect that the provider will recommend next?

- a. Administration of a high dose of corticosteroids
- b. Changing the regimen to a single antiretroviral drug
- c. Temporarily discontinuing the antiretroviral therapy
- d. Treating an underlying opportunistic infection

ANS: D

IRIS is related to specific opportunistic infections that must be treated. Anti-inflammatory medications, such as corticosteroids, may be used if indicated after the underlying infection is treated. Changing or discontinuing the antiretroviral therapy regimen is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who will begin antiretroviral therapy reports having trouble sticking with drug regimens in the past. Which action will the nurse take?

- a. Ask the patient's family members to administer the medications.
- b. Avoid discussing adverse effects to prevent focus on negative aspects of ART.
- c. Give a detailed list of medications and stress the need to adhere to the schedule.
- d. Offer written and verbal information about each drug's purpose.

ANS: D

Patients often are more motivated to adhere to a drug regimen if they understand the purpose of the medications. Patients should be encouraged to take responsibility for their medications. Side effects need to be discussed so patients can plan ways to manage these before they occur.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is caring for a patient who is HIV-positive and has been receiving antiretroviral therapy for several months. The nurse experiences a needlestick injury resulting in exposure to the patient's blood. The nurse asks the Occupational Health nurse if treatment is necessary. How will the Occupational Health nurse respond?

- a. "No treatment is necessary since the patient is receiving antiretroviral therapy."
- b. "We will treat you if the patient's VL is greater than 20 copies/mL."
- c. "You will require 4 weeks of antiretroviral therapy."
- d. "You will undergo HIV testing and will be treated if you are positive."

ANS: C

Persons exposed to the blood of HIV-infected patients should receive 4 weeks of antiretroviral therapy.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

### Chapter 30: Transplant Drugs

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. The nurse is teaching a patient who will begin taking basiliximab in conjunction with a kidney transplant. Which of the following would be appropriate to include when counseling the patient?
  - a. The drug is used to boost the immune system.
  - b. The drug is taken by mouth before and after the transplant surgery.
  - c. Nausea, vomiting, fever, and chills are common side effects.
  - d. Basiliximab is primarily used for patients receiving a heart transplant.

ANS: C

Nausea, vomiting, fever, and chills are common side effects. Basiliximab provides intense immunosuppression to reduce the risk for acute rejection during the initial transplant period. The drug is administered intravenously 2 hours before transplant surgery followed by a second dose 4 days after transplantation. Basiliximab is approved for induction therapy in kidney transplant patients.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who has had an organ transplant is prescribed cyclosporine for maintenance therapy. Which statement by the patient indicates further teaching is needed?
- a. "I will have to have blood tests drawn regularly while taking this medication."
  - b. "I should avoid drinking grapefruit juice while on this medication."
  - c. "I have to avoid receiving live vaccines."
  - d. "Cyclosporine does not enter breast milk so there are no concerns with breast feeding."

ANS: D

Cyclosporine is present in breast milk. Because of the potential for serious adverse drug reactions in nursing infants, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Therapeutic drug monitoring and safety labs are required. Grapefruit juice can affect the metabolism of cyclosporine and should be avoided. Patients should not receive live vaccines while taking cyclosporine.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

3. Your patient is taking belatacept and develops posttransplant lymphoproliferative disorder (PTLD). PTLD primarily affects:
- a. the liver
  - b. the heart
  - c. the kidneys
  - d. the nervous system

ANS: D

PTLD primarily affects the central nervous system.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. Combination of corticosteroids with certain antibiotics can result in which of the following?
- a. Increased risk of QT prolongation and arrhythmias
  - b. Increased risk of hypokalemia
  - c. Increased risk of hyperglycemia
  - d. Increased risk of ophthalmic toxicity

ANS: A

Chronic corticosteroid therapy with macrolide antibiotics increases the risk of ventricular arrhythmias. Combination of corticosteroids with diuretics can increase the risk of hypokalemia. Corticosteroid use in general is associated with risk of hyperglycemia and ophthalmic toxicity.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The patient tells the nurse that he understands that transplant rejection may happen and asks what can be done to minimize risk of rejection and other negative outcomes. What will the nurse include in the teaching? N
- a. "An anti-T-cell antibody should be used in conjunction with corticosteroid therapy for best results."
  - b. "ATG rabbit started immediately after transplant can help prevent rejection."
  - c. "Transplant rejection drugs can be used and while they have unwanted side effects, none are deadly."

d. "Caution needs to be taken when other immunosuppressant drugs are administered to avoid serious infections."

ANS: D

Caution needs to be taken when other immunosuppressant drugs are administered because of the increased risk of serious infection. Treatment of rejection with an anti-T-cell antibody is used when corticosteroids have failed to reverse rejection or for treatment of a recurrent rejection. ATG rabbit is indicated to manage transplant rejection, but would not be used prophylactically to prevent rejection immediately after transplant. These drugs have unwanted side effects, some of which are serious and potentially deadly.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. The patient on immunosuppressant medications is speaking to the nurse about appropriate activities. Which statement requires intervention? (Select all that apply.)

- a. "I am going to the state fair with my friends."
- b. "I enjoy working in my garden to relax."
- c. "I will brush my teeth after meals."
- d. "It's OK to eat fresh fruits and vegetables."
- e. "I should get a new glass, if the one I am drinking from has been sitting out."
- f. "I should bath daily, using an antimicrobial soap."

ANS: A, B, D

Immunosuppressed patients should stay away from crowds and people who are sick. Fresh flowers, live plants, gardening, and standing water should be avoided. One should brush teeth at least twice a day with a soft toothbrush and bathe daily. In general, the patient should avoid activities that increase the risk of exposure to bacteria/germs.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

N

## Chapter 31: Vaccines

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is discussing vaccines with the mother of a 4-year-old child who attends a day care center that requires the diphtheria, tetanus, acellular pertussis (DTaP) vaccine. The mother, who is pregnant, tells the nurse that she does not want her child to receive the pertussis

vaccine because she has heard that the disease is “not that serious” in older children. What information will the nurse include when discussing this with the mother?

- a. If she gets the vaccine, both she and her 4-year-old child will be protected.
- b. If the 4-year-old child contracts pertussis, it can be passed on to her newborn.
- c. The vaccine will not be given to her child while she is pregnant.



- d. Vaccinating the 4-year-old will provide passive immunity for her unborn child.

ANS: B

Even though pertussis is not as serious in older children, it is important to vaccinate children to prevent the spread of the disease to infants and others who are not immunized and who are at risk for significant morbidity and mortality from this disease. Vaccinating the mother will not protect the 4-year-old from getting pertussis. The DTaP vaccine may be given to children whose mothers are pregnant. Vaccinating the child does not confer passive immunity to the unborn child.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A woman who is pregnant tells the nurse she has not had any vaccines but wants to begin so that she can protect her unborn child. Which vaccine(s) may be administered to this patient?

- a. Human papillomavirus (HPV) quadrivalent vaccine (Gardasil)
- b. Trivalent influenza vaccine
- c. Measles-mumps-rubella (MMR) vaccine
- d. Varicella vaccine

ANS: B

The influenza vaccine is recommended for pregnant women and should be given. Gardasil is given to young women who are not yet sexually active. The MMR is contraindicated because rubella can cause serious teratogenic effects. Varicella is contraindicated during pregnancy.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A 4-year-old child is receiving amoxicillin (Amoxil) to treat otitis media and is in the clinic for a well-child checkup on the last day of antibiotic therapy. The provider orders varicella (Varivax); measles-mumps-rubella (MMR); inactivated polio (IPV); and diphtheria, tetanus, and acellular pertussis (DTaP) vaccines to be given. Which action by the nurse is correct?

- a. Administer the vaccines as ordered.

- b. Discuss giving the MMR vaccine in 4 weeks.
- c. Hold all vaccines until 2 weeks after antibiotic therapy.
- d. Recommend aspirin for fever and discomfort.

ANS: A

Antibiotic therapy is not generally a contraindication to the use of vaccines. Vaccines may be given in cases of mild acute illness or during the convalescent phase of an illness. All four vaccines may be given. If the MMR or other live virus vaccine is not given the same day as the varicella vaccine, administration of the two vaccines should be separated by at least 4 weeks. Aspirin should not be given because of the increased risk of Reye syndrome.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient is preparing to travel with a 4-year-old child to India in 10 days and is in the clinic to receive typhoid vaccines. Which vaccines will be given to the parent and the child?
- a. Four capsules of live, oral vaccine to both patients
  - b. Four capsules of live, oral vaccine for the parent and the intramuscular (IM) polysaccharide vaccine for the child
  - c. Four capsules of live, oral vaccine for the child and the IM polysaccharide vaccine for the parent
  - d. IM polysaccharide for both patients

ANS: D

While the live, oral vaccine may be given to patients older than 6 years, each capsule must be taken 48 hours apart with the last capsule given 1 week prior to travel. There would not be enough time to complete the regimen since the patients leave in 10 days. Children under age 6 cannot receive the oral vaccine.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A 48-month-old child is scheduled to receive the following vaccines: MMR, varicella vaccine (Varivax), IPV, and DTaP. The child's parents want the child to receive two vaccines today and the other two in 1 week. To accommodate the parents' wishes, the nurse will administer

- a. the DTaP and Varivax today and the MMR and IPV in 1 week.
- b. the IPV and MMR today and the Varivax and DTaP in 1 week.
- c. the MMR and DTaP today and the Varivax and IPV in 1 week.
- d. the MMR and Varivax today and the DTaP and IPV in 1 week.

ANS: D

If the MMR or other live virus vaccine is not given the same day as the varicella vaccine, administration of the two vaccines should be separated by at least 4 weeks. In the incorrect answer, the two live virus vaccines are given only 1 week apart.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A young adult patient is in the clinic to receive a tetanus vaccine after sustaining a laceration injury. The nurse learns that the patient, who works in a day care center, has not had any vaccines for more than 10 years. Which vaccine will the nurse expect to administer?

- a. DT
- b. DTaP
- c. Td
- d. Tdap

ANS: D

Persons who work with children should receive acellular pertussis vaccine. The Tdap is given to adults. The DTaP is given to children up to age 6. The DT and Td do not contain pertussis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer rotavirus vaccine to a 4-month-old infant. The nurse notes that the infant received RV1 vaccine at 2 months of age. The nurse will plan to administer which of the following?

- a. RV1 today.
- b. RV1 today and again at age 6 months.
- c. RV5 today.
- d. RV5 today and again at age 6 months.

ANS: A

Patients receiving RV1 receive 2 doses at age 2 and 4 months only.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A provider has ordered recombinant HPV quadrivalent vaccine (Gardasil) to be given to a prepubertal 9-year-old female. The parent asks the nurse if this vaccine can be postponed until the child is in high school. The nurse will tell the parent that Gardasil:

- a. is less effective in older adolescents.
- b. is more effective if given before sexual activity begins.
- c. is more effective if given prior to the hormonal changes of puberty.
- d. is not effective if given after the onset of menses.

ANS: B

Gardasil is most effective when the client is not yet sexually active.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC:

NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. Which is an example of acquired passive immunity?

- a. Administration of IgG to an unimmunized person exposed to a disease
- b. Administration of an antigen via an immunization
- c. Inherent resistance to a disease antigen
- d. Immune response to an attenuated virus

ANS: A

Passive immunity occurs without stimulation of an immune response. Acquired immunity requires administration of immune globulin. Inherent resistance to a disease antigen describes the state of natural immunity, not acquired passive immunity. The other answers involve stimulation of an immune response.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Health Promotion and Maintenance

10. The parent of a 12-month-old child who has received the MMR, varicella, and hepatitis A vaccines calls the clinic to report redness and swelling at the vaccine injection sites and a temperature of 100.3° F. The nurse will perform which action?

- a. Recommend aspirin or a nonsteroidal anti-inflammatory drug (NSAID) for pain and fever.
- b. Recommend acetaminophen and cold compresses.
- c. Report these adverse effects to the Vaccine Adverse Event Reporting System (VAERS).
- d. Schedule an appointment in clinic so the provider can evaluate the child.

ANS: B

These are common, minor side effects of vaccines and can be treated with acetaminophen and cold compresses. Aspirin is contraindicated in children because of its association with Reye's syndrome. Since these are not serious adverse effects, they do not need to be reported to VAERS. It is not necessary to schedule a clinic visit, but the parent should be encouraged to re-contact the clinic if symptoms do not improve.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance

11. The provider orders the zoster vaccine (Zostavax) for a 60-year-old patient. The patient reports having had chicken pox as a child. Which action will the nurse take?

- a. Administer the vaccine as ordered.
- b. Counsel the patient that the vaccine may cause a severe reaction because of previous exposure.
- c. Hold the vaccine and notify the provider of the patient's history.
- d. Request an order for a varicella booster instead of the zoster vaccine.

ANS: A

Zostavax is given to boost the immunity to varicella-zoster virus among recipients. It is not likely to cause severe reaction secondary to prior exposure, since the immune response in most recipients has declined. Zostavax, not Varivax, is approved for this use.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance

## Chapter 32: Anticancer Drugs

McCuistion: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient who has cancer is about to begin chemotherapy. The patient asks the nurse why two chemotherapeutic agents are being used instead of just one. Which response by the nurse is correct?

- a. "The drugs may be given in less toxic doses if two drugs are used."
- b. "Two agents used together can have synergistic effects."
- c. "Use of two drugs will increase tumoricidal activity in the G0 phase of the cell."
- d. "Using two agents will shorten the length of time chemotherapy is needed."

ANS: B

Using two or more chemotherapeutic agents can have a synergistic effect. Combination therapy typically uses two drugs with different dose-limiting toxicities, but the use of more than one drug does not allow for using less toxic doses. Combination therapy allows cell kill in all phases of the cell cycle. Combination therapy does not shorten the length of time chemotherapy is needed.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who is about to begin chemotherapy asks the nurse when the risk of infection is highest. The nurse will tell the patient that infection risk is greatest at which point?
- a. A week to 10 days after each chemotherapy dose
  - b. During the week immediately after chemotherapy
  - c. Immediately prior to each dose of chemotherapy
  - d. When the patient's temperature is elevated by 1° F

ANS: A

Following chemotherapy administration, the time at which the blood count, including white blood cells, is lowest is typically 7 to 10 days after treatment.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is caring for a patient who is receiving a third dose of high-dose cyclophosphamide (Cytosan). The nurse notes hematuria. The nurse will notify the provider and will perform which action?
- a. Ask whether the patient takes allopurinol (Lopurin).
  - b. Assess the patient's skin and fingernails for darkening.

- c. Question the patient about fluid intake.
- d. Reassure the patient that this is an expected side effect.

ANS: C

Hemorrhagic cystitis is a common adverse effect of high-dose cyclophosphamide and can be mitigated by increasing fluid intake. Allopurinol is given to treat gout, which is characterized by uric acid crystalluria. Darkening of the fingernails and skin is a common adverse effect of cyclophosphamide but is unrelated to hemorrhagic cystitis.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient is prescribed raloxifene as a cancer prophylactic agent. Which type of cancer is this being used to prevent?
- a. Prostate cancer.
  - b. Colon cancer.
  - c. Multiple myeloma.
  - d. Breast cancer.

ANS: D

Selective estrogen receptor modulators (SERMs) such as tamoxifen and raloxifene have both estrogenic and antiestrogenic effects on various tissues. Tamoxifen is primarily used for breast cancer in both men and women. Raloxifene produces estrogenic effects in bone and lipids and has an antiestrogenic property in mammary tissues. It is used as a prophylactic against breast cancer in high-risk postmenopausal women with osteoporosis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



5. The nurse is teaching a patient who will take oral cyclophosphamide (Cytoxan). Which statement by the patient indicates understanding of the teaching?

- a. "I should follow a diet high in organ meats and beans while taking this drug."
- b. "I should brush my teeth and gums vigorously twice daily."
- c. "I should report any low-grade temperature elevation immediately."
- d. "I should take the drug at bedtime to minimize side effects."

ANS: C

Even a low-grade temperature should be reported because it can indicate significant infection in immunocompromised patients. Patients should eat a low-purine diet while taking this medication. Patients should brush teeth and gums with a soft bristle toothbrush. Patients should take the medication early in the day to avoid accumulation in the bladder.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient is receiving bleomycin (Blenoxane) as part of a chemotherapeutic regimen to treat leukemia. During IV administration of this drug, what will the nurse observe the patient closely for?

- a. Hypotension and visual disturbances
- b. Pain and blistering at the IV site
- c. Pink to red urine
- d. Shortness of breath and wheezing

ANS: D

Bleomycin can cause anaphylaxis, so patients should be monitored for respiratory distress. Pain and blistering at the IV site is common to antitumor antibiotics, except for bleomycin. Urine color changes occur with doxorubicin. Vincristine causes hypotension and visual disturbances.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Evaluation/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient is receiving the antitumor antibiotic doxorubicin (Adriamycin) to treat lung cancer. The patient is experiencing shortness of breath and palpitations. The nurse is concerned that the patient has developed which condition?

- a. Anemia
- b. Cardiotoxicity
- c. Hypersensitivity
- d. Pulmonary infection

ANS: B

Cardiotoxicity is a known adverse effect of this drug and is manifested in shortness of breath, edema, and palpitations.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who is receiving vincristine (Oncovin), a plant alkaloid chemotherapeutic agent, to treat non-Hodgkin lymphoma. The nurse observes that the patient has difficulty walking. What action will the nurse take?

- a. Ask about numbness or tingling in the fingers and toes.
- b. Assess heart rate and blood pressure to evaluate for orthostatic hypotension.
- c. Assess the temperature to evaluate for infection.
- d. Request an order for a complete blood count and electrolytes.

ANS: A

Peripheral neuropathy can occur with this drug and is manifested by difficulty in walking and numbness and tingling in the fingers and toes. Orthostatic hypotension is not a side effect.

Infection is always a concern, and regular evaluation of complete blood count and electrolytes is performed but not related to signs of peripheral neuropathy.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A woman who has advanced breast cancer will begin receiving androgen therapy. The nurse will explain to the patient that androgen therapy is used to:

- a. enhance her own estrogen production.
- b. give her a sense of well-being.
- c. minimize hot flashes.
- d. oppose the activity of estrogen.

ANS: D

Androgen is used to treat breast cancer to promote regression of tumors by opposing the activity of estrogen. Exogenous androgen therapy is most effective for palliative treatment of breast cancer among postmenopausal women. Other hormonal therapies are used in other circumstances to promote well-being and treat hot flashes.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is teaching a patient who is receiving vincristine (Oncovin) about long-term management of the treatment regimen. Which information will the nurse provide in teaching the patient?

- a. "If you experience numbness of your hands, it will eventually resolve."
- b. "If your IV starts to hurt, you should pull the IV out immediately."
- c. "You should ask for anti-nausea medication at the first sign of nausea."
- d. "You should report difficulty buttoning your clothes to your provider."

ANS: D

Difficulty buttoning clothing is a sign of peripheral neuropathy and should be reported. Numbness of hands may resolve after chemotherapy is stopped, but it may never resolve. If the IV infiltrates, the infusion should be stopped and the needle left in until attempts to aspirate residual vesicant are performed. Anti-nausea medication should be given prior to beginning the infusion.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

MULTIPLE RESPONSE

1. The nurse is caring for a patient who is receiving 5-fluorouracil (5-FU) to treat pancreatic cancer. Which interventions are included in the nurse's plan of care for this patient? (Select all that apply.)

- a. Apply ice to the IV site if the patient reports pain.
- b. Administer antiemetics when the patient reports nausea.
- c. Counsel the patient to use waxed dental floss.
- d. Discourage visits with people who have respiratory infections.
- e. Offer ice chips frequently.
- f. Restrict to nothing by mouth during IV drug administration.

ANS: A, C, D, E

If the patient reports pain at the IV site, the nurse should apply ice and notify the provider. Patients should use waxed dental floss to avoid bleeding of the gums. Advise patient not to visit anyone who has a respiratory infection. Ice chips help with oral pain. Antiemetics should be given prior to administration of the drug. Patients do not need to be nothing per os (NPO) during the IV infusion.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 33: Targeted Therapies to Treat Cancer

McCuistion: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is teaching a patient who will begin receiving targeted therapy for cancer. The patient asks how targeted therapy differs from other types of chemotherapies. The nurse will explain that targeted therapy:

- a. damages cancer cell DNA to prevent cell replication.
- b. directly kills or damages cancerous cells.
- c. interferes with specific molecules in cancer cells.
- d. prevents metastasis of cancer cells.

ANS: C

Targeted therapy differs from traditional cancer chemotherapy by taking advantage of biologic features particular to cancer cells and targeting specific mechanisms. They block the growth and spread of cancer by interfering with specific molecules within the cancer cells.

Traditional chemotherapeutic agents damage cell DNA of cancer cells as well as normal cells. Targeted therapies do not directly kill or damage cancer cells or prevent metastasis.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who has metastatic colorectal cancer tells the nurse that a cousin who had colorectal cancer received bevacizumab (Avastin) and wonders how the drug works. The nurse will explain that bevacizumab works by targeting which of the following?

- a. HER2 receptors.

- b. epidermal growth factor receptor-tyrosine kinase.
- c. the BRCA1 suppressor gene.
- d. vascular endothelial growth factor (VEGF) proteins.

ANS: D

Bevacizumab acts by blocking VEGF (vascular endothelial growth factor); blocking VEGF may prevent the growth of new blood vessels, including those that may feed the tumor.

Gefitinib is used when epidermal growth factor receptor (EGFR)-TK are present. Trastuzumab is used when significant HERS receptors are present.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

3. The nurse is performing a history on a patient who will begin taking bevacizumab (Avastin). Which aspect of the patient's history should be reported to the oncologist treating this patient?
- a. History of hepatitis
  - b. Hypertension
  - c. Recent treatment for a GI obstruction
  - d. Weight loss

ANS: C

Bevacizumab carries a warning for gastrointestinal obstruction or perforation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The patient asks the nurse what apoptosis means. The nurse will explain that apoptosis refers to:

- a. alteration of cellular functions.
- b. inhibition of cell division.
- c. prevention of cell phase progression.
- d. slow, planned cellular death.

ANS: D

Apoptosis is programmed cell death, designed to ensure that tissues contain only healthy and optimally functional cells.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

5. Which of the following agents is NOT an epidermal growth factor receptor (EGFR) inhibitor?
- a. Alectinib
  - b. Erlotinib
  - c. Gefitinib
  - d. Osimertinib

ANS: A N

Alectinib is a tyrosine kinase inhibitor. Erlotinib, gefitinib and osimertinib are all EGFR inhibitors.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse performs a medication history on a patient who will begin targeted therapy for cancer with gefitinib (Iressa). The nurse learns that the patient is taking carbamazepine, a histamine<sub>2</sub> blocker, and warfarin. The nurse will anticipate that the provider will make which change to the medication regimen?

- a. decrease the gefitinib dose.

- b. decrease the warfarin dose.
- c. increase the histamine2 blocker dose.
- d. increase the carbamazepine dose.

ANS: B

When patients taking warfarin take gefitinib, the effectiveness of the warfarin is greatly increased, and bleeding risks increase. Carbamazepine and histamine2 blockers decrease the effectiveness of gefitinib, so decreasing the gefitinib dose or decreasing the carbamazepine or histamine2 blocker is not recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer intravenous temsirolimus (Torisel). To prevent a common adverse drug effect, the nurse will expect to administer which type of drug?

- a. An antibiotic
- b. An anticoagulant
- c. An antiemetic
- d. An antihistamine

ANS: D

Hypersensitivity reactions to temsirolimus are common, and pretreatment with antihistamines is recommended. Other drugs are given as needed but not prophylactically.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



8. A patient who is taking the tyrosine kinase inhibitor sunitinib (Sutent) calls to report red, painful, and swollen palms and soles of feet. The nurse will perform which action?

- a. Notify the patient's provider of this adverse reaction.
- b. Reassure the patient that these are common side effects.
- c. Recommend taking acetaminophen for discomfort.
- d. Suggest taking diphenhydramine to help with the swelling.

ANS: A

The nurse should notify the provider if the patient reports these symptoms, since they may indicate erythrodysesthesia. Reassuring the patient or recommending over-the-counter treatments is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. What action is most important for the nurse to teach the patient taking imatinib?

- a. "The medication will cause the stool to be black; do not worry about that."
- b. "Acetaminophen can be used for headaches."
- c. "Limit your fluid intake to 1 liter each day."
- d. "Be diligent about using birth control while you are on this medication."

ANS: D

Women should avoid pregnancy throughout treatment and for up to 12 months after treatment is complete. Black stools should be reported immediately. Acetaminophen is metabolized in the liver and should be avoided while on this drug. Fluids are encouraged.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 34: Biologic Response Modifiers

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient is receiving interferon alpha (Roferon-A) subcutaneously. The patient experiences chills, fatigue, and malaise, and the nurse assesses a temperature of 102° F. The nurse will notify the provider of the temperature and will anticipate which order?
- a. Administer acetaminophen (Tylenol).
  - b. Change to intravenous (IV) interferon alpha.
  - c. Give diphenhydramine (Benadryl).
  - d. Obtain a serum blood urea nitrogen (BUN) and creatinine level.

ANS: A

The major side effects of interferon are flulike symptoms with chills, fever, fatigue, malaise, and myalgia. Acetaminophen is given to treat this initially. Changing to an IV form does not alter the side effects. Diphenhydramine is given to reduce histamine effects. It is not necessary to obtain laboratory work when these symptoms initially occur.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. Prior to administration of interferon alpha, the nurse will administer which medications?
- a. Acetaminophen and diphenhydramine
  - b. Heparin and meperidine
  - c. Lorazepam and furosemide
  - d. Narcotic analgesics and loratadine

ANS: A

Patients receiving these drugs should be premedicated with acetaminophen to reduce chills and fever and with diphenhydramine to reduce histamine effects.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. Which of the following is an indication for use of IFN- $\beta$ ?
- a. Chronic granulomatous disease.
  - b. Hairy cell leukemia.
  - c. Multiple sclerosis.
  - d. Kaposi sarcoma.

ANS: C

Interferon beta is indicated for treatment of relapsing-remitting forms of multiple sclerosis. Interferon gamma is used to treat chronic granulomatous disease. Interferon alfa-2b is indicated to treat hairy cell leukemia and Kaposi sarcoma.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has cancer will begin treatment with a colony-stimulating factor. The patient verbalizes understanding of why the drug is being used with which statement?
- a. "This drug permit use of higher doses of chemotherapy."
  - b. "This drug has antitumor activity."
  - c. "This drug has cytotoxic effects."

- d. "This drug has antiviral effects."

ANS: A

Colony-stimulating factors permit the delivery of higher doses of drugs because they counter myelosuppression. They do not have antitumor activity, cytotoxic effects, or antiviral effects.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient is receiving the erythropoietin-stimulating agent (ESA) epoetin alfa (Procrit). Which assessment finding would cause the nurse to notify the patient's provider?

- a. Blood pressure of 90/65 mm Hg
- b. Headache and nausea
- c. Hemoglobin >11 g/dL
- d. Infiltration of the IV

ANS: C

There is an increased risk of death and serious cardiovascular events when hemoglobin is greater than 11 g/dL. There is no need to notify the provider of the other findings.

N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient who is receiving cancer chemotherapy has been ordered to receive epoetin alfa (Procrit) 150 units/kg 3 times weekly. The nurse reviews the patient's chart and notes a hemoglobin level of 10.9 g/dL. The nurse will perform which action?

- a. Administer the medication as ordered.
- b. Hold the dose and notify the provider.

- c. Reduce the dose by 25%.
- d. Request an order for an increased dose.

ANS: B

For patients receiving cancer chemotherapy, ESAs should not be initiated at a hemoglobin level greater than or equal to 11 g/dL. Because the patient has a hemoglobin of 10.9 g/dL it would be prudent to hold the dose and notify the provider to determine next steps.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient has been receiving an ESA for 8 weeks. The nurse reviews the patient's chart and notes no increase in hemoglobin levels from 8 g/dL on week 3 of therapy. The nurse will request an order for which of the following?

- a. a complete blood count and serum iron levels.
- b. an increased dose of the ESA.
- c. more frequent dosing of the ESA.
- d. packed red blood cell infusions.

ANS: A

If there is no response, ESAs should be discontinued after 8 weeks of therapy. If a patient does not respond, iron deficiency or underlying hematologic disease should be considered and evaluated.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient is receiving bone marrow transplantation for cancer and receives filgrastim (Neupogen). The patient reports severe abdominal pain in the left upper quadrant. The nurse will perform which action?

- a. Administer acetaminophen 650 mg.
- b. Administer an antiemetic medication.
- c. Report a potentially life-threatening event.
- d. Request an order for cardiac enzyme levels.

ANS: C

Splenic rupture can occur with this drug and is manifested by pain in the left upper quadrant. The nurse should report the abdominal pain to the provider so the patient can be evaluated for splenic rupture.

DIF: Cognitive Level: ApplyingN(Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient with cancer is receiving aldesleukin. The patient reports black stools, which the nurse recognizes as:

- a. a sign of cancer metastasis.
- b. an indication of gastrointestinal bleeding.
- c. caused by inadequate hydration.
- d. renal failure.

ANS: B

Black stools suggest gastrointestinal bleeding, an absolute contraindication for aldesleukin. It is not a sign of cancer metastasis, inadequate hydration, or renal failure.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is preparing to give sargramostim to a patient who has acute myelogenous leukemia. The nurse assesses a heart rate of 78 beats per minute and a blood pressure of 120/70 mm Hg. The patient reports shortness of breath and has a cough and bilateral crackles. What will the nurse do next?

- a. Contact the provider; discuss giving a lower dose.
- b. Contact the pharmacist; request a bronchodilator.
- c. Contact the pharmacist; request an order for furosemide.
- d. Contact the provider; suggest administration of antibiotics.

ANS: A

Patients receiving this drug can experience sequestration of granulocytes in the pulmonary circulation and may experience dyspnea. The sargramostim infusion should be reduced by half if this occurs. Bronchospasm, pulmonary edema, and infection are not common side effects. Calling the pharmacist to request medication is an incorrect nursing action; antibiotics are not warranted in this situation.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is preparing to administer interleukin-2 (aldesleukin) to a patient who has cancer. The patient reports shortness of breath. The nurse assesses clear breath sounds, a respiratory rate of 22 breaths per minute, a heart rate of 80 beats per minute, an oxygen saturation of 88% on room air, and a blood pressure of 92/68 mm Hg. The nurse will perform which action?

- a. Administer the dose as ordered.
- b. Administer oxygen while giving the dose.
- c. Discuss permanently discontinuing this treatment with the provider.
- d. Hold the dose and notify the provider.

ANS: D

Because of the pulmonary symptoms associated with aldesleukin, the drug should be held if the patient has an oxygen saturation <90% on room air. It may be given when the patient's oxygen

saturation improves. The drug does not need to be permanently discontinued unless the patient requires intubation for more than 72 hours.

N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 35: Upper Respiratory Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A patient who has narrow-angle glaucoma asks the nurse to recommend a medication to alleviate cold symptoms such as nasal congestion and runny nose. The nurse will suggest the patient talk to the provider about which medication that is available as a nasal spray?

- a. Azelastine (Astelin)
- b. Cetirizine (Zyrtec)
- c. Chlorpheniramine maleate (Chlor-Trimeton)
- d. Diphenhydramine (Benadryl)

ANS: A

Antihistamines have anticholinergic effects, which are contraindicated in patients with narrow-angle glaucoma. If one needed to choose, cetirizine and azelastine are

second-generation antihistamines, with fewer anticholinergic side effects. Of the two, azelastine is a nasal spray and is less likely to have systemic side effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



2. The nurse is caring for a patient who is receiving diphenhydramine. The nurse notes that the patient has not voided for 12 hours. What action will the nurse take?

- a. Encourage the patient to drink more fluids.
- b. Evaluate the bladder to check for distension.
- c. Request an order for an intravenous fluid bolus.
- d. Request an order for urinary catheterization.

ANS: B

Diphenhydramine has anticholinergic effects, including urinary retention. The nurse should assess for bladder distension to determine if this is the case. Encouraging the patient to drink more fluids or giving intravenous fluids may be necessary if the patient has oliguria secondary to dehydration. Urinary catheterization is not indicated until urinary retention has been diagnosed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient arrives in the emergency department after developing a rash, runny nose, and sneezing after eating strawberries. What action will the nurse expect to take first?

- a. Administer diphenhydramine.
- b. Administer epinephrine.
- c. Assess for urinary retention.
- d. Assess heart rate, respiratory rate, and lung sounds.

ANS: D

The patient probably has a food allergy, since eating strawberries is the precipitating event. The nurse should assess cardiac and respiratory status to determine whether the patient is developing an anaphylactic reaction. Diphenhydramine will be given for mild allergic symptoms of rash, runny nose, and sneezing, but epinephrine must be given for anaphylaxis. Urinary retention is a side effect of diphenhydramine and will be assessed if diphenhydramine is given.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has seasonal allergies with a runny nose during the daytime reports increasing nighttime symptoms of coughing and sneezing that are interfering with sleep. The provider recommends diphenhydramine (Benadryl) at bedtime. What information will the nurse include when teaching the patient about this medication?

- a. "Avoid fluids at bedtime to prevent urinary retention."
- b. "This will help clear your daytime symptoms, too."
- c. "You should be able to sleep better when you take this medication."
- d. "You should take this medication on an empty stomach."

ANS: C

A side effect of diphenhydramine is drowsiness. Patients whose nighttime symptoms clear should be able to sleep better, especially with drowsiness side effects. Avoiding fluids does not prevent urinary retention. The half-life of diphenhydramine is short, so drug effects will not last through the next day. There is no need to take the medication on an empty stomach.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The parents of a 3-year-old child tell the nurse that they are planning to give their child diphenhydramine (Benadryl) on a flight to visit the child's grandparents to help the child sleep during the flight. What will the nurse tell the parents about giving this drug?

- a. Administer 25 mg of diphenhydramine when using to induce sleep.
- b. Diphenhydramine may have the opposite effect and could cause agitation.
- c. Give the diphenhydramine about 5 minutes prior to takeoff.
- d. Loratadine should be used instead of diphenhydramine to minimize side effects.

ANS: B

Diphenhydramine can cause excitation in some children. Parents should be advised to expect this possible side effect. The correct dose of diphenhydramine for children at this age is 6.25 mg; 25 mg would be an overdose. Oral diphenhydramine has an onset of 15 to 45 minutes.

Loratadine is a second-generation antihistamine and does not cause drowsiness.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for a patient who is hospitalized for an asthma exacerbation. The patient reports taking diphenhydramine at home at night to help with symptoms of allergic rhinitis and cough. The nurse will contact the patient's provider to request an order for which medication?

- a. Benzonatate (Tessalon Perles)
- b. Cetirizine (Zyrtec)
- c. Dextromethorphan hydrobromide (Benylin DM)
- d. Diphenhydramine (Benadryl)

ANS: B

Cetirizine is an antihistamine, which is indicated for this patient's symptoms. Diphenhydramine is also an antihistamine but, because of its anticholinergic side effects, is contraindicated in patients with acute asthma. Benzonatate and dextromethorphan are antitussives and not antihistamines.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient is admitted to the hospital after developing pneumonia. During the admission assessment, the patient reports having used a topical nasal decongestant spray for the past few weeks but thinks the nasal congestion is getting worse. The nurse will:

- a. request an order for a systemic decongestant medication.
- b. request an order so the patient can continue to use the decongestant spray.

- c. tell the patient the congestion will eventually clear up after stopping the spray.
- d. tell the patient to increase oral fluid intake.

ANS: C N

Use of nasal decongestants longer than 3 days can cause rebound congestion. This will eventually clear up when the decongestant spray is discontinued for several days or weeks. A systemic decongestant is not indicated. Continuing the spray will increase the congestion.

Increasing fluid intake is not recommended.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The patient who has nasal congestion asks the nurse to recommend a decongestant medication. The nurse performs a medication history and learns that the patient takes a beta blocker to treat hypertension. Which of the over-the-counter products below would be most appropriate to recommend?

- a. Diphenhydramine (Benadryl)
- b. Ephedrine HCl (Pretz-D)
- c. Phenylephrine nasal (Neo-Synephrine Nasal)
- d. Loratadine (Claritin)

ANS: C

Neo-Synephrine Nasal is a topical decongestant and causes less systemic side effects than ephedrine, which should not be given with beta blockers. Diphenhydramine and loratadine are antihistamines, not decongestants.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient asks the nurse about using dextromethorphan for cough. Which of the following is FALSE regarding dextromethorphan?

- a. Psychosis, tachycardia and seizures are potential adverse reactions
- b. It should be used with caution in patients with asthma or bronchitis
- c. Dextromethorphan is administered orally
- d. It is classified as an antihistamine

ANS: D

Dextromethorphan is classified as an expectorant, not an antihistamine.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient with a persistent nonproductive cough asks about a medication that will help with her cough but not cause sedation. The nurse will encourage the patient to discuss which medication with the provider?

- a. Benzonatate HCl (Tessalon Perles)
- b. Diphenhydramine (Benadryl)
- c. Guaifenesin and codeine
- d. Promethazine with dextromethorphan

ANS: A

Benzonatate HCl (Tessalon Perles) is less likely to cause sedation. Diphenhydramine would likely not help with the cough and is sedating. Codeine and promethazine cause sedation.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has a nonproductive cough will begin taking guaifenesin to help with secretions. When teaching this patient about the medication, the nurse will provide which instruction?

- a. "Avoid driving or using heavy machinery."
- b. "Drink extra water while taking the medication."
- c. "Monitor urine output closely."
- d. "Take with an oral antihistamine for better effects."

ANS: B

Guaifenesin is an expectorant, and patients taking this medication should be advised to increase fluid intake to at least 8 glasses of water per day. (Remember to assess for contraindications to increasing fluid intake [e.g., heart failure, kidney failure with dialysis, etc.].) Guaifenesin does not cause drowsiness or urinary retention. Antihistamines will dry secretions, making them harder to expectorate.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 36: Lower Respiratory Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. The nurse is caring for a patient recently diagnosed with mild emphysema and provides teaching about the disease and medications for treatment. Which statement by the patient indicates understanding of the medication regimen?
- a. "I should use albuterol when my symptoms worsen."
  - b. "I will need to take oral prednisone on a daily basis."

- c. "My provider will frequently prescribe prophylactic antibiotics."
- d. "My symptoms are reversible with proper medications."

ANS: A

Albuterol is used to treat bronchospasm during symptom flares. Oral prednisone is given for acute flares but not generally on a daily basis until symptoms are chronic and severe because of the risk of adrenal suppression. Prophylactic antibiotics are not given regularly because of the risk of antibiotic resistance. Symptoms of emphysema are not reversible.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is preparing to administer epinephrine to a patient who is experiencing an acute bronchospasm. The nurse understands that because epinephrine is a nonselective alpha- and beta-adrenergic agonist, the patient will experience which effects?

- a. Decreased blood pressure
- b. Anticholinergic effects
- c. A shorter duration of therapeutic effects
- d. Cardiac and pulmonary effects

ANS: D

Nonselective sympathomimetic epinephrine is an alpha1, beta1, and beta2 agonist that is given to promote bronchodilation and elevate blood pressure. It does not have anticholinergic effects.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient will be discharged home with albuterol (Proventil) to use for asthma symptoms. What information will the nurse include when teaching this patient about this medication?

- a. Failure to respond to the medication indicates a need for a higher dose.
- b. Monitor for hypoglycemia symptoms when using this medication.
- c. Palpitations are common with this drug even at normal, therapeutic doses.
- d. Overuse of this medication can result in airway narrowing and bronchospasm.

ANS: D

Excessive use of an aerosol drug can occasionally cause severe paradoxical airway resistance, so patients should be cautioned against overuse. Excessive use can also lead to tolerance and loss of drug effectiveness, but patients should not increase the dose because of the risk of bronchospasm and the increased incidence of adverse effects such as tremors and tachycardia. Hyperglycemia can occur. Palpitations are common with increased doses but not at therapeutic doses.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient will begin using ipratropium bromide (Atrovent), albuterol (Proventil), and an inhaled glucocorticoid medication (steroid) to treat chronic bronchitis. When teaching this patient about disease and medication management, the nurse will instruct the patient to administer these medications in which order?

- a. Albuterol, ipratropium bromide, steroid
- b. Albuterol, steroid, ipratropium bromide
- c. Ipratropium bromide, albuterol, steroid
- d. Steroid, ipratropium bromide, albuterol

ANS: A

Patients who use a beta agonist should be taught to use it 5 minutes before administering ipratropium bromide, and ipratropium bromide should be given 5 minutes prior to an inhaled glucocorticoid. This helps the bronchioles to dilate so the subsequent medication can be deposited in the bronchioles for improved effect.



DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A provider has prescribed ipratropium bromide/albuterol sulfate (Combivent) for a patient who has chronic obstructive pulmonary disease (COPD). The nurse explains that this combination product is prescribed primarily for which reason?

- a. To be more convenient for patients who require both medications
- b. To improve compliance in patients who may forget to take both drugs
- c. To increase forced expiratory volume, an indicator of symptom improvement
- d. To minimize the side effects that would occur if the drugs are given separately

ANS: C

Combivent is more effective and has a longer duration of action than if either agent is used alone, and the two agents combined increase the forced expiratory volume in 1 second (FEV1). While it is more convenient and may improve compliance, this is not the primary reason for using it. The combination does not alter the drug's side effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is teaching a patient who will begin taking oral theophylline (Theo-Dur) when discharged home from the hospital. What information will the nurse include when teaching the patient about this drug?

- a. An extra dose should be taken when symptoms worsen.
- b. Anorexia and gastrointestinal upset are unexpected side effects.
- c. Avoid caffeine while taking this medication.
- d. Food will decrease the amount of drug absorbed.

ANS: C

Caffeine and theophylline are both xanthine derivatives and should not be taken together because of the increased risk of toxicity and severe adverse effects. Theophylline has a narrow therapeutic range and must be dosed carefully; patients should never increase or decrease the dose without consulting their provider. Gastrointestinal symptoms are common side effects.

Food slows absorption but does not prevent the full dose from being absorbed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is caring for a patient who is receiving intravenous theophylline. The patient complains of headache and nausea. The nurse will contact the provider to:

- a. change the medication to an oral theophylline.
- b. obtain an order for a serum theophylline level.
- c. request an order for an analgesic medication.
- d. suggest an alternative methylxanthine medication.

ANS: B

Theophylline has a narrow therapeutic index and a risk for severe symptoms with toxic levels. When patients report symptoms of theophylline adverse effects, a serum drug level should be obtained. Giving an oral theophylline would only compound the problem if the patient has a toxic drug level. Analgesics may be used, but only after toxicity is ruled out. Adding a different methylxanthine will compound the symptoms and will likely result in drug interaction or unwanted synergism.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who will begin taking theophylline at home. During the assessment, the nurse learns that the patient smokes. The nurse expects that the patient will eventually require which of the following?

- a. A smaller than typical dose of theophylline.
- b. A larger than typical dose of theophylline.
- c. A typical dose of theophylline.
- d. A change in medication since theophylline is contraindicated in those who smoke.

ANS: B

Tobacco smoking increases the metabolism of theophylline, so patients who smoke may require a higher dose for therapeutic effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

9. A patient who has been taking theophylline at home reports having palpitations and jitteriness. Which of the following could interact with theophylline to increase side effects such as these?

- a. Ephedra.
- b. Acetaminophen.
- c. Ibuprofen.
- d. Diphenhydramine.

ANS: A

Ephedra is a stimulant that potentiates theophylline and may increase side effects. Patients should be questioned about use of herbal medications. To determine toxicity, serum drug levels must be drawn; at this point, the patient reports symptoms of theophylline side effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse provides teaching for a patient who will begin taking montelukast sodium (Singulair). Which statement by the patient indicates a need for further teaching?

- a. "I will need to have periodic laboratory tests while taking this medication."
- b. "I will not take ibuprofen for pain or fever while taking this drug."
- c. "I will take one tablet daily at bedtime."
- d. "I will use this as needed for acute symptoms."

ANS: D

Montelukast and other leukotriene receptor antagonists are not used to treat acute symptoms. Because they can affect liver enzymes, periodic liver function tests should be performed.

Patients taking this drug should not use ibuprofen or aspirin as they will block the effects of montelukast. This medication is recommended to be given in the evening.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who uses an inhaled glucocorticoid medication reports having a sore tongue. The nurse notes white spots on the patient's tongue and oral mucous membranes. After notifying the provider, the nurse will remind the patient to perform which action?

- a. Avoid using a spacer with the inhaled glucocorticoid medication.
- b. Clean the inhaler with hot, soapy water after each use.
- c. Consume yogurt daily while using this medication.
- d. Rinse the mouth thoroughly with water after each use.

ANS: D

When using inhaled glucocorticoid medications, *Candida albicans* oropharyngeal infections may be prevented by rinsing the mouth and throat with water after each dose. Patients should also use a spacer to reduce deposits of the drug in the oral cavity. The inhaler should be washed with warm water daily, but not after each use. There is no indication that yogurt is effective.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation

12. A patient will begin using an albuterol metered-dose inhaler to treat asthma symptoms. The patient asks the nurse about the difference between using an oral form of albuterol and the inhaled form. The nurse will explain that the inhaled form of albuterol:

- a. has a more immediate onset than the oral form.
- b. may cause more side effects than the oral preparation.
- c. requires an increased dose in order to have therapeutic effects.
- d. will not lead to tolerance with increased doses.

ANS: A

Inhaled medications have more immediate effects than oral preparations. As long as they are used correctly, systemic side effects are less common. Less drug is needed for therapeutic effects since the drug is delivered directly to target tissues. Increased doses will lead to drug tolerance.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is performing a medication history on a patient who reports long-term use of montelukast (Singulair) and an albuterol metered-dose inhaler (Proventil). The nurse will contact the provider to discuss an order for which laboratory tests?

- a. Cardiac enzymes and serum calcium
- b. Electrolytes and a complete blood count
- c. Liver function tests and serum glucose
- d. Urinalysis and serum magnesium

ANS: C

The beta2 agonists can increase serum glucose levels and montelukast can elevate liver enzymes, so these should be monitored in patients taking these medications.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is caring for a patient diagnosed with COPD who has been prescribed tiotropium (Spiriva). Which statement will the nurse include in the education?

- a. Remove the capsules from the packaging and place in your 7-day med box.
- b. If you experience dry mouth, stop taking the medication immediately.
- c. Use tiotropium as needed for sudden breathing problems.
- d. Tiotropium works by relaxing and dilating the bronchioles.

ANS: D

Tiotropium is an anticholinergic drug used for maintenance treatment of bronchospasms associated with COPD. It inhibits M3 receptor response to acetylcholine, thereby relaxing smooth muscle of bronchi; it dilates the bronchi. Patients should discard any capsules that are opened and not used immediately. Dry mouth is a common side effect. It is not to be used as a rescue inhaler.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

15. A patient who is using inhaled cromolyn sodium (Intal) daily calls the clinic to report experiencing cough and a bad taste. The nurse will instruct the patient to perform which action?

- a. Drink water before and after using the inhaler.
- b. Schedule an appointment to discuss these effects with the provider.
- c. Stop taking the medication immediately.
- d. Use the inhaler only as needed for acute bronchospasms.

ANS: A

Cough and a bad taste are the most common side effects associated with cromolyn sodium, and these effects can be decreased by drinking water before and after using the drug. The effects are not serious and do not warrant discussion with the provider. Stopping the medication abruptly can cause a rebound bronchospasm. This medication is not useful in acute bronchospasm.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC:  
NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 37: Cardiac Glycosides, Antianginals, and Antidysrhythmics McCuiston: Pharmacology: A  
Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A patient who has atrial fibrillation is taking digoxin. The nurse expects which medication to be given concurrently to treat this condition?
  - a. Hydrochlorothiazide (HydroDIURIL)
  - b. Inamrinone (Inocor)
  - c. Milrinone (Primacor)
  - d. Warfarin (Coumadin)

ANS: D

Digoxin is given for atrial fibrillation to restore a normal heart rhythm. To prevent thromboemboli, warfarin is given concurrently. Hydrochlorothiazide is a diuretic medication. Inamrinone and milrinone are inotropic agents that could be used instead of digoxin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient is diagnosed with heart failure (HF), and the prescriber has ordered digoxin. The patient asks what lifestyle changes will help in the management of this condition. The nurse will recommend which changes?

- a. Aerobic exercise and weight lifting 2 or 3 times weekly
- b. Changing from cigarette smoking to pipe smoking
- c. Consuming 2 teaspoons or less of salt every day
- d. Having no more than one alcoholic beverage per day

ANS: D

Alcohol should either be completely avoided or restricted to no more than one per day. Mild exercise, such as walking, is recommended. All methods of smoking can deprive the heart of oxygen. Salt should be limited to no more than one teaspoon per day.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient with chronic obstructive pulmonary disease (COPD) has increasing dyspnea and is being evaluated for HF. Which test will be ordered to help differentiate between dyspnea due to lung dysfunction and dyspnea due to HF?

- a. Atrial natriuretic hormone (ANH) level
- b. Brain natriuretic peptide (BNP) level
- c. Cardiac enzymes



d.       Electrocardiogram (ECG)

ANS: B

The BNP is used to differentiate that dyspnea is due to HF and not lung dysfunction. The other tests will all be a part of the diagnostic workup but do not help with this distinction.

DIF:    Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment    MSC: NCLEX: Physiological Integrity: Pathophysiology

4.       The nurse is preparing to administer digoxin to a patient who has HF. The patient reports nausea, vomiting, and visual halos around objects. The nurse notes a respiratory rate of 18 breaths per minute, a heart rate of 58 beats per minute, and a blood pressure of 120/78 mm Hg. What will the nurse do next?

- a.       Administer the next dose as ordered since these are mild side effects.
- b.       Hold the dose and notify the provider of possible digoxin toxicity.
- c.       Reassure the patient that these are common, self-limiting side effects.
- d.       Request an order for an antiemetic and an analgesic medication.

ANS: B

Nausea, vomiting, and headache are common signs of digoxin toxicity as is a heart rate less than 60 beats per minute. Patients will also sometimes present with visual illusions, such as colored halos around objectives. The nurse should hold the dose and notify the provider.

DIF:    Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5.       The nurse is caring for a patient who is taking digoxin to treat HF. The patient's ECG shows a ventricular dysrhythmia. The nurse will notify the provider and will anticipate an order for which medication to treat a digoxin-induced ventricular dysrhythmia?

- a. Digoxin immune Fab (Digibind)
- b. Furosemide (Lasix)
- c. Phenytoin (Dilantin) N
- d. Potassium

ANS: C

The antidysrhythmics phenytoin and lidocaine are effective in treating digoxin-induced ventricular dysrhythmias. Digoxin immune Fab is used to treat severe digitalis toxicity, characterized by bradycardia, nausea, and vomiting. Unless a potassium deficit is present, giving potassium could worsen the dysrhythmia.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient who takes digoxin to treat HF will begin taking a vasodilator. The patient asks the nurse why this new drug has been ordered. The nurse will explain that the vasodilator is used to:
- a. decrease ventricular stretching.
  - b. improve renal perfusion.
  - c. increase cardiac output.
  - d. promote peripheral fluid loss.

ANS: A

Vasodilators are given to decrease venous blood return to the heart, resulting in decreased cardiac filling and decreased ventricular stretching, in turn reducing preload, contractility, and oxygen demand of the heart.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse performs a medication history and learns that the patient takes a loop diuretic and digoxin (Lanoxin). The nurse will question the patient to ensure that the patient is also taking which medication?

- a. Cortisone
- b. Lidocaine
- c. Nitroglycerin
- d. Potassium

ANS: D

If a patient is taking digoxin and a potassium-wasting diuretic such as a loop diuretic, the patient should also take a potassium supplement to prevent hypokalemia that could result in digoxin toxicity. It is not necessary to take cortisone, lidocaine, or nitroglycerin unless the patient has symptoms that warrant these drugs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse administers a dose of digoxin (Lanoxin) to a patient who has HF and returns to the room later to reassess the patient. Which finding indicates that the medication is effective?

- a. Decreased dyspnea
- b. Decreased urine output
- c. Increased blood pressure N
- d. Increased heart rate

ANS: A

The patient should show improvement in breathing and oxygenation. Urine output should increase. Blood pressure and heart rate will decrease.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has HF receives digoxin (Lanoxin) and an angiotensin-converting enzyme (ACE) inhibitor. The patient will begin taking spironolactone (Aldactone). The patient asks why the new drug is necessary. The nurse will tell the patient that spironolactone will be given for which reason?

- a. To enhance potassium excretion
- b. To increase cardiac contractility
- c. To minimize fluid losses
- d. To provide cardioprotective effects

ANS: D

Spironolactone is a potassium-sparing diuretic that blocks production of aldosterone, causing improved heart rate variability and decreased myocardial fibrosis. It is given in congestive HF for its cardioprotective effects. Spironolactone does not directly alter cardiac contractility but may slightly decrease contractility if fluid volume is decreased. It is a mild diuretic but is not given in this instance to minimize fluid losses.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who has stable angina pectoris is given nitroglycerin to use as needed. In addition to pharmacotherapy, the nurse will give the patient which instruction?

- a. Avoid extremes in weather.
- b. Begin a rigorous exercise program.
- c. Drink red wine daily.
- d. Call 911 at the first sign of pain.

ANS: A

Avoiding extreme weather conditions is important to help prevent anginal attacks. Patients should be instructed to avoid strenuous exercise; avoid alcohol, which can enhance hypotensive effects of

nitrates; and use nitroglycerin at the first sign of pain. If pain does not resolve after use of a single dose of sublingual nitroglycerin, the patient should call 911.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is teaching a patient about the use of a transdermal nitroglycerin patch. Which statement by the patient indicates understanding of the teaching?

- a. "I will apply the patch as needed when I experience anginal pain."
- b. "I will remove the old patch and replace it with a new one at bedtime each day."
- c. "I should rotate sites when changing the patch to prevent skin irritation."
- d. "When I am symptom-free,NI may stop using the patch on a regular basis."

ANS: C

Patients should be taught to rotate application sites when using the transdermal nitroglycerin. Transdermal nitroglycerin is not used as needed. Patients should remove the patch at bedtime to provide an 8- to 12-hour nitrate-free interval. Patients should use the patch even when symptom-free unless otherwise instructed by the provider.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is teaching a patient about sublingual nitroglycerin administration. What information will the nurse include when teaching this patient?

- a. Call 911 if pain does not improve after three doses.
- b. A second dose of nitroglycerin should be given regardless of symptom resolution.
- c. Swallow the tablet with small sips of water.

- d. Take the first tablet while sitting or lying down.

ANS: D

Because nitroglycerin can cause hypotension, patients should be cautioned to take them while sitting or lying down. If pain is not better or has worsened 5 minutes after the first dose, patients should call 911. A second dose should be administered only if symptoms are not resolved after taking the first dose. The tablets must dissolve under the tongue and should not be swallowed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient who just started using transdermal nitroglycerin reports having headaches. The nurse will counsel the patient to perform which action?

- a. Call 911 when this occurs.
- b. Notify the provider.
- c. Reapply the patch three times daily.
- d. Take acetaminophen as needed.

ANS: D

Headaches are one of the most common side effects of nitroglycerin, but they may become less frequent; acetaminophen is generally recommended for pain. If the headaches do not resolve after continued use it would be appropriate to discuss alternatives with the provider. The headaches are not an emergency, and the patient does not need to call 911. The patch is applied once daily.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient is ordered to receive a nitrate to relieve stable angina. What side effect(s) will the nurse anticipate in a patient receiving this medication?

- a. Nausea and vomiting

- b. Increased blood pressure
- c. Pruritus and skin rash
- d. Headache N

ANS: D

Headache is a common side effect to nitrates and is related to vasodilation of the cerebral vessels. Headaches often improve with continued use. Nitrates decrease blood pressure.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient asks the nurse why nitroglycerin is given sublingually. The nurse will explain that nitroglycerin is administered by this route for which reason?

- a. To avoid hypotension
- b. To increase the rate of absorption
- c. To minimize gastrointestinal upset
- d. To prevent hepatotoxicity

ANS: B

Nitroglycerin is given sublingually to avoid first-pass metabolism by the liver, which would occur if the drug is swallowed, and to increase the rate of absorption. It does not prevent hypotension. Gastrointestinal upset and hepatotoxicity usually do not occur.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient who has been taking nitroglycerin for angina has developed variant angina, and the provider has added verapamil (Calan) to the patient's regimen. The nurse will explain that verapamil is given for which purpose?

- a. To facilitate oxygen use by the heart
- b. To improve renal perfusion
- c. To increase cardiac contractility
- d. To relax coronary arteries

ANS: D

Verapamil is a calcium channel blocker and is used to relax coronary artery spasm in patients with variant angina. It does not facilitate coronary muscle oxygen use, improve renal function, or increase cardiac contractility.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient who has begun taking nifedipine (Procardia) to treat variant angina has had a recurrent blood pressure of 90/60 mm Hg or less. The nurse will anticipate that the provider will do which of the following?

- a. add digoxin to the drug regimen.
- b. change to a beta blocker.
- c. order serum liver enzymes.
- d. switch to diltiazem (Cardizem).

ANS: D

Hypotension is a common effect of calcium channel blockers and is more common with nifedipine. It is less common with diltiazem, so the provider may order that drug. Adding digoxin, changing to a beta blocker, or ordering serum liver enzymes are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention



MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. The nurse is preparing to administer digoxin to a patient who has a serum digoxin level of 2.5 ng/mL. The patient takes 0.25 mg of digoxin per day. What action will the nurse take?

- a. Administer the next dose as ordered.
- b. Do not administer the digoxin and notify the provider of toxic digoxin levels.
- c. Request an order to decrease the digoxin dose.
- d. Suggest that the patient may need an increased digoxin dose.

ANS: B

The therapeutic range of digoxin is between 0.8 and 2 ng/mL. This patient's level is high, indicating toxic blood levels. The nurse should not give the next dose or request a change in dose.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. The nurse provides teaching for a patient who has a ventricular dysrhythmia who is prescribed acebutolol (Spectral) 200 mg twice daily. Which statement by the patient indicates understanding of the teaching?

- a. "Diuretics may decrease the effectiveness of this drug."
- b. "Dizziness, nausea, and vomiting indicate a severe reaction."
- c. "I should eat fruits and vegetables to increase potassium intake."
- d. "I should not stop taking this drug abruptly."

ANS: D

Patients who stop taking this drug abruptly can experience palpitations. Diuretics do not decrease drug effectiveness. Dizziness and nausea and vomiting are common side effects. Acebutolol treatment does not result in potassium wasting so increased potassium intake is not necessary.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. A patient has congestive HF and has been taking digoxin (Lanoxin) for 9 years. The patient is admitted with signs and symptoms of digoxin toxicity. Which signs and symptoms are associated with digoxin toxicity? (Select all that apply.)

- a. Dysuria
- b. Vomiting
- c. Tachycardia
- d. Yellow haloes in the visual field
- e. Diarrhea
- f. Insomnia

ANS: B, D, E

Vomiting, yellow haloes in the visual field, and diarrhea are classic signs of digoxin toxicity. Bradycardia, not tachycardia, will likely be noted.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### Chapter 38: Diuretics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. The nurse is preparing to administer the first dose of hydrochlorothiazide (HydroDIURIL) 50 mg to a patient who has a blood pressure of 160/95 mm Hg. The nurse notes that the patient had a urine output of 200 mL in the past 12 hours. The nurse will perform which action?

- a. Administer the medication as ordered.
- b. Encourage the patient to drink more fluids.
- c. Hold the medication and request an order for serum BUN (blood urea nitrogen) and creatinine.
- d. Request an order for serum electrolytes and administer the medication.

ANS: C

Thiazide diuretics are contraindicated in renal failure. This patient has oliguria and should be evaluated for renal failure prior to administration of the diuretic—especially in the absence of known renal failure for this patient. Drinking more fluids will not increase urine output in patients with renal failure.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is preparing to administer doses of hydrochlorothiazide (HydroDIURIL) and digoxin (Lanoxin) to a patient who has heart failure. The patient reports having blurred vision. The nurse notes a heart rate of 60 beats per minute and a blood pressure of 140/78 mm Hg. Which action will the nurse take?

- a. Administer the medications and request an order for serum electrolytes.
- b. Give both medications and evaluate serum blood glucose frequently.
- c. Hold the digoxin and notify the provider.
- d. Hold the hydrochlorothiazide and notify the provider.

ANS: C

When thiazide diuretics are taken with digoxin, patients are at risk of digoxin toxicity because thiazides can cause hypokalemia. The patient has bradycardia and blurred vision, which are both signs of digoxin toxicity. The nurse should hold the digoxin and notify the provider.

Serum electrolytes may be ordered, but the digoxin should not be given.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation MSC: NCLEX: Physiological Integrity: Pathophysiology

3. The nurse is teaching a patient about taking hydrochlorothiazide. Which statement by the patient indicates a need for further teaching?
- a. "I may need extra sodium and calcium while taking this drug."
  - b. "I should eat plenty of fruits and vegetables while taking this medication."
  - c. "I should take care when rising from a bed or chair when I'm starting this medication."
  - d. "I will take the medication in the morning to minimize certain side effects."

ANS: A

Patients do not need extra sodium or calcium while taking thiazide diuretics. Thiazide diuretics can lead to hypokalemia, so patients should be counseled to eat fruits and vegetables that are high in potassium. Patients can develop orthostatic hypotension and should be counseled to rise from sitting or lying down slowly. Taking the medication in the morning helps to prevent nocturia-induced insomnia.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for a patient who is to begin receiving a thiazide diuretic to help manage heart failure. When performing a health history on this patient, the nurse will be concerned about a history of which condition?
- a. Asthma
  - b. Glaucoma
  - c. Gout

d. Hypertension

ANS: C

Thiazides block uric acid secretion, and elevated levels can contribute to gout. Patients with a history of gout should take thiazide diuretics with caution; they may need behavioral and/or pharmacologic changes to their gout treatment.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a patient who develops marked edema and a low urine output as a result of heart failure. Which medication will the nurse expect the provider to order for this patient?

- a. Digoxin (Lanoxin)
- b. Furosemide (Lasix)
- c. Hydrochlorothiazide (HydroDIURIL)
- d. Spironolactone (Aldactone)

ANS: B

Furosemide is a loop diuretic and is given when the patient's condition warrants immediate removal of body fluid, as in heart failure. Digoxin improves cardiac function but does not remove fluid quickly. The other diuretics may be used when immediate fluid removal is not necessary.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for a patient who is receiving furosemide (Lasix) and an aminoglycoside antibiotic. The nurse will be most concerned if the patient reports which symptom?

- a. Dizziness
- b. Dysuria

- c. Nausea
- d. Tinnitus

ANS: D

The interaction of furosemide and an aminoglycoside can produce ototoxicity in the patient. Tinnitus is a sign of ototoxicity. Dizziness can occur as a result of diuretic therapy but not necessarily as a result of this combination. Dysuria and nausea are not common signs of these drugs interacting.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is teaching a patient who will begin taking furosemide. The nurse learns that the patient has just begun a 2-week course of a steroid medication. What will the nurse recommend?
- a. Consume licorice to prevent excess potassium loss.
  - b. Report a urine output greater than 600 mL/24 hours.
  - c. Obtain an order for a potassium supplement.
  - d. Take the furosemide at bedtime.

ANS: C

The interaction of furosemide and a steroid drug can result in an increased loss of potassium. Patients should take a potassium supplement. Patients should avoid licorice while taking furosemide, partially due to the hypokalemic effects of both substances. Urine output greater than 600 mL/24 hours is normal. Patients should take furosemide in the morning to avoid nocturia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who has metabolic alkalosis and is experiencing fluid overload. The provider orders acetazolamide (Diamox). The patient reports right-sided flank pain after taking this medication. The nurse suspects that this patient has developed which condition?
- a. Gout

- b. Hemolytic anemia
- c. Metabolic acidosis
- d. Renal calculi

ANS: D

Carbonic anhydrase inhibitors, such as acetazolamide, are used to treat patients who are in metabolic alkalosis and need a diuretic. They can cause electrolyte imbalance, metabolic acidosis, hemolytic anemia, and renal calculi. This patient has right-sided flank pain, which occurs with renal calculi.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient has begun taking spironolactone (Aldactone) in addition to a thiazide diuretic. With the addition of the spironolactone, the nurse will counsel this patient to do which of the following?

- a. continue taking a potassium supplement daily.
- b. recognize that abdominal cramping is a transient side effect.
- c. report decreased urine output to the provider.
- d. take these medications at bedtime.

ANS: C

Caution must be used when giving potassium-sparing diuretics to patients with poor renal function, so patients should be taught to report a decrease in urine output. Patients taking potassium-sparing diuretics are at risk for hyperkalemia, so they should not take potassium supplements. Abdominal cramping should be reported to the provider. The medications should be taken in the morning for patients who sleep during the night.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is caring for a patient who is taking hydrochlorothiazide (HydroDIURIL) and digoxin (Lanoxin). Which potential electrolyte imbalance will the nurse monitor for in this patient?

- a. Hypermagnesemia
- b. Hypernatremia
- c. Hypocalcemia
- d. Hypokalemia

ANS: D

Thiazide diuretics can cause hypokalemia, which enhances the effects of digoxin and can lead to digoxin toxicity. Thiazides can cause hypercalcemia.

N

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient has been taking spironolactone (Aldactone) to treat heart failure. The nurse will monitor for which of the following electrolyte abnormalities?

- a. hyperkalemia.
- b. hypermagnesemia.
- c. hypocalcemia.
- d. hypoglycemia.

ANS: A

Spironolactone is a potassium-sparing diuretic and can induce hyperkalemia.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 39: Antihypertensives

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition



## MULTIPLE CHOICE

1. A patient is diagnosed with borderline hypertension and states a desire to make lifestyle changes to avoid needing to take medication. The nurse will recommend which changes?

- a. Changing from weight bearing exercise to yoga
- b. Decreased fluid intake and increased potassium intake
- c. Stress reduction and increased protein intake
- d. Weight reduction and decreased sodium intake

ANS: D

Weight loss decreases the stress on the heart. Decreasing salt intake decreases vascular volume. Changing to yoga from weight-bearing exercise, limiting fluids, and increasing potassium are not indicated. Stress reduction is recommended, but increasing protein is not.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion Model

2. A patient has an average blood pressure of 135/85 mm Hg based on the average of three separate measurements. The nurse understands that this patient should be treated with which of the following?

- a. a beta blocker. N
- b. a diuretic and a beta blocker.
- c. a diuretic.
- d. lifestyle changes.

ANS: D

Prehypertension is defined as a systolic pressure of 120 to 139 and a diastolic pressure between 80 and 89. Drug therapy is recommended if the blood pressure is in the hypertensive range. Prehypertension is generally treated first with lifestyle changes.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A 65-year-old patient has a blood pressure of 155/95 mm Hg. The nurse understands that with treatment, the goal for this patient's blood pressure is

- a. 120/80 mm Hg
- b. 130/89 mm Hg
- c. 140/90 mm Hg
- d. 150/90 mm Hg

ANS: D

According to the Joint National Committee (JNC) 8, a blood pressure of 140/90 is the goal for the population younger than 60 years, with a target of 150/90 for those above 60. A blood pressure less than 120/80 mm Hg is considered normal.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for an African-American patient who has been taking a beta blocker to treat hypertension for several weeks with only slight improvement in blood pressure. The nurse will contact the provider to discuss which of the following?

- a. adding a diuretic medication.
- b. changing to an angiotensin-converting enzyme (ACE) inhibitor.
- c. decreasing the beta blocker dose.

- d. doubling the beta blocker dose.

ANS: A

African Americans do not respond well to beta blockers and ACE inhibitors, but do tend to respond to diuretics and calcium channel blockers. Changing to an ACE inhibitor or altering the beta blocker dose is not indicated. Hypertension in African-American patients can be controlled by combining beta blockers with diuretics.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is preparing to care for a Native American patient who has hypertension. The nurse understands that which antihypertensive medication would be most effective in this patient?

- a. Acebutolol (Sectral)
- b. Captopril (Capoten)
- c. Carteolol HCl (Cartrol) N
- d. Metoprolol (Lopressor)

ANS: B

Captopril is an ACE inhibitor. Native American patients have a reduced response to treatment with beta blockers. Acebutolol, carteolol, and metoprolol are all beta blockers.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for an 80-year-old patient who has just begun taking a thiazide diuretic to treat hypertension. What is an important aspect of care for this patient?

- a. Encouraging increased fluid intake
- b. Increasing activity and exercise

- c. Initiating a fall risk protocol
- d. Providing a low potassium diet

ANS: C

Older patients experience a higher risk of orthostatic hypotension when taking antihypertensive medications. Fall risk also increases with a need for increased trips to the bathroom. A fall risk protocol should be implemented. Increasing fluids and activity and limiting potassium are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is performing an assessment on a patient who will begin taking propranolol (Inderal) to treat hypertension. The nurse learns that the patient has a history of asthma and diabetes. The nurse will take which action?

- a. Administer the medication and monitor the patient's serum glucose.
- b. Contact the provider to discuss another type of antihypertensive medication.
- c. Request an order for renal function tests prior to administering this drug.
- d. Teach the patient about the risks of combining herbal medications with this drug.

ANS: B

Patients with chronic lung disease are at risk for bronchospasm with beta blockers, especially those like propranolol, which are nonselective. Beta blockers, with the exception of carvedilol, also decrease the efficacy of many oral antidiabetic medications.

Noncardioselective beta blockers may also impair recovery from hypoglycemia by inhibiting conversion of glycogen to glucose in the liver. The nurse should discuss a change in medications to one that does not carry these risks.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is admitting a patient who has been taking minoxidil (Loniten) to treat resistant hypertension. Prior to beginning therapy with this medication, the patient had a blood pressure of 170/95 mm Hg and a heart rate of 72 beats per minute. The nurse assesses the patient and notes a blood pressure of 130/72 mm Hg and a heart rate of 78 beats per minute, and also

notes a 2.2-kg weight gain since the previous hospitalization and edema of the hands and feet. The nurse will contact the provider to discuss which intervention?

- a. Adding hydrochlorothiazide to help increase urine output
- b. Adding metoprolol (Lopressor) to help decrease the heart rate
- c. Increasing the dose of minoxidil to lower the blood pressure
- d. Restricting fluids to help with weight reduction

ANS: A

Minoxidil is a direct-acting vasodilator, which can cause sodium and water retention. Combining this drug with a diuretic can help reduce edema by increasing urine output. If the patient were tachycardic, a beta blocker might be added. It is not necessary to increase the minoxidil dose or to restrict fluids.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is teaching a patient who has hypertension about long-term management of the disease with alpha blocker therapy. The patient reports typically consuming 1 to 2 glasses of wine each evening with meals. How will the nurse respond?

- a. "Alpha blockers and wine cause a reflex hypertension."
- b. "Four to 6 ounces of wine is considered safe with these medications."
- c. "Wine in moderation helps you relax and get better blood pressure control."
- d. "Wine can increase the hypotensive effects of alpha blockers."

ANS: D

Patients who take alpha blockers should be aware that the hypotensive effects of alpha blockers, like prazosin, can be intensified when taken in combination with alcohol.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient who has recently begun taking captopril (Capoten) to treat hypertension calls a clinic to report a persistent cough that started right after starting the captopril. The nurse will perform which action?

- a. Instruct the patient to go to an emergency department because this is a hypersensitivity reaction.
- b. Reassure the patient that this side effect is nothing to worry about and will diminish over time.
- c. Schedule an appointment with the provider to evaluate the cough and discuss changing to an angiotensin II receptor blocker (ARB).
- d. Tell the patient to stop taking the drug immediately since this is a serious side effect of this drug.

ANS: C

An ACE inhibitor, such as captopril, can cause a constant, irritated cough. The cough will stop with discontinuation of the drug, and many patients can switch to an ARB medication which will not contribute to cough. It does not indicate a hypersensitivity reaction. The cough will not diminish while still taking the drug. The patient does not need to stop taking the drug immediately.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is preparing to administer an ACE inhibitor to a patient who has hypertension. The patient started the ACE inhibitor the day prior. The nurse notes peripheral edema and swelling of the patient's lips. The patient has a blood pressure of 160/80 mm Hg and a heart rate of 76 beats per minute. What is the nurse's next action?

- a. Administer the dose and observe carefully for hypotension.
- b. Hold the dose and notify the provider of a hypersensitivity reaction.

- c. Notify the provider and request an order for a diuretic medication.
- d. Request an order for serum electrolytes and renal function tests.

ANS: B

The patient has signs of angioedema, which indicates a hypersensitivity reaction. The nurse should hold the dose and notify the provider. Giving the dose will make the reaction more serious. These are not signs of edema, so a diuretic is not indicated. Electrolytes and renal function tests are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is caring for a patient who will begin taking lisinopril (Zestril) for hypertension. The nurse reviews the patient's laboratory test results and notes increased BUN and creatinine. Which action will the nurse take?

- a. Administer the captopril and monitor vital signs.
- b. Contact the provider to discuss changing to fosinopril (Monopril).
- c. Obtain an order for intravenous fluids to improve urine output.
- d. Request an order to add hydrochlorothiazide (HydroDIURIL).

ANS: B

Patients who have renal insufficiency will not require a decrease in dose with fosinopril, as they would with other ACE inhibitors. If lisinopril is given, it should be given at a dose appropriate for the patient's current kidney function. Increased IV fluids are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is caring for a hospitalized patient who experiences an acute spike in blood pressure. The nurse will expect an order to administer which medication?

- a. Amlodipine (Norvasc)
- b. Nifedipine (Procardia)
- c. Nifedipine extended release (Procardia XL)
- d. Verapamil (Calan)

ANS: B

The short-acting nifedipine is used to treat rapid rises in blood pressure but cannot be used for outpatient treatment at high dosages because of an increased risk for sudden cardiac death.

The other drugs are not used for rapid rise in BP.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is caring for a 70-year-old patient who has recently begun taking amlodipine (Norvasc) 5 mg/day to control hypertension. The nurse notes mild edema of the patient's ankles, a blood pressure of 130/70 mm Hg, and a heart rate of 80 beats per minute. The patient reports flushing and dizziness. The nurse will notify the provider and:

- a. ask to decrease the dose to 2.5 mg/day.
- b. discuss twice daily dosing.
- c. request an order for a diuretic.
- d. suggest adding propranolol to the regimen.

ANS: A

This patient is experiencing side effects of the medication. Elderly patients often require lower doses, so the nurse should ask about a dose reduction. Older adults generally require 2.5 to 5.0 mg/day. Twice daily dosing is not recommended. Unless edema persists, a diuretic is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



## MULTIPLE RESPONSE

1. The nurse teaches a patient about their antihypertensive medication. Which statements by the patient indicate understanding of the teaching? (Select all that apply.)

- a. "I should be careful when I stand up from a chair when I start this medication."
- b. "I should not add extra salt to my foods."
- c. "If I have side effects, I should stop taking the drug immediately."
- d. "If my blood pressure returns to normal, I can stop taking this drug."
- e. "I may need to take a combination of drugs, including diuretics."
- f. "I will not need to make lifestyle changes since I am taking a medication."

ANS: A, B, E

The patient receiving an antihypertensive medication should be warned to rise slowly to avoid orthostatic hypotension. Patients should be counseled to continue to make lifestyle changes, including decreasing sodium. Often, more than one medication is required. Patients should not stop taking the drug abruptly to avoid rebound hypertension and will not stop the drug when blood pressure returns to normal.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 40: Anticoagulants, Antiplatelets, and Thrombolytics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. The nurse is caring for a postoperative patient. The nurse will anticipate administering which medication to this patient to help prevent thrombus formation caused by slow venous blood flow?
- a. Alteplase (Activase)
  - b. Aspirin
  - c. Clopidogrel (Plavix)
  - d. Low-molecular-weight heparin

ANS: D

Low-molecular-weight heparins are anticoagulants used to inhibit clot formation. They are used clinically as prophylactic agents to prevent postoperative deep vein thrombosis.

Alteplase is a thrombolytic, which is used to break down clots after they form; alteplase is contraindicated in any patient with recent surgery. Aspirin and clopidogrel are antiplatelet drugs and are used to prevent arterial thrombosis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A nursing student asks why the anticoagulant heparin is given to patients who have disseminated intravascular coagulation (DIC) and are at risk for excessive bleeding. The nurse will explain that heparin is used in this case for which reason?
- a. To decrease the risk of venous thrombosis

- b. To dissolve blood clots as they form
- c. To enhance the formation of fibrous clots
- d. To preserve platelet function

ANS: A

The primary use of heparin for patients with DIC is to prevent venous thrombosis, which can lead to pulmonary embolism or stroke. Heparin does not break down blood clots, enhance the formation of fibrous clots, or preserve platelet function.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient has been receiving intravenous heparin. When laboratory tests are drawn, the nurse has difficulty stopping bleeding at the puncture site. The patient has bloody stools and is reporting abdominal pain. The nurse notes elevated partial thromboplastin time (PTT) and activated PPT (aPTT). Which action will the nurse perform?

- a. Ask for an order for oral warfarin (Coumadin).
- b. Obtain an order for protamine sulfate.
- c. Request an order for vitamin K.
- d. Suggest that the patient receive subcutaneous heparin.

ANS: B

Protamine sulfate is given as an antidote to heparin when a patient's clotting times are elevated. Oral warfarin will not stop the anticoagulant effects of heparin. Vitamin K is used as an antidote for warfarin. Administering heparin by another route is not indicated when there is a need to reverse the effects of heparin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has received heparin after previous surgeries will be given enoxaparin sodium (Lovenox) after knee-replacement surgery. The patient asks how this drug is different from heparin. The nurse will explain that the benefit of enoxaparin over heparin is that it:

- a. decreases the need for laboratory tests.
- b. has a shorter half-life than heparin.
- c. increases the risk of hemorrhage.
- d. may be taken orally instead of subcutaneously.

ANS: A

Enoxaparin is a low-molecular-weight heparin, which produces more stable responses at lower doses, thus reducing the need for frequent lab monitoring. It has a longer half-life than heparin. It decreases the risk of hemorrhage because it is more stable at lower doses. It is given subcutaneously.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a patient who is receiving warfarin (Coumadin) and notes bruising and petechiae on the patient's extremities. The nurse will request an order for which laboratory test?

- a. International normalized ratio (INR)
- b. Platelet level
- c. PTT and aPTT
- d. Vitamin K level

ANS: A

The INR is the test used most frequently to report prothrombin time results in patients taking warfarin. Warfarin is not an antiplatelet drug, so platelet levels are not indicated. PTT and aPTT are used to monitor heparin therapy. Vitamin K is an antidote for warfarin; levels are not routinely checked.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient who is taking warfarin has an international normalized ratio (INR) of 5.5. The nurse will anticipate giving which of the following?

- a. fresh frozen plasma.
- b. intravenous iron.
- c. oral vitamin K.
- d. protamine sulfate.

ANS: C

Vitamin K antagonizes the effects of warfarin, an oral anticoagulant. Patients with an INR of 5.5 should be given a low dose of oral vitamin K. Too much vitamin K may reduce the effectiveness of warfarin for up to 2 weeks. Fresh frozen plasma and intravenous iron are given for anemia caused by blood loss. Protamine sulfate is given for heparin overdose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is teaching a patient who will begin taking warfarin (Coumadin) for atrial fibrillation. Which statement by the patient indicates understanding of the teaching?

- a. "I should eat plenty of green, leafy vegetables while taking this drug."
- b. "I should take a nonsteroidal anti-inflammatory drug (NSAID) instead of acetaminophen for pain or fever."
- c. "I will take cimetidine (Tagamet) to prevent gastric irritation and bleeding."
- d. "I will tell my dentist that I am taking this medication."

ANS: D

Patients taking warfarin should tell their dentists that they are taking the medication because of the increased risk for bleeding. Patients should avoid foods high in vitamin K, which can decrease the

effects of warfarin. Patients should not take NSAIDs or cimetidine (Tagamet) because they can displace warfarin from protein-binding sites.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is assessing a patient who takes warfarin (Coumadin). The nurse notes a heart rate of 92 beats per minute and a blood pressure of 88/78 mm Hg. To evaluate the reason for these vital signs, the nurse will assess which of the following?

- a. gums, nose, and skin.
- b. lung sounds and respiratory effort.
- c. skin turgor and oral mucous membranes.
- d. urine output and level of consciousness.

ANS: A

An increased heart rate followed by a decreased systolic pressure can indicate a fluid volume deficit caused by internal or external bleeding. The nurse should examine the patient's mouth, nose, and skin for signs of bleeding. These vital signs do not indicate a pulmonary problem.

Skin turgor and mucous membranes as well as urine output and level of consciousness may be assessed to determine the level of fluid deficit, but finding the source of blood loss is more important. Signs of gastrointestinal bleeding should also be assessed.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who has recently had a myocardial infarction (MI) will begin taking clopidogrel (Plavix) to prevent a second MI. Which medication will the nurse expect the provider to order as adjunctive therapy for this patient?

- a. Aspirin
- b. Enoxaparin sodium (Lovenox)

- c. Ticagrelor (Brilinta)
- d. Warfarin (Coumadin)

ANS: A

Aspirin is often used with clopidogrel to inhibit platelet aggregation to increase the effectiveness of this drug. Enoxaparin is used to prevent venous thrombosis. Ticagrelor is similar to clopidogrel and is not used along with clopidogrel. Warfarin is used to prevent thrombosis.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient is taking clopidogrel (Plavix). When teaching this patient about dietary restrictions while taking this medication, the nurse will instruct the patient to avoid excessive consumption of which food?

- a. Garlic
- b. Grapefruit
- c. Green, leafy vegetables
- d. Red meats

ANS: A

Patients taking this drug may experience increased bleeding when taken with garlic. There is no restriction for grapefruit as there is with many other medications. Green, leafy vegetables should be restricted in patients taking warfarin. Red meats are not contraindicated.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient experiences a blood clot in one leg, and the provider has ordered a thrombolytic medication. The patient learns that the medication is expensive and asks the nurse if it is necessary. Which response by the nurse is correct?

- a. "The drug will decrease the likelihood of permanent tissue damage."
- b. "This medication also acts to prevent future blood clots from forming."
- c. "You could take aspirin instead of this drug to achieve the same effect."
- d. "Your body will break down the clot, so the drug is not necessary."

ANS: A

Thrombolytic medications are given primarily to prevent permanent tissue damage caused by compromised blood flow to the affected area. Thrombolytics do not prevent clots from forming. Aspirin prevents, but does not dissolve, clots. Although the body will break down the clot, the drug is needed to prevent tissue damage due to active ischemia.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. Which of the following thrombolytics carries a higher risk for anaphylaxis?
- a. Streptokinase (Streptase)
  - b. Alteplase (Activase)
  - c. Tenecteplase (TNK tPA)
  - d. They all carry the same level of risk.

ANS: A

Of the thrombolytic agents, streptokinase (Streptase) carries the highest risk for anaphylaxis (vascular collapse).

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



13. The nurse is caring for a postoperative patient who is receiving alteplase tPA (Activase) after developing a blood clot. The nurse notes a heart rate of 110 beats per minute and a blood pressure of 90/60 mm Hg. The nurse will perform which action?

- a. Ask the patient about itching or shortness of breath.
- b. Assess the surgical dressing for bleeding.
- c. Evaluate the patient's urine output and fluid intake.
- d. Recheck the patient's vital signs in 15 minutes.

ANS: B

Tachycardia and hypotension indicate bleeding. The nurse should check the patient's surgical dressing to assess for bleeding. These signs do not indicate anaphylaxis. They may indicate dehydration, but bleeding is the more likely cause of fluid volume deficit. The nurse should

continue to evaluate vital signs, but it is imperative that the nurse assess the patient to explore the potential cause.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient is receiving a thrombolytic medication. The patient calls the nurse to report having bloody diarrhea. The nurse will anticipate administering which medication?

- a. Aminocaproic acid (Amicar)
- b. Enoxaparin sodium (Lovenox)
- c. Protamine sulfate
- d. Vitamin K

ANS: A

The antithrombotic drug aminocaproic acid is used to treat hemorrhage. Nurses giving thrombolytic drugs should monitor patients for bleeding from the mouth and rectum. Enoxaparin is given for DIC. Protamine sulfate is an antidote for heparin. Vitamin K is an antidote for warfarin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is assessing a patient prior to administering thrombolytic therapy. Which is an important assessment for this patient?

- a. Determining whether the patient has a history of diabetes
- b. Finding out about a history of renal disease
- c. Assessing which medications are taken for discomfort/pain
- d. Assessing whether the patient eats green, leafy vegetables

ANS: C

Patients who take aspirin or NSAIDs should be monitored closely for excessive bleeding when given thrombolytics. There are no contraindications or precautions for patients with diabetes or renal disease. Foods rich in vitamin K are of concern for patients taking warfarin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is preparing to administer a first dose of clopidogrel (Plavix) to a patient. As part of the history, the nurse learns that the patient has a previous history of peptic ulcers, diabetes, hyperlipidemia, and hypertension. The nurse understands that which of these conditions warrants caution with clopidogrel treatment?

- a. Peptic ulcer disease
- b. Diabetes
- c. Hyperlipidemia
- d. Hypertension

ANS: A

Patients with a previous history of peptic ulcer are at increased risk for gastric bleeding and clopidogrel should be used with caution. There are no contraindications or precautions for clopidogrel use in patients with diabetes, high cholesterol, or high blood pressure.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient who is taking clopidogrel (Plavix) and aspirin is preparing for orthopedic surgery. The nurse will consult with the surgeon and provide which instruction to the patient?

- a. Continue taking aspirin and stop taking clopidogrel 2 weeks prior to surgery.
- b. Continue taking clopidogrel and stop taking aspirin 5 days prior to surgery.
- c. Continue both medications to prevent thromboembolic events during surgery.
- d. Stop taking both medications 7 days prior to surgery.

ANS: D

Because both drugs can prolong bleeding time, patients should discontinue the drugs 7 days prior to surgery.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. Which of the following is NOT considered a potential life threatening adverse reaction to clopidogrel (Plavix) use?

- a. Hepatic failure
- b. Ischemic stroke
- c. Thrombocytopenia
- d. Stevens-Johnson syndrome

ANS: B

Antiplatelet agents like clopidogrel are not associated with clot formation and ischemia. Clopidogrel has been associated with life threatening adverse reactions such as hepatic failure, thrombocytopenia, and Stevens-Johnson syndrome.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 41: Antihyperlipidemics and Peripheral Vasodilators

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. A female patient has serum lipid levels performed, which reveal a total cholesterol of 285 mg/dL, triglycerides of 188 mg/dL, a low-density lipoprotein (LDL) of 175 mg/dL, and a high-density lipoprotein (HDL) of 40 mg/dL. The patient's blood pressure is 138/72 mm Hg. The patient is currently not receiving any prescription medications. Which of the following would be the most appropriate medication (or medications) to be started at this time?

- a. Amlodipine and atorvastatin (Caduet)
- b. Colestipol HCl (Colestid)
- c. Fenofibrate (TriCor)
- d. Atorvastatin (Lipitor)

ANS: D

Statins have actions in decreasing serum cholesterol, LDL, VLDL, and triglycerides, and they slightly elevate HDL. Because the patient has elevated cholesterol levels, starting a statin at this time would be appropriate and considered an appropriate first-line antihyperlipidemic therapy.

DIF: Cognitive Level: Analyzing (Analysis) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient has a serum cholesterol level of 270 mg/dL. The patient asks the nurse what this level means. Which response by the nurse is correct?

- a. "You have a high cholesterol which places you at risk for coronary artery disease."
- b. "You have a moderately elevated cholesterol and risk for coronary artery disease."
- c. "You have a low risk for coronary artery disease."
- d. "You have no risk for coronary artery disease."

ANS: A

A value of 270 mg/dL for serum cholesterol puts the patient at high risk.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

3. A patient begins taking cholestyramine (Questran) to treat hyperlipidemia. The patient reports abdominal discomfort and constipation. The nurse will provide which instruction to the patient?

- a. Increase fluid intake and slowly increase fiber intake.
- b. Stop taking the medication immediately.
- c. Take an over-the-counter laxative.
- d. Take the medication on an empty stomach.

ANS: A

Cholestyramine can cause gastrointestinal upset and constipation, and these symptoms can be reduced with increased fluids and foods high in fiber. Stopping the medication is not indicated. Over-the-counter laxatives are not recommended until other methods have been tried. Giving the medication on an empty stomach will not relieve the discomfort.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient has been taking cholestyramine (Questran) to treat hyperlipidemia. The patient reports abdominal cramping and constipation. The patient's serum low-density lipoprotein (LDL) has decreased from 170 to 110 mg/dL, and triglycerides have not changed from 150 mg/dL since beginning the medication. The provider changes the medication to colesevelam HCl (Welchol). The patient asks the nurse why the medication was changed, and the nurse will explain that colesevelam HCl is ordered for which reason?

- a. It has fewer side effects.
- b. It has more convenient dosing.
- c. It provides greater LDL reduction.
- d. It provides greater triglyceride reduction.

ANS: A

Colesevelam is similar to cholestyramine but has fewer gastrointestinal side effects. This patient has demonstrated good results with the bile acid sequestrant, so the provider has decided to offer a preparation with fewer adverse effects. Both drugs are given twice daily.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient is admitted to the hospital, and the provider orders gemfibrozil (Lopid) 600 mg twice daily, 30 minutes prior to meals. The nurse learns that the patient takes warfarin (Coumadin) once daily. The nurse will contact the provider to discuss

- a. decreasing the dose of gemfibrozil.
- b. giving the warfarin at noon.
- c. increasing the dose of warfarin.
- d. ordering frequent INR levels.

ANS: D

Gemfibrozil is highly protein-bound and competes for receptor sites with drugs such as warfarin. The anticoagulant dose should be decreased, and the international normalized ratio (INR) should be closely monitored. Decreasing the dose of gemfibrozil is not recommended. Giving the warfarin at a different time of day does not change this drug interaction. The warfarin dose should be decreased, not increased.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient begins taking nicotinic acid (Niacin) and reports dizziness and flushing of the skin. The nurse will perform which action?

- a. Recommend that the patient take a baby aspirin with their niacin dose.
- b. Counsel the patient to increase fluid intake.
- c. Request an order for renal function tests.
- d. Schedule the medication to be taken with meals.

ANS: A

Flushing of the skin and dizziness are common side effects of nicotinic acid, but with careful drug titration and concomitant use of aspirin, these effects can be minimized. Increasing fluid intake or taking with food does not alter these adverse effects. Nicotinic acid can affect liver enzymes not renal function.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient has been taking atorvastatin (Lipitor) for several months to treat hyperlipidemia. The patient reports severe muscle weakness and tenderness. The nurse will counsel the patient to do which of the following?

- a. ask the provider about switching to simvastatin.
- b. contact the provider to report these symptoms.
- c. start taking ibuprofen to combat these effects.
- d. stop taking the medication immediately.

ANS: B

Patients taking statins should report immediately any muscle aches or weakness, which can lead to rhabdomyolysis, a muscle disintegration that can become fatal. All statins carry this risk, so changing to another statin is not indicated. Ibuprofen may be useful, but notifying the provider is essential. Patients should not abruptly discontinue statins without discussing this

with the provider. N

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse provides teaching to a patient who will begin taking simvastatin (Zocor) to treat hyperlipidemia. Which statement by the patient indicates understanding of the teaching?

- a. "I may have diarrhea as a result of taking this medication."
- b. "I may stop taking this medication when my lipid levels are normal."



- c. "I will need an annual eye examination while taking this medication."
- d. "I will increase my intake of vitamins A, D, and E while taking this medication."

ANS: C

The statins can affect visual acuity, so patients should be counseled to have annual eye examinations for assessment of cataract formation. The bile acid sequestrants, not statins, cause diarrhea. Statin drug therapy is lifelong or until behavioral changes prove equally effective (uncommon). Bile acid sequestrants, not statins, decrease the absorption of fat-soluble vitamins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient, who has intermittent claudication, has been taking 100 mg of cilostazol (Pletal) twice times daily with meals for 2 weeks. The patient calls the clinic and reports continued pain in both legs during exercise. How will the nurse advise the patient?

- a. "It can take from 2-12 weeks for the medication to help with your claudication symptoms."
- b. "Notify the provider of the continued pain and request increasing the dose."
- c. "You should stop the medication immediately since it is not working."
- d. "Take the medication right before you exercise for best effects."

ANS: A

Patients should be counseled that the desired therapeutic effects may take to 3 months. The patient is currently taking the maximum recommended daily dose of cilostazol, so an increase in dose would not be recommended. The medication should be taken 30 minutes before or 2 hours after the morning and evening meals. Taking it immediately before bouts of exercise will not increase effectiveness.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A patient will begin taking simvastatin (Zocor) to decrease serum cholesterol. When teaching the patient about this medication, the nurse will counsel the patient to take which action?

- a. Return to the clinic annually for laboratory testing.
- b. Take care when rising from a sitting to standing position.
- c. Take the medication in the evening for best effect.
- d. Use ibuprofen as needed for severe muscle aches and pain.

ANS: C

Simvastatin is given in the evening. Laboratory tests are performed every 3 to 6 months, not annually. Statins do not cause postural hypotension. Patients taking statins should report severe muscle aches and weakness immediately.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient will begin taking rosuvastatin (Crestor) to treat hyperlipidemia. The patient asks the nurse how to take the medication for best effect. Which statement by the nurse is correct?

- a. "Increase your fluid intake while taking this medication."
- b. "Stop taking the medication if you develop muscle aches."
- c. "Take the medication with food to improve absorption."
- d. "You may increase dietary fat while taking this medication."

ANS: A

Patients taking antihyperlipidemics should be advised to increase fluid intake. It is not necessary to take with food. Patients should never stop taking a statin without consulting the provider. Patients should continue a low-fat diet while taking statins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient has been prescribed cilostazol. Which statement by the client indicates the need for further teaching?

- a. "I can take the medication with food if it causes nausea."
- b. "This medication is used to improve blood flow."
- c. "I can continue to take ginkgo biloba to improve my memory."
- d. "I should be cautious when standing."

ANS: C

Cilostazol should not be taken with ginkgo biloba because bleeding time can be prolonged. It can cause nausea so the nurse should recommend taking the medication with food. Cilostazol does cause vasodilation and improves blood flow which can also cause peripheral edema.

Caution should be taken when standing for long periods.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

#### MULTIPLE RESPONSE

1. A patient with high cholesterol is ordered to take atorvastatin (Lipitor). What information will be included in the patient teaching? (Select all that apply.)

- a. Dietary management is not a priority with this medication.
- b. The medication should be taken on an empty stomach.
- c. The medicine should be taken with a full glass of water.
- d. The patient should watch for body aches or gastrointestinal upset as side effects.
- e. The patient should have renal function tests frequently.
- f. The patient should have liver function tests frequently.

ANS: C, D, F

This medication is most effective with careful monitoring of diet. Atorvastatin does not affect renal function.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 42: Gastrointestinal Tract Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A patient who experiences motion sickness when flying asks the nurse the best time to take the medication prescribed to prevent motion sickness for a 0900 flight. The nurse will instruct the patient to take the medication at which time?
  - a. As needed, at the first sign of nausea
  - b. At 0700, before leaving for the airport
  - c. At 0830, just prior to boarding the plane
  - d. When seated, just prior to takeoff

ANS: C

Motion sickness medication has its onset in 30 minutes. The patient should be instructed to take the medication a half hour prior to takeoff. It is not used as needed.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is caring for a patient who has unexplained, recurrent vomiting and who is unable to keep anything down. Until the cause of the vomiting is determined, the nurse will anticipate administering which medications?

- a. Antibiotics and antiemetics
- b. Intravenous fluids and electrolytes
- c. Nonprescription antiemetics
- d. Prescription antiemetics

ANS: B

Antiemetics can mask the underlying cause of vomiting and should not be used until the cause is determined unless vomiting is so severe that dehydration and electrolyte imbalance occur.

Nonpharmacologic measures, such as fluid and electrolyte replacement, should be used. Antibiotics are only used if an infectious cause is determined.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The parent of an 18-month-old toddler calls the clinic to report that the child has vomited 5 times that day. The nurse determines that the child has had three wet diapers in the past 6 hours. What will the nurse recommend for this child?

- a. Administering an OTC antiemetic medication such as diphenhydramine
- b. Giving frequent, small amounts of Pedialyte
- c. Keeping the child NPO until vomiting subsides
- d. Taking the child to the emergency department for IV fluids

ANS: B

The child is not dehydrated as evidenced by adequate wet diapers, so nonpharmacologic measures, such as oral fluids, are recommended. Antiemetics are not recommended unless dehydration occurs. Intravenous fluids are given when dehydration is present.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is teaching a patient who is about to take a long car trip about using dimenhydrinate (Dramamine) to prevent motion sickness. What information is important to include when teaching this patient?

- a. "Do not drive while taking this medication."
- b. "Dry mouth is a sign of toxicity with this medication."
- c. "Take the medication 1 to 2 hours prior to beginning the trip."
- d. "Take 100 mg up to 6 times daily for best effect."

ANS: A

Drowsiness is a common side effect of dimenhydrinate, so patients should be cautioned against driving while taking this drug. Dry mouth is a common side effect and not a sign of toxicity. The drug should be taken 30 minutes prior to travel. The maximum recommended dose is 400 mg per day.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is caring for a patient who has postoperative nausea and vomiting. The surgeon has ordered promethazine HCl (Phenergan). Which aspect of this patient's health history would be of concern?

- a. Asthma
- b. Diabetes
- c. GERD
- d. Glaucoma

ANS: D

Promethazine is contraindicated in patients with glaucoma since it is an anticholinergic medication. It should be used with caution in patients with asthma. The other two conditions are not concerning with this medication.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is teaching a group of nursing students about the use of antipsychotic drugs for antiemetic purposes. The nurse will explain that, when given as antiemetics, these drugs are given:

- a. in smaller doses.
- b. less frequently.
- c. with anticholinergics.
- d. with antihistamines.

ANS: A

Antipsychotic medications are used in smaller doses when administered for antiemetic purposes.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient who is receiving chemotherapy will be given dronabinol (Marinol) to prevent nausea and vomiting. The nurse will tell the patient that this drug will be given at which time?

- a. Before and after the chemotherapy
- b. During chemotherapy
- c. Immediately prior to chemotherapy
- d. 24 hours prior to chemotherapy

ANS: A

Cannabinoids are indicated for use prior to and after chemotherapy. Dronabinol is given 1-3 hours prior to chemotherapy and then every 2-4 hours after.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A woman who is 2 months pregnant reports having morning sickness every day and asks if she can take any medications to treat this problem. The nurse will recommend that the patient try which intervention first?

- a. Discuss a possible need for intravenous fluids with her provider.
- b. Contacting the provider to discuss prescribing a prescription antiemetic.
- c. Use nonpharmacologic measures, such as eating crackers or dry toast.
- d. Take over-the-counter antiemetics such as diphenhydramine.

ANS: C

To minimize risk to the fetus, the nurse should first recommend nonpharmacologic measures such as drinking flat soda or weak tea or eating crackers or dry toast. If this is not effective, intravenous fluids may become necessary depending on the severity of vomiting and dehydration. Pregnant women should consult with their provider before taking prescription or over-the-counter antiemetics.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance

9. The parent of a child who is receiving chemotherapy asks the nurse why metoclopramide (Reglan) is not being used to suppress vomiting. The nurse will explain that, in children, this drug is more likely to cause which adverse effect?

- a. Excess sedation
- b. Extrapyrimaldal symptoms



- c. Paralytic ileus
- d. Vertigo

ANS: B

Metoclopramide can cause extrapyramidal symptoms, and these effects are more likely in children. Children are not more prone to sedative effects, paralytic ileus, or vertigo while taking this drug.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation/Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A child has been prescribed activated charcoal. What is the likely reason this is being ordered?

- a. Ingestion of a toxic substance
- b. Severe vomiting
- c. Nausea
- d. Motion sickness

ANS: A

Activated charcoal is given to prevent the absorption of ingested toxic substances. Activated charcoal does not have a role in the treatment of nausea, vomiting or motion sickness.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient asks the nurse about using loperamide (Imodium) to treat infectious diarrhea. Which response will the nurse give?

- a. "Loperamide results in many central nervous system (CNS) side effects."
- b. "Loperamide has no effect on infectious diarrhea."

- c. "Loperamide is taken once daily."
- d. "Loperamide can be used to treat diarrheal symptoms but may also slow the exit of the infectious organisms from the GI tract."

ANS: D

Patients with infectious diarrhea should be cautioned about using loperamide since slowing transit through the intestines may prolong the exposure to the infectious agent. Loperamide causes less CNS depression than other antidiarrheals. It is taken multiple times per day as needed.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A child is brought to the emergency department after ingestion of a toxic substance. The child is alert and conscious and is reported to have ingested kerosene 20 minutes prior. The nurse will anticipate administering

- a. activated charcoal.
- b. an anticholinergic antiemetic.
- c. gastric lavage.
- d. syrup of ipecac.

ANS: A

Activated charcoal is used when patients have ingested a caustic substance or a petroleum distillate in a patient who is alert and awake. Gastric lavage is no longer used as therapy. Syrup of ipecac is not recommended.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A patient who is taking diphenoxylate with atropine (Lomotil) to treat diarrhea asks the nurse why it contains atropine. The nurse will explain that atropine is added, in part, to:

- a. decrease abdominal cramping.
- b. increase intestinal motility.
- c. minimize nausea and vomiting.
- d. provide analgesia.

ANS: A

Atropine is added to decrease abdominal cramping and slow intestinal motility through its anticholinergic effects. It does not affect nausea and vomiting or pain.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Implementation/Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. The nurse is caring for an older adult who is receiving diphenoxylate with atropine (Lomotil) to treat severe diarrhea. The nurse will monitor this patient closely for which effect?

- a. Bradycardia
- b. Fluid retention
- c. Urinary incontinence
- d. Respiratory depression

ANS: D N

Diphenoxylate is an opioid agonist and can cause respiratory depression. Children and older adults are more susceptible to this effect. It contains atropine, so it will increase heart rate and potentially contribute to urinary retention. It does not contribute to fluid retention.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient asks the nurse the best way to prevent traveler's diarrhea. The nurse will provide which recommendation to the patient?

- a. "Ask your provider for prophylactic antibiotics."
- b. "Drink bottled water and eat only well-cooked meats."
- c. "Eat fresh, raw fruits and vegetables."
- d. "Take loperamide (Imodium) every day."

ANS: B

Patients traveling to areas with potential traveler's diarrhea should be counseled to drink bottled water and eat meats that are well cooked. Prophylactic antibiotics are not recommended. Patients should eat cooked, washed fruits and vegetables. Loperamide is not recommended for use as a prophylactic agent.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance

16. An appropriate goal when teaching a patient who has diarrhea is that the patient:

- a. will have less frequent, more formed stools.
- b. will not have a stool for 1 to 2 days.
- c. will receive adequate intravenous fluids.
- d. will receive appropriate antibiotic therapy.

ANS: A

An appropriate goal is that patients will have formed, less frequent stools, not an absence of stools. Receiving adequate intravenous fluids or antibiotic therapy are interventions, not goals.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning MSC: NCLEX:

Health Promotion and Maintenance

17. A patient reports having three to four stools, which are sometimes hard, per week. The patient states that this represents less bowel movements than normal for her. The nurse will perform which action?

- a. Recommend increased intake of fluids and dietary fiber.
- b. Request an order for a stimulant laxative as needed.
- c. Request an order for a stool softener.
- d. Request an order for magnesium citrate.

ANS: A

This patient is having stools that are within the normal range for frequency, but she does state that she generally has more frequent bowel movements. Nonpharmacologic measures, such as increased intake of fluids and dietary fiber, should be used first to help soften stools.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing NIntervention

MSC: NCLEX: Health Promotion and Maintenance

18. The nurse is instructing a patient who will take psyllium (Metamucil) to treat constipation. What information will the nurse include when teaching this patient?

- a. The importance of consuming adequate amounts of water
- b. The need to monitor for systemic side effects
- c. The onset of action of 30 to 60 minutes after administration
- d. The need to use the dry form of Metamucil to prevent cramping

ANS: A

Insufficient fluid intake can cause the drug to solidify in the gastrointestinal tract, thus counseling on ingestion of adequate amounts of water is important. Psyllium is not systemically absorbed, so it does not have systemic side effects. Onset of action for psyllium is between 10 and 24 hours. All forms of bulk forming laxatives can contribute to GI side effects such as cramping.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Planning MSC:

NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 43: Antiulcer Drugs

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A patient who has been instructed to use a liquid antacid medication to treat gastrointestinal upset asks the nurse about how to take this medication. What information will the nurse include when teaching this patient?
  - a. Take a laxative if constipation occurs.
  - b. Take 60 minutes after meals and at bedtime.
  - c. Take with at least 8 ounces of water to improve absorption.
  - d. Take with milk to improve effectiveness.

ANS: B

Since maximum acid secretion occurs after eating and at bedtime, antacids should be taken 1 to 3 hours after eating and at bedtime. Taking antacids with meals slows gastric emptying time and causes increased gastrointestinal (GI) secretions. Patients should not self-treat constipation or diarrhea. Patients should use 2 to 4 ounces of water when taking to ensure that the drug enters the stomach; more than that will increase gastric emptying time. If possible, antacids should not be taken with milk or foods high in vitamin D.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient who has symptoms of peptic ulcer disease will undergo a test that requires drinking a liquid containing  $^{13}\text{C}$  urea and breathing into a container. The nurse will explain to the patient that this test is performed to
  - a. assess the level of hydrochloric acid.
  - b. detect *H. pylori* antibodies.
  - c. measure the pH of gastric secretions.

- d. test for the presence of H. pylori.

ANS: D

When H. pylori is suspected, a noninvasive test is performed by administering  $^{13}\text{C}$  urea, which, in the presence of H. pylori, will release  $^{13}\text{CO}_2$ . The test does not measure the amount of HCl acid or the pH and does not detect H. pylori antibodies.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient is taking rabeprazole (Aciphex) 20 mg per day to treat a duodenal ulcer. After 10 days of treatment, the patient reports that the pain has subsided. The nurse will counsel the patient to:
- a. continue the medication for up to 4-8 total weeks of treatment.
  - b. reduce the medication dose by half.
  - c. stop taking the medication.
  - d. take the medication every other day.

ANS: A

With treatment, ulcer pain may subside earlier, but the healing process may take 1 to 2 months. Patients should be counseled to take the drug for the length of time prescribed. Reducing the dose or taking less frequently is not recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient with a peptic ulcer has been diagnosed with H. pylori. The provider has ordered lansoprazole (Prevacid), clarithromycin (Biaxin), and metronidazole (Flagyl). The patient asks the nurse why two antibiotics are needed. The nurse will explain that two antibiotics

- a. allow for less toxic dosing. c. have synergistic effects.
- b. combat bacterial resistance. d. improve acid suppression.

ANS: B

The use of two antibiotics when treating H. pylori peptic ulcer disease helps to combat bacterial resistance because H. pylori develops resistance rapidly. Giving two antibiotics, in this case, is not to reduce the dose or to cause synergistic effects. Antibiotics do not affect acid production.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient who takes propantheline bromine (Pro-Banthine) and omeprazole (Prilosec) for an ulcer will begin taking an antacid. The nurse will give which instruction to the patient regarding how to take the antacid?

- a. Take the antacid 2 hours after taking the propantheline.
- b. Take the antacid along with a meal.
- c. Take the antacid with milk.
- d. Take the antacid with the propantheline bromine.

ANS: A

Antacids can slow the absorption of anticholinergics and should be taken 2 hours after anticholinergic administration. Antacids should be given 1 to 3 hours after a meal and should not be given with dairy products.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



6. Which antacid is most likely to cause acid rebound?
- a. Aluminum hydroxide
  - b. Calcium carbonate
  - c. Magnesium hydroxide
  - d. Magnesium trisilicate

ANS: B

While calcium carbonate is most effective among the listed antacids in neutralizing acid, a significant amount can be systemically absorbed and can cause acid rebound. The other antacids do not have significant systemic absorption.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. An elderly patient reports using Maalox frequently to treat acid reflux. The nurse should notify the patient's provider to request an order for which laboratory tests?
- a. Liver enzymes and serum calcium
  - b. Liver enzymes and serum magnesium
  - c. Renal function tests and serum calcium
  - d. Renal function tests and serum magnesium

ANS: D

Maalox contains magnesium and carries a risk of hypermagnesemia, especially with decreased renal function. Older patients have an increased risk of poor renal function, so this patient should especially be evaluated for hypermagnesemia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who has Zollinger-Ellison syndrome. Which medication order would the nurse question for this patient?

- a. Cimetidine (Tagamet)
- b. Pantoprazole (Protonix)
- c. Rabeprazole (Aciphex)
- d. Ranitidine (Zantac) N

ANS: A

Cimetidine is not effective for treating Zollinger-Ellison syndrome. The other medications may be used to treat Zollinger-Ellison syndrome.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient who is diagnosed with peptic ulcer disease has been started on a regimen that includes ranitidine (Zantac) 300 mg daily at bedtime. The patient calls the clinic 2 days later to report no relief from discomfort. What action will the nurse take?

- a. Contact the provider to discuss changing to cimetidine (Tagamet).
- b. Notify the provider to discuss increasing the dose.
- c. Reassure the patient that it may take 1 to 2 weeks to notice an improvement in symptoms.
- d. Suggest that the patient split the medication into twice daily dosing.

ANS: C

Patients taking histamine<sub>2</sub> blockers can expect abdominal pain to decrease after 1 to 2 weeks of drug therapy. Cimetidine is not as potent as ranitidine and interacts with many medications through the cytochrome P450 system. Three hundred milligrams is the maximum recommended dose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A female patient with a peptic ulcer asks the nurse if misoprostol would be a good option for her because it works well for her mother. Upon review of her medication list it is noted that she takes a prenatal vitamin daily. What will the nurse do?

- a. Recommend use of misoprostol since it works well for her mother.
- b. Explain to the patient that misoprostol is contraindicated during pregnancy and for women of childbearing age.
- c. Tell the patient to purchase misoprostol over the counter.
- d. Tell her that misoprostol is just another PPI and that she should just purchase a PPI that is available over the counter.

ANS: B

Misoprostol is a synthetic prostaglandin analog that can be used to prevent and treat peptic ulcers, particularly in people using high doses of NSAIDs. As a prostaglandin analog, misoprostol is contraindicated during pregnancy and for women of childbearing age.

Misoprostol is available by prescription only.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has been taking ranitidine (Zantac) continues to have pain associated with a peptic ulcer. A noninvasive breath test is negative. Which treatment does the nurse expect the provider to order for this patient?

- a. Adding an over-the-counter antacid to the patient's drug regimen
- b. A dual drug therapy regime
- c. Amoxicillin (Amoxil), clarithromycin (Biaxin), and omeprazole (Prilosec)
- d. Lansoprazole (Prevacid) instead of ranitidine

ANS: D

This patient does not have H. pylori ulcer disease, so dual and triple drug therapy with antibiotics is not indicated. Patients who fail treatment with a histamine<sub>2</sub> blocker should be changed to a proton pump inhibitor (PPI) such as lansoprazole. PPIs tend to inhibit gastric acid secretion up to 90% greater than the histamine antagonists.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient has been taking famotidine (Pepcid) 20 mg bid to treat an ulcer but continues to have pain. The provider has ordered lansoprazole (Prevacid) 15 mg per day. The patient asks why the new drug is necessary, since it is more expensive. The nurse will explain that lansoprazole:

- a. can be used for long-term therapy.
- b. does not interact with other drugs.
- c. has fewer medication side effects.
- d. is more potent than famotidine.

ANS: D

Famotidine is a histamine<sub>2</sub> (H<sub>2</sub>) blocker. When patients fail therapy with these agents, proton pump inhibitors, which can inhibit gastric acid secretion up to 90% greater than the H<sub>2</sub> blockers, are used. Lansoprazole is not for long-term treatment and has drug interactions and drug side effects, as do all other medications.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is caring for a patient who will begin taking omeprazole (Prevacid) 20 mg per day for 4 to 8 weeks to treat gastroesophageal reflux disease esophagitis. The nurse learns that the patient takes digoxin. The nurse will contact the provider for orders to:

- a. decrease the dose of omeprazole.
- b. increase the dose of digoxin.
- c. increase the omeprazole to 60 mg per day.
- d. monitor for digoxin toxicity.

ANS: D

Proton pump inhibitors can enhance the effects of digoxin, so patients should be monitored for digoxin toxicity. Changing the dose of either medication is not indicated prior to obtaining lab results that indicated elevated digoxin levels.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient reports experiencing flatulence and abdominal distension to the nurse. Which over-the-counter medication will the nurse recommend?

- a. Alka-Seltzer
- b. Maalox
- c. Simethicone
- d. Tums

ANS: C

Simethicone is an antigas agent. Maalox Gas contains simethicone, while regular Maalox does not. The other products do not contain simethicone.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. A patient who recently began having mild symptoms of gastroesophageal reflux disease (GERD) is reluctant to take medication. What non-pharmacological measures will the nurse recommend to minimize this patient's symptoms? (Select all that apply.)

- a. Avoiding hot, spicy foods
- b. Avoiding tobacco products

- c. Drinking a glass of red wine with dinner
- d. Eating a snack before bedtime
- e. Taking ibuprofen with food
  
- f. Using a small pillow for sleeping
- g. Wearing well-fitted clothing

ANS: A, B, E

Hot, spicy foods aggravate gastric upset, tobacco increases gastric secretions, and ibuprofen on an empty stomach increases gastric secretions, so patients should be taught to avoid these actions. Alcohol should be avoided since it increases gastric secretions. Eating at bedtime increases reflux, as does laying relatively flat to sleep, or wearing fitted clothing.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

## Chapter 44: Eye and Ear Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is caring for a patient who has increased intraocular pressure. The provider has ordered levobunolol 0.5% ophthalmic solution. The nurse will perform a thorough health history to make sure the patient does not have a history of which condition?
  - a. Asthma
  - b. Diabetes
  - c. Hypertension
  - d. Renal disease

ANS: A

Levobunolol is a non-selective beta blocker that can be used to treat increased intraocular pressure. This agent is contraindicated in patients with asthma.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is performing a medication history on a patient who has glaucoma. The patient has a prescription for brimonidine (Alphagan P). The nurse knows that this drug belongs to which class of medications?

- a. Alpha-adrenergic agonists
- b. Beta-adrenergic blockers
- c. Cholinergic agonists
- d. Cholinesterase inhibitors

ANS: A

Brimonidine is an alpha-adrenergic agonist.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse administers proparacaine HCl (Ophthaine) drops to a patient prior to an eye examination. What sign will the nurse look for to determine when the examination can begin?

- a. Absence of the blink reflex
- b. Blurred vision
- c. Drying of the corneal epithelium
- d. Photophobia

ANS: A

Proparacaine is a topical anesthetic for the eye and causes loss of the blink reflex. Drying of the corneal epithelium is a side effect but occurs later as a result of the loss of the blink reflex. Blurred vision and photophobia result from mydriasis and miosis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



4. The nurse is administering timolol (Timoptic) eye drops to a patient who has glaucoma. To prevent bradycardia, the nurse will perform which action?

- a. Apply pressure to the lacrimal ducts.
- b. Have the patient sit up after instilling the drops.
- c. Prepare to administer an alpha-adrenergic agonist.
- d. Wait 5 minutes between drops.

ANS: A

Bradycardia is a systemic side effect of timolol. Applying pressure to the lacrimal ducts prevents the medication from being systemically absorbed and causing systemic side effects such as bradycardia.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient has an infection of the eyelash follicles and in the gland on the eyelid margin. The nurse recognizes these symptoms as being consistent with which condition?

- a. Blepharitis
- b. Chalazion
- c. Endophthalmitis
- d. Hordeolum

ANS: D

Hordeolum is a local infection of eyelash follicles and glands on the eyelid margin and is also known as a "stye." Blepharitis is an infection of the margins of the eyelid. Chalazion is an

infection of the glands of the eyelids that may produce cysts. Endophthalmitis is an infection of the structures of the inner eye.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing to administer atropine sulfate drops as a mydriatic agent. Which of the following is considered a contraindication to therapy?

- a. Tachycardia
- b. Diarrhea
- c. Bradycardia
- d. Constipation

ANS: A

Atropine sulfate is an anticholinergic medication that is contraindicated in patients with tachycardia and glaucoma. Anticholinergic effects could contribute to worsening constipation, but the presence of constipation would not be considered a contraindication.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is preparing to administer olopatadine (Patanol) eyedrops to a patient who has allergic conjunctivitis. The patient tells the nurse that the drops have caused burning and stinging. What action will the nurse take?

- a. Administer the drops and reassure the patient that this is a normal side effect.
- b. Offer an over-the-counter eye lubricant to minimize this adverse effect.
- c. Request an order for antibiotic eyedrops.
- d. Withhold the medication and notify the provider.

ANS: A

Burning and stinging are the most common side effects of this class of drugs but do not warrant withholding the medication. An over-the-counter lubricant is not indicated. These symptoms are not an indication of infection.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is providing teaching for a patient who will begin using tobramycin ointment (Nebcin) 0.5 inches 3 times daily. The patient currently uses pilocarpine HCl (Isopto Carpine) drops to treat glaucoma. Which statement by the patient indicates a need for further teaching?

- a. "I should apply the third dose of tobramycin at bedtime each day."
- b. "I should instill the drops in the conjunctival sac of the lower eyelid."
- c. "I should not stop the medications without consulting my provider."
- d. "I should put the ointment on first and then instill the eyedrops."

ANS: D

Patients using both drops and ointments should instill the drops prior to applying the ointment. Ointments should be applied at bedtime if possible. Drops should be instilled into the conjunctival sac of the lower lid. Patients should always consult with their provider before discontinuing any medication.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is counseling an adolescent patient who has recurrent otitis externa and who works as a lifeguard in the summer about preventing this condition. The nurse will teach this patient to do which of the following?

- a. avoid using ear plugs while swimming.
- b. request a prescription for prophylactic antibiotic eardrops.
- c. use a hair dryer to dry the ears after swimming.
- d. wear a medical alert bracelet.

ANS: C

To help prevent otitis externa, patients should be counseled to use a portable hair dryer to dry the ears after swimming. Ear plugs are recommended. Prophylactic antibiotic eardrops are not indicated. A medical alert bracelet is not necessary.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The parent of a toddler asks the nurse what can be done to prevent otitis media. What will the nurse recommend?

- a. Administer diphenhydramine when the child has a runny nose.
- b. Give phenylephrine (Neo-Synephrine Ophthalmic) to prevent congestion.
- c. Keep the child's immunizations up to date.
- d. Remove cerumen with carbamide peroxide (Auro Ear Drops).

ANS: C

The pneumococcal conjugate vaccine (PCV) protects children against *S. pneumoniae* and should be administered to all children to prevent otitis media. Antihistamines and decongestants have been shown to be ineffective in preventing otitis media. Removing cerumen helps to prevent otitis externa.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

## Chapter 45: Dermatologic Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is providing teaching for an adolescent who has acne vulgaris. In addition to teaching about correct administration of the prescribed medications, the nurse will instruct this patient to do which of the following?
  - a. apply topical vitamin D3.
  - b. cleanse the skin gently several times a day.
  - c. cleanse the affected skin vigorously twice daily.
  - d. take an oral vitamin D supplement.

ANS: B

Gentle cleansing is one of the chief nonpharmacologic treatments of acne. Vigorous scrubbing should be avoided. Topical vitamin D is sometimes used to treat psoriasis.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance

2. A patient reports using benzoyl peroxide 2.5% for acne but doesn't feel that it is working. The nurse notes papules and nodules on the patient's face, neck, and back, consistent with moderate acne vulgaris. The nurse will counsel this patient to ask the provider about which of the following? N

- a. adding isotretinoin (Amnesteem) to the treatment regimen.
- b. increasing the benzoyl peroxide to a 5% solution.
- c. taking systemic antibiotics until symptoms improve.
- d. using benzoyl peroxide 10% and a topical antibiotic.

ANS: D

Moderate acne may require a stronger concentration of benzoyl peroxide (such as 10%) and topical antibiotics. Isotretinoin is used for severe cystic acne. Systemic antibiotics are given for severe acne.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is teaching a female patient who will begin taking isotretinoin (Amnesteem) to treat severe cystic acne. Which statement by the patient indicates understanding of the teaching?

- a. "I may get a 3-month supply of the medication with each refill."
- b. "I must abstain from intercourse while taking this drug."
- c. "I should avoid strenuous exercise when I am taking this medication."
- d. "I should take a vitamin A supplement while I am taking the medication."

ANS: C

Serious muscle damage may occur while taking this medication, so patients should avoid strenuous activity which can compound this effect. Patients must get monthly refills and should use two reliable forms of birth control while taking the medication, but abstinence is not required. Vitamin A can compound the adverse effects of this medication.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has psoriasis is taking methoxsalen (Oxsoralen) to treat the condition along with receiving therapeutic ultraviolet A. The nurse notes burning and blistering of the

patient's skin. Which action will the nurse take?

- a. Ask the patient about any recent exposure to sunlight.
- b. Explain to the patient that these signs mean the treatment is working.
- c. Report spread of the psoriasis to the patient's provider.
- d. Tell the patient to take the methoxsalen after the ultraviolet A treatment.

ANS: A

Patients taking methoxsalen can develop burning and blistering with exposure to sunlight. These signs do not indicate efficacy of the treatment and do not mean the psoriasis is worsening. There is no indication for taking the drug after the UVA exposure.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient who has psoriasis will begin taking etanercept (Enbrel). The nurse will ensure that which laboratory test is performed prior to initiating treatment with this drug?

- a. Complete blood count (CBC) with differential
- b. CD4 and T-cell count
- c. Serum pregnancy test
- d. Tuberculin test

ANS: D

Enbrel can worsen infections, and patients taking this drug must have a tuberculin skin test prior to initiation of treatment. CBC, CD4, and T-cell counts may be monitored during therapy. A serum pregnancy test is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse assists the provider to treat a patient who has warts with cantharidin (Cantharone). After the cantharidin is applied to the warts, the nurse will do which of the following?
- a. apply gauze dressings to the warts and secure them with tape.
  - b. cover the warts with nonporous tape when the solution dries.
  - c. prepare to assist the provider with cryotherapy to complete the procedure.
  - d. treat the warts with Burrow's soaks and apply a wet-to-dry dressing.

ANS: B

To prevent damage to the surrounding skin, the wart should be covered with nonporous tape after the application of cantharidin is allowed to dry. This procedure can be repeated in approximately 2 weeks. Gauze dressings are porous and would allow the solution to come in contact with intact skin. Cryotherapy is a separate procedure and not done after treatment with cantharidin. Burrow's soaks are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A patient reports severe localized itching after contact with a new brand of laundry detergent. The nurse will suggest that the patient contact the provider to discuss treatment with which product?
- a. Calamine lotion
  - b. Systemic glucocorticoid
  - c. Topical diphenhydramine



- d. Topical corticosteroid

ANS: D

This patient has contact dermatitis related to contact with a chemical. Topical corticosteroids may be used for the itching. Calamine lotion may contain diphenhydramine and is used mainly for contact with plant irritants. A topical diphenhydramine is not recommended because of an increased risk of allergic reaction to systemic diphenhydramine. Systemic steroids are used for more severe reactions.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient who works outdoors has frequent contact dermatitis flares secondary to exposure to plant irritants. The patient asks the nurse how to minimize these episodes. The nurse will counsel this patient to perform which action?

- a. Apply topical glucocorticoid medication prior to exposure.
- b. Cleanse the skin immediately after any contact with plants.
- c. Take systemic diphenhydramine (Benadryl) after being outdoors.
- d. Use calamine lotion prior to working outdoors.

ANS: B

Cleansing is one of the chief methods to decrease the irritation that has been caused by contact dermatitis.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance

9. A female patient has begun using 2% minoxidil (Rogaine) to treat thinning of her hair. After several weeks of treatment, she reports minimal effectiveness but has noticed some improvement. The nurse will counsel her to perform which action?

- a. Continue to use the 2% minoxidil.
- b. Change to finasteride (Propecia).

c. Discontinue the minoxidil.

d. Increase to 5% minoxidil.

ANS: A

The patient has shown some improvement, so she should keep using the product if she wants to maintain the results, since stopping treatment will result in hair loss in a few months.

Finasteride and 5% minoxidil are not approved for women.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is teaching a group of adolescents about sun protection. What information will the nurse include when teaching this group?

- a. Effective sunscreens guard against melanoma and basal cell carcinoma.
- b. SPF numbers indicate UVB protection, and UVA protection is assumed for all products.
- c. SPF ratings are proportional to the amount of UVB radiation that they block.
- d. Sunscreen products of all SPF ratings will protect for 2 hours if not exposed to moisture.

ANS: D

Sunscreen will protect about 2 hours if not exposed to moisture, such as swimming or sweating. Sunscreens do not guard against melanoma or basal cell carcinoma. UVA protection is not in all products. SPF ratings are not proportional.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient who has extensive second- and third-degree burns will use mafenide acetate (Sulfamylon) to treat the burns. Which of the following is true of mafenide acetate use for the treatment of burns?

- a. It is dosed orally once daily.
- b. It has multiple serious drug interactions associated with use.
- c. Potential side effects include rash, urticaria and pruritus.
- d. Mafenide is a synthetic aminoglycoside antibiotic.

ANS: C

Common side effects associated with topical mafenide use include rash, urticaria, pruritus, swelling and erythema. Mafenide acetate is a synthetic sulfonamide antibiotic applied topically and has no significant drug interactions.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient has second- and third-degree burns, and the nurse is applying silver sulfadiazine (Silvadene) to the burns with each dressing change. The patient reports a burning sensation. The nurse understands that this is:

- a. a hypersensitivity reaction to the medication.
- b. an expected adverse reaction to the medication.
- c. a sign of localized tissue infection.
- d. a sign of skin necrosis.

ANS: B

A common adverse reaction to silver sulfadiazine is a burning sensation. It does not indicate a hypersensitivity reaction, localized tissue infection, or skin necrosis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Evaluation  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 46: Pituitary, Thyroid, Parathyroid, and Adrenal Disorders McCuiston: Pharmacology: A  
Patient-Centered Nursing Process Approach, 10th Edition

## MULTIPLE CHOICE

1. The parents of an 11-year-old boy ask about growth hormone therapy for their child, who is shorter than his 10-year-old sister. The nurse will tell the parents that growth hormone:
- a. does not affect other hormones when given.
  - b. is available as an oral tablet to be taken once daily.
  - c. is given after tests prove that it is necessary.
  - d. may be given until the child's desired height is reached.

ANS: C

Growth hormone is given only when growth hormone deficiency is determined. It cannot be given orally. It antagonizes insulin secretion and thus can lead to the development of diabetes mellitus. It cannot be given after the epiphyses are fused.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is caring for a patient who is receiving growth hormone. Which assessment will the nurse monitor daily?
- a. Complete blood count
  - b. Height and weight
  - c. Renal function
  - d. Serum glucose

ANS: D

Growth hormone antagonizes insulin secretion, so serum glucose should be monitored.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment/Evaluation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The parents of a 16-year-old boy who plays football want their child to receive growth hormone to improve muscle strength. What will the nurse tell the parents?

- a. "Growth hormone may be used to improve strength in young athletes."
- b. "If the epiphyses are not fused, growth hormone may be an option."
- c. "Small doses of growth hormone may be used indefinitely for this purpose."
- d. "Using growth hormone to build muscle mass is not recommended."

ANS: D

Athletes should be advised not to take growth hormone to build muscle because of its effects on blood sugar and other side effects.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. Which would be a contraindication for hormone therapy with somatotropin (Genotropin) in a school-age child?

- a. Asthma
- b. Dwarfism
- c. Enuresis
- d. Prader-Willi syndrome

ANS: D

Fatalities associated with risks of taking growth hormone with Prader-Willi syndrome have been reported, so it is contraindicated in patients with this syndrome. It is not contraindicated in patients with asthma or enuresis. Dwarfism is an indication for hormone therapy.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A child exhibits acromegaly caused by a tumor that cannot be destroyed with radiation. Which medication would be appropriate to treat this child?

- a. Bromocriptine mesylate (Parlodel)
- b. Conivaptan (Vaprisol)
- c. Somatrem (Protropin)
- d. Somatropin (Genotropin)

ANS: A

Bromocriptine is used to inhibit release of growth hormone from the pituitary gland if the tumor cannot be destroyed by radiation. Conivaptan is used for symptomatic euvolemic hyponatremia associated with SIADH. Somatrem and somatropin are used to treat growth hormone deficiency and would make acromegaly worse.

N

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is caring for a patient who has hypothyroidism. To assist in differentiating between primary and secondary hypothyroidism, the nurse will expect the provider to order which drug?

- a. Liothyronine sodium (Cytomel)
- b. Liotrix (Thyrolar)
- c. Methimazole (Tapazole)
- d. Thyrotropin (Thytropar)

ANS: D

Thyrotropin is a purified extract of thyroid-stimulating hormone and is used as a diagnostic agent to differentiate between primary and secondary hypothyroidism. Liothyronine and liotrix are thyroid replacement drugs. Methimazole is used to decrease thyroid hormone secretion.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse administers intravenous corticotropin (Acthar) to a patient. A serum cortisol level drawn 60 minutes later shows no change in serum cortisol levels from prior to the dose. What is the nurse's first action?

- a. Notify the provider to discuss a possible non-functioning adrenal gland.
- b. Recognize the need for an increased dose to treat pituitary insufficiency.
- c. Request an order for a second dose of corticotropin to treat cortisone deficiency.
- d. Request an order to repeat the serum cortisol level in 1–2 h.

ANS: A

Corticotropin is given to diagnose adrenal gland disorders as well as to treat adrenal gland insufficiency. When given intravenously, the serum cortisol level should increase within 30–60 min if the adrenal gland is functioning. The nurse should report adrenal gland dysfunction. The provider will determine how to treat. Since the levels should increase in 30–60 min, there is no need to repeat the test in 1–2 h.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse provides teaching for a patient who is receiving corticotropin. The nurse will instruct the patient to contact the provider if which condition occurs?

- a. Bruising
- b. Constipation
- c. Myalgia
- d. Nausea

ANS: A



Ecchymosis is an adverse reaction to corticotropin and should be reported. Constipation and nausea are known side effects bNut are not serious. Myalgia is not common.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is caring for a patient who has experienced head trauma in a motor vehicle accident. The patient is having excessive output of dilute urine. The nurse will notify the provider and will anticipate administering which medication?

- a. Calcifediol (Calderol)
- b. Corticotropin (Acthar)
- c. Prednisolone (AK-Pred)
- d. Vasopressin (Pitressin)

ANS: D

The posterior pituitary gland secretes antidiuretic hormone (ADH) (vasopressin). When there is a deficiency of ADH, sometimes caused by head trauma, patients excrete large amounts of dilute urine. ADH replacement is necessary to prevent fluid imbalance. Calcifediol is used to treat parathyroid disorders. Corticotropin and prednisolone do not prevent diuresis.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The nurse is preparing to administer piperacillin to a patient to treat an infection caused by pseudomonas. The nurse learns that the patient is receiving corticotropin to treat an acute multiple sclerosis flare. The nurse will request an order for which of the following?

- a. a different antibiotic.
- b. blood glucose monitoring.
- c. cardiac monitoring.

- d. serum electrolyte monitoring.

ANS: D

Corticotropin can interact with piperacillin to cause hypokalemia, so serum electrolytes should be monitored. It is not necessary to change the antibiotic. Blood glucose monitoring and cardiac monitoring are not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse is caring for a patient who is receiving desmopressin acetate (DDAVP). Which assessments are important while caring for this patient?

- a. Blood pressure and serum potassium
- b. Heart rate and serum calcium
- c. Lung sounds and serum magnesium
- d. Urine output and serum sodium

ANS: D

Desmopressin is an antidiuretic hormone. The nurse should monitor intake and output as well as serum sodium levels. Side effects and adverse reactions include hyponatremia, cephalgia, dyspepsia, diarrhea, nausea, and vomiting.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A 35-year-old woman reports lethargy, difficulty remembering things, facial edema, dry skin, and cessation of menses. The nurse notes a heart rate of 60 beats per minute and a weight increase of 5 pounds from a previous visit. The nurse suspects the patient will be diagnosed with which of the following?

- a. Cretinism
- b. Early menopause
- c. Hyperthyroidism

d. Myxedema

ANS: D

Myxedema is severe hypothyroidism characterized by this woman's symptoms. Cretinism is congenital hypothyroidism. Early menopause is not characterized by memory loss, facial edema, dry skin, or bradycardia. Hyperthyroidism would include tachycardia and weight loss.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

13. A patient is admitted to the hospital with myxedema and requires treatment for hypothyroidism. For rapid improvement in symptoms, the nurse will expect to administer which medication?

- a. Levothyroxine sodium (Synthroid)
- b. Liothyronine (Cytomel)
- c. Liotrix (Thyrolar)
- d. Thyroid desiccated (Armour Thyroid)

ANS: B

Liothyronine has a short  $t_{1/2}$  and rapid onset of action and is not recommended for maintenance therapy but is used as initial therapy for severe myxedema. Levothyroxine is the drug of choice for replacement therapy. Liotrix is a second-line drug. Thyroid desiccated is used for hypothyroidism to reduce goiter size.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient who takes warfarin (Coumadin) and digoxin (Lanoxin) develops hypothyroidism and will begin taking levothyroxine (Synthroid). The nurse anticipates which potential adjustments in dosing for this patient?

- a. Decreased digoxin and decreased warfarin
- b. Decreased digoxin and increased warfarin

- c. Increased digoxin and decreased warfarin
- d. Increased digoxin and increased warfarin

ANS: C

Thyroid preparations increase the effect of oral anticoagulants, so the warfarin dose may need to be decreased. Levothyroxine can decrease the effectiveness of digoxin, so this dose may need to be increased.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. A patient who takes the oral antidiabetic agent metformin (Glucophage) will begin taking levothyroxine (Synthroid). The nurse will teach this patient to monitor for

- a. hyperglycemia.
- b. hypoglycemia.
- c. hyperkalemia.
- d. hypokalemia.

ANS: A

Insulin and oral antidiabetic drugs may need to be increased in patients taking levothyroxine. Patients should be taught to monitor for hyperglycemia, because of the reduced effects of these drugs.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. The nurse is caring for a patient who is being treated for hypothyroidism. The patient reports insomnia, nervousness, and flushing of the skin. Before notifying the provider, the nurse will perform which action?

- a. Assess serum glucose to evaluate possible hypoglycemia.
- b. Check the patient's heart rate to assess for tachycardia.
- c. Perform an assessment of hydration status.
- d. Take the patient's temperature to evaluate for infection.

ANS: B

The patient has signs of a thyroid crisis, which can occur with excess ingestion of thyroid hormone. The nurse should evaluate heart rate before notifying the provider. These are not symptoms of hypoglycemia. The symptoms are not indicative of infection.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. A patient with Graves disease exhibits tachycardia, heat intolerance, and exophthalmos. Prior to surgery, which drug is used to alter thyroid hormone levels?

- a. Liotrix (Thyrolar)
- b. Propranolol (Inderal)
- c. Propylthiouracil (PTU)
- d. Thyroid (Thyro-Tab)

ANS: C

Propylthiouracil is a potent antithyroid drug used in preparation for a subtotal thyroidectomy. Liotrix and thyroid are used as thyroid replacement. Propranolol is used to treat hypertension associated with hyperthyroidism.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. A patient has hypocalcemia caused by parathyroid hormone deficiency. Which medication will the nurse anticipate giving to this patient?

- a. Calcitonin
- b. Calcitriol
- c. Calcium
- d. Vitamin D

ANS: B

Calcitriol is given for management of hypocalcemia caused by parathyroid hormone deficiency. Calcitonin is used to treat hyperparathyroidism. Calcium and vitamin D are not useful in parathyroid deficiency.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

19. A patient is receiving a glucocorticoid medication to treat an inflammatory condition, and the provider has ordered a slow taper in order to discontinue this medication. The nurse explains to the patient that this is done to prevent which condition?

- a. Acromegaly
- b. Adrenocortical insufficiency
- c. Hypertensive crisis
- d. Thyroid storm

ANS: B

Patients receiving glucocorticoids stop making their own cortisol. These drugs should be tapered slowly to allow the body to resume making this hormone. Acromegaly is associated with growth hormone hypersecretion. Hypertensive crisis and thyroid storm are associated with thyroid replacement.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

20. A patient is taking prednisolone and fludrocortisone (Florinef). When teaching this patient about dietary intake, the nurse will instruct the patient to consume a diet that is:

- a. high in carbohydrates.
- b. high in fat.
- c. high in protein.
- d. low in potassium.

ANS: C

Patients receiving fludrocortisone are at risk for negative nitrogen balance and should consume a high-protein diet.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

21. A patient who takes high-dose aspirin to treat arthritis will need to take prednisone to treat an acute flare of symptoms. What action will the nurse perform?

- a. Observe the patient for hypoglycemia.
- b. Monitor closely for increased urine output.
- c. Observe the patient for hypotension.
- d. Request an order for enteric-coated aspirin.

ANS: D

Glucocorticoids can increase gastric distress, so an enteric-coated aspirin product is indicated. Glucocorticoids increase the risk of hypoglycemia, fluid retention, and hypertension.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

## Chapter 47: Antidiabetics

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. The nurse is teaching a group of nursing students about diabetes. The nurse explains that which type of diabetes is the most common?

- a. Type 1 diabetes mellitus
- b. Type 2 diabetes mellitus
- c. Diabetes insipidus
- d. Secondary diabetes

ANS: B

Type 2 diabetes mellitus is the most common type of diabetes.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A patient develops type 2 diabetes mellitus. The nurse will explain that this type of diabetes:

- a. is generally triggered by medications.
- b. is not as common as type 1 diabetes.
- c. is often related to heredity and obesity.
- d. will not require insulin therapy.

ANS: C

Type 2 diabetes is often caused by obesity and hereditary factors. Secondary diabetes is triggered by medications. Type 2 diabetes is the most common type of diabetes. Patients with



type 2 diabetes may eventually require treatment with insulin.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Physiological Integrity: Pathophysiology

3. A patient who is overweight is being evaluated for diabetes. The patient has a blood glucose level of 160 mg/dL and a hemoglobin A1c of 5.8%. The nurse understands that this patient has which condition?

- a. Diabetes mellitus
- b. Hypoglycemia
- c. Normal blood levels
- d. Prediabetes

ANS: D

Patients with a hemoglobin A1c between 5.7% and 6.4% are considered to have prediabetes. A level of 6.5% or more indicates diabetes. The patient is hyperglycemic.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

4. The nurse is teaching a patient who is newly diagnosed with type 1 diabetes mellitus about insulin administration. Which statement by the patient indicates a need for further teaching?

- a. "I should rotate my injection sites."
- b. "I should give each injection a knuckle length away from a previous injection."
- c. "I will not be concerned about a raised knot under my skin from injecting insulin."
- d. "Insulin is absorbed better from subcutaneous sites on my abdomen."

ANS: C

Lipohypertrophy presents as a raised lump or knot on the skin surface caused by repeated injections into the same site, and this can interfere with insulin absorption. Patients are encouraged to rotate injection sites, giving each injection at least a knuckle length away from the previous injection. Insulin absorption is most predictable when given in abdominal areas.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is teaching a patient how to administer insulin. The patient is thin with very little body fat. The nurse will suggest injecting insulin:

- a. by pinching up the skin and injecting straight down.
- b. in the abdomen only with the needle at a 90-degree angle.
- c. subcutaneously with the needle at a 45- to 60-degree angle.
- d. using the thigh and buttocks areas exclusively.

ANS: C

In a thin person, with little fatty tissue, the needle is inserted at a 45- to 60-degree angle. In other patients, a 45- to 90-degree angle is acceptable. There is no recommendation for preferring one site over another.

DIF: Cognitive Level: ApplyingN(Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse receives the following order for insulin: IV NPH (Humulin NPH) 10 units. The nurse will perform which action?

- a. Administer the dose as ordered.
- b. Clarify the insulin type and route.
- c. Give the drug subcutaneously.

- d. Question the insulin dose.

ANS: B

NPH insulin is not indicated for intravenous administration. The nurse should clarify the order. The nurse should not administer the drug by a different route without first discussing the order with the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse will administer parenteral insulin to a patient who will receive a mixture of NPH (Humulin NPH) and regular (Humulin R). The nurse will give this medication via which route?

- a. Intradermal
- b. Intramuscular
- c. Intravenous
- d. Subcutaneous

ANS: D

Insulin is given by the subcutaneous route. NPH insulin is not indicated for intravenous use.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient reports that they are taking a rapid-acting insulin with meals, but can't remember the name. Which of the following products is a rapid-acting insulin?

- a. Regular insulin (Novolin R)
- b. Insulin glargine (Lantus)
- c. Insulin lispro (Humalog)

d. Insulin degludec (Tresiba)

ANS: C

Insulin lispro (Humalog) is a rapid-acting insulin product. Regular insulin is considered a short-acting insulin. Insulin glargine and insulin degludec are long-acting insulins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A patient is ordered to receive insulin lispro at mealtimes. The nurse will instruct this patient to administer the medication at which time?

- a. 10-15 min before eating N
- b. 15 min after eating
- c. 30 min before eating
- d. 10 min after eating

ANS: A

Lispro acts faster than regular insulin, and patients should be taught to give this medication 10-15 minutes before eating.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. The parent of a junior high school child who has type 1 diabetes asks the nurse if the child can participate in sports. The nurse will tell the parent:

- a. that strenuous exercise is not recommended for children with diabetes.
- b. that the child must be monitored for hyperglycemia while exercising.
- c. to administer an extra dose of regular insulin prior to exercise.

- d. to send a snack with the child to eat just prior to exercise.

ANS: D

Patients generally need less insulin with increased exercise, so the child should consume a snack to prevent hypoglycemia. Exercise is an integral part of diabetes management.

Hypoglycemia is more likely to occur, and extra insulin is not indicated.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient was administered regular insulin 30 minutes ago, but has not received a breakfast tray. The patient is experiencing nervousness and tremors. What is the nurse's first action?

- a. Administer glucagon.
- b. Give the patient orange juice.
- c. Notify the kitchen to deliver the tray.
- d. Perform bedside glucose testing.

ANS: B

The patient is symptomatic and has hypoglycemia. The nurse should give orange juice. Glucagon is given for patients unable to ingest carbohydrates. The kitchen should be notified, and bedside glucose testing should be performed, but only after the patient is given carbohydrates.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A patient who has type 1 diabetes mellitus asks the nurse about using a combination insulin product such as Humalog 70/30. The nurse will tell the patient that use of this product:

- a. depends on individual insulin needs.
- b. is useful for patients with severe insulin resistance.

- c. means less rotation of injection sites.
- d. requires refrigeration at all times.

N

ANS: A

Combination products are convenient because the patient does not have to mix insulin, but the products depend on individual needs, since the doses are fixed. They are generally not used for patients with severe insulin resistance that require large insulin doses. Patients must continue to rotate injection sites. They do not require refrigeration after first use.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The patient asks the nurse about storing insulin. Which response by the nurse is correct?

- a. "All insulin vials must be refrigerated before and during use."
- b. "Insulin will last longer if kept in the freezer."
- c. "Opened vials of insulin must be discarded after first use."
- d. "Some insulin products do not require refrigeration during use."

ANS: D

Some insulin products do not require refrigeration during use. Storing insulin in the freezer is not recommended. Opened vials may either be kept at room temperature or refrigerated. Drug information for each product should be reviewed for drug-specific storage information.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

14. A patient who has type 1 diabetes mellitus must take a glucocorticoid medication for osteoarthritis. When teaching this patient, the nurse will explain that there may be a need to:

- a. decrease the glucocorticoid dose.
- b. decrease the insulin dose.
- c. increase the glucocorticoid dose.
- d. increase the insulin dose.

ANS: D

Glucocorticoids can cause hyperglycemia, so the insulin dose may need to be increased. Changing the glucocorticoid dose is usually not recommended. Decreasing the insulin dose will only compound the hyperglycemic effects.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. Which statement by a patient who will begin using an insulin pump indicates understanding of this device?

- a. "I will have an increased risk for hypoglycemia."
- b. "I will leave this on when bathing or swimming."
- c. "I will not need to count carbohydrates anymore."
- d. "I will still need to monitor serum glucose."

ANS: D

Patients using an insulin pump will still monitor serum glucose and count carbohydrates. The advantage of the pump is that it is programmed to deliver continuous rapid-acting insulin in

varying amounts at different times throughout the day. Changes in food intake can alter the risk for hypoglycemia if the pump is not adjusted accordingly. Most devices must be removed when bathing or swimming.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A patient who is unconscious and has a pulse is brought to the emergency department. The patient is wearing a Medic-Alert bracelet indicating type 1 diabetes mellitus. The nurse will anticipate an order to administer:

- a. cardiopulmonary resuscitation (CPR).
- b. glucagon.
- c. insulin.
- d. orange juice.

ANS: B

This patient is most likely hypoglycemic. Glucagon is given if patients are unable to ingest a carbohydrate, such as orange juice. CPR is not indicated. Insulin will compound the hypoglycemia.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Planning/Nursing Intervention

17. A patient who has type 2 diabetes mellitus asks the nurse why the provider has changed the oral antidiabetic agent from tolbutamide (Orinase) to glipizide (Glucotrol). The nurse will explain that glipizide

- a. has a longer duration of action.
- b. has fewer gastrointestinal side effects.
- c. may be taken on an as-needed basis.
- d. does not cause hypoglycemia.

ANS: A

Glipizide is a second-generation sulfonylurea. It has a longer duration of action than the first-generation sulfonylurea tolbutamide. It has many gastrointestinal side effects. It is taken once daily, not as needed. All sulfonylureas can contribute to hypoglycemia.



DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

18. A 45-year-old patient who is overweight has had a diagnosis of type 2 diabetes for 2 years. The patient uses 20 units of long-acting insulin per day. The patient's fasting blood glucose (FBG) is 190 mg/dL. The patient asks the nurse about using an oral antidiabetic agent. The nurse understands that oral antidiabetic agents:

- a. cannot be used if the patient is overweight.
- b. cannot be used once a patient requires insulin.
- c. may be used in patients with type 2 diabetes in combination with insulin.
- d. may not be used since this patient's fasting blood glucose is too high.

ANS: C

Patients with type 2 diabetes often use long-acting insulin in combination with oral agents to manage blood glucose.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 48: Urinary Disorders

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. A 25-year-old female patient reports urinary frequency with pain on urination, flank pain, fever, and chills. The nurse recognizes these symptoms as characteristic of which condition?

- a. Cystitis
- b. Dysuria
- c. Pyelonephritis
- d. Urethritis

ANS: C

These are symptoms of pyelonephritis, characterized by fever, dysuria, flank pain, and urinary frequency.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

2. A male patient reports urinary urgency and pain with burning on urination. The nurse understands that this patient will likely be treated for which condition?

- a. Cystitis
- b. Prostatitis
- c. Pyelonephritis
- d. Urethritis N

ANS: B

In a male patient, a lower urinary tract infection is most likely prostatitis with symptoms similar to cystitis, such as pain and burning on urination and urinary frequency and urgency.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

3. The nurse is caring for a patient who is diagnosed with a urinary tract infection. The patient reports always having difficulty remembering to take medications. Which drug could the provider

select when treating this patient to help with medication adherence due to its efficacy as a single-dose treatment?

- a. Fosfomycin tromethamine (Monurol)
- b. Ciprofloxacin (Cipro)
- c. Nitrofurantoin (Macrochantin)
- d. Trimethoprim-sulfamethoxazole (Bactrim)

ANS: A

Fosfomycin is given as a one-time, single dose. Ciprofloxacin is given daily or twice a day. Nitrofurantoin is given four times daily. Trimethoprim-sulfamethoxazole is given twice daily.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Planning MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is caring for a hospitalized patient who has symptoms characteristic of pyelonephritis. Before administering the first dose of the intravenous antibiotic, the nurse will ensure that which action is performed?

- a. An antipyretic is administered.
- b. A dose of oral antibiotic is given.
- c. A urinary analgesic is given.
- d. A urine culture is obtained.

ANS: D

A urinalysis, as well as a culture and sensitivity, is usually performed before initiating drug therapy. An antipyretic is indicated for fever but does not need to be timed before the antibiotic. An oral antibiotic is not indicated. A urinary analgesic is given as needed.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention  
MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse provides teaching for a patient who will begin taking nitrofurantoin (Macrochantin) to treat a urinary tract infection. Which statement by the patient indicates understanding of the teaching?

- a. "If I experience gastrointestinal upset, I may take an antacid."
- b. "I should notify my provider immediately if my urine is brown."
- c. "I should take the drug with food and increase my fluid intake."
- d. "Tingling of my fingers is a harmless side effect of this drug."

ANS: C

Patients taking nitrofurantoin should take the drug with food and increase fluid intake. The drug should not be taken with antacids. Brown urine is a harmless side effect. Tingling of extremities can indicate neuropathy.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is preparing to administer methenamine (Hiprex) to a patient who is diagnosed with a urinary tract infection. The nurse reviews the patient's chart and notes a urinary pH of 6.0. Which action will the nurse take?

- a. Administer the drug as ordered.
- b. Obtain an order for 8 ounces of cranberry juice three times daily.
- c. Request an order for an increased dose.
- d. Restrict fluids to concentrate the patient's urine.

ANS: B

Methenamine produces a bactericidal effect when the urine pH is less than 5.5. Cranberry juice, ascorbic acid, or ammonium chloride can be administered to help to acidify the urine.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. Which side effect listed below is NOT associated with the urinary analgesic phenazopyridine?

- a. Renal dysfunction
- b. Altered blood glucose testing
- c. Reddish-orange urine
- d. Hemolytic anemia

ANS: B

Phenazopyridine can cause hemolytic anemia, renal and hepatic dysfunction, and a harmless discoloration of the urine to a reddish orange color. Phenazopyridine can alter urine glucose testing, but does not affect blood glucose test results.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient who has pain with urination associated with cystitis will be discharged home with a prescription for phenazopyridine (Pyridium). What instruction will the nurse include when teaching the patient about this drug?

- a. "Do not take this drug concurrently with an antibiotic."
- b. "Report reddish-brown urine to the provider immediately."
- c. "This drug has antiseptic and analgesic properties."
- d. "The drug provides symptomatic relief of pain."

ANS: D

Phenazopyridine is used to provide symptomatic pain relief. It may be taken with antibiotics. Reddish-brown urine is a harmless side effect. It does not have antiseptic properties.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

9. The nurse is preparing to administer bethanechol chloride (Urecholine) to a patient. The nurse

understands that this drug acts to

- a. block parasympathetic nerve impulses.
- b. increase the tone of the urinary detrusor muscle.
- c. relax smooth muscles in the urinary tract.
- d. relieve urinary pain and burning.

ANS: B

Bethanechol is used to increase the tone of the detrusor muscle and increase the bladder tone to stimulate urination. It stimulates the parasympathetic nerves. It increases smooth muscle tone in the urinary tract. It does not alleviate dysuria.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. An older woman has urgent urinary incontinence related to an overactive bladder. Which medication does the nurse expect the provider to order?

- a. Dimethylsulfoxide (DMSO)
- b. Flavoxate (Urispas)
- c. Phenazopyridine HCl (Pyridium)
- d. Tolterodine tartrate (Detrol)

ANS: D

Detrol is used to treat overactive bladder. Dimethyl sulfoxide (DMSO) is a urinary analgesic. Flavoxate (Urispas) is a urinary antispasmodic. Phenazopyridine HCl (Pyridium) is used to alleviate the pain and burning sensation during urination that is experienced with chronic cystitis.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The nurse assumes care for a patient who is experiencing urinary tract spasms and is ordered to receive flvoxate HCl (Urispas). When reviewing this patient's history, which condition would cause the nurse to notify the provider?

- a. Chronic obstructive pulmonary disorder
- b. Diabetes
- c. Glaucoma
- d. Hypotension

ANS: C

Flvoxate should not be used in a patient who has gastrointestinal or urinary tract obstruction or if the patient has glaucoma.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. The nurse is preparing to administer methenamine (Hiprex) to a patient who has pyelonephritis. The nurse understands that methenamine use is associated with the potential side effect of crystalluria. Which of the following would increase the risk of crystalluria?

- a. Restrict fluid intake.
- b. Darkening of the urine.
- c. Frequent ingestion of cranberry juice.
- d. Combination therapy with a sulfonamide.

ANS: D

Patients who take methenamine can develop crystalluria and should increase fluid intake to prevent this effect. A reddish-brown color is a harmless side effect. Patients should have acidic

urine to increase effectiveness of the medication. Methenamine taken with sulfonamides increases the risk of crystalluria.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. The nurse is teaching a parent about administering nitrofurantoin suspension to a 5-year-old child. Which instruction will the nurse include in the patient teaching?

- a. "Give the medication on an empty stomach."
- b. "Have the child rinse their mouth after taking the drug."
- c. "Limit the child's fluid intake to concentrate the urine."
- d. "Report brownish-colored urine to the child's provider."

ANS: B

Nitrofurantoin suspension can stain the teeth, so patients should rinse their mouth after taking it. Nitrofurantoin should be taken with food, and patients should increase fluid intake. A reddish-brown discoloration of the urine is a harmless side effect.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A patient will begin taking a urinary antimuscarinic medication. Which symptom should the patient report immediately?

- a. Dry mouth
- b. Fatigue
- c. Increased heart rate



d. Urinary retention

ANS: D

Urinary retention should be reported to the provider. Dry mouth, fatigue, and increased heart rate are potential side effects, but they do not necessarily warrant immediate notification of the provider. Urinary retention is more serious.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 49: Pregnancy and Preterm Labor

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#### MULTIPLE CHOICE

1. A pregnant woman asks the nurse about whether a medication is safe to take during pregnancy. The nurse notes that the drug has a low-molecular weight. Based on this drug characteristic, the nurse understands that this drug:
  - a. can cause greater gastrointestinal distress and hyperemesis when compared to high-molecular weight drugs.
  - b. has reduced renal elimination resulting in toxicity when compared to high-molecular weight drugs.

- c. is more sensitive to metabolism by circulating maternal hormones when compared to high-molecular weight drugs.
- d. will be more likely to cross the placenta and affect the fetus when compared to high-molecular weight drugs.

ANS: D

Low-molecular-weight drugs are more likely to cross the placental barrier when compared to high-molecular weight drugs. This characteristic does not contribute to increased GI distress or toxicity because of reduced renal elimination. Drugs with low-molecular weight are not more sensitive to metabolism by maternal hormones.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Analysis MSC: NCLEX: Health Promotion and Maintenance: Antepartal Care

2. A woman who is 4 weeks pregnant is worried that a medication she took until 3 weeks ago may cause birth defects. The nurse will tell her that:
- a. drugs taken in the first week of pregnancy can cause CNS defects.
  - b. medications have increased teratogenicity during the first week of pregnancy.
  - c. she should have an ultrasound immediately.
  - d. teratogenic effects are rare in the first 2 weeks of pregnancy.

ANS: D

During the first 2 weeks, the embryo is not susceptible to teratogenesis. There is no need for an ultrasound.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Antepartal Care

3. Which statement by the nurse is accurate regarding iron supplementation during pregnancy?
- a. "Women should only take an iron supplement if they have a documented serum iron deficiency."
  - b. "Iron supplements are given to supply the fetus."

- c. "Low-dose iron supplementation is recommended starting at the first prenatal appointment."
- d. "The greatest iron demand is in the first trimester of pregnancy."

ANS: C

Low-dose iron supplementation is recommended by the CDC starting at the first prenatal appointment. Iron supplements are given to prevent maternal iron deficiency, not to supply the fetus. The greatest demand occurs in the third trimester.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient who has just delivered her baby asks the nurse if she needs to continue taking her iron supplement. What instruction will the nurse provide to the patient?
- a. "Continue taking iron for 6 more weeks."
  - b. "Stop taking the iron supplement now."
  - c. "Take the iron supplement while nursing."
  - d. "Take the iron only if your hemoglobin is low."

ANS: A

Women should continue taking an iron supplement for 6 weeks after delivery. It is not necessary to take iron for the duration of nursing.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is teaching a woman who is pregnant about iron supplementation. Which statement by the woman indicates understanding of the teaching?

- a. "I may take the iron with an antacid to reduce gastrointestinal upset."
- b. "I should drink a glass of milk with iron to increase absorption."
- c. "I should take the iron supplement with a glass of orange juice."
- d. "I will stop taking the iron if my stools turn black."

ANS: C

Orange juice helps to improve absorption. Antacids and milk interfere with absorption. Darkened stools are an expected side effect and do not warrant stopping the supplement.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A young woman who is contemplating pregnancy asks the nurse what she can do to get healthy in preparation for pregnancy. The nurse will recommend which dietary supplement?

- a. 60 mg of elemental iron per day
- b. 400 mcg of folic acid per day
- c. 400 IU of vitamin D per day
- d. 1200 mg of calcium per day

ANS: B

Folic acid can help prevent neural tube defects. All women of childbearing age should take folic acid supplements. The other supplements may be given during pregnancy but are not recommended prior to getting pregnant.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A pregnant woman who has morning sickness asks the nurse what she can do to decrease her symptoms. The nurse will counsel her to take which of the following initial actions?

- a. Avoid fatty foods.
- b. Drink fluids with meals.
- c. Eat a large lunch and dinner.
- d. Take an iron supplement in the morning.

ANS: A

Avoiding fatty foods is a nonpharmacologic measure to reduce nausea and vomiting. Patients should drink fluids between and not with meals. Taking iron in the morning is not recommended. The pregnant woman should eat small, frequent meals.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Antepartal Care

8. A pregnant woman asks the nurse if she must give up caffeinated coffee while pregnant and breast feeding. How will the nurse advise the patient?

- a. "Limit your coffee consumption to 1 cup per day and avoid other sources of caffeine, such as tea and soda."
- b. "Drinking fewer than 6 cups of coffee per day is not harmful."
- c. "You may consume coffee freely during your third trimester."
- d. "Caffeine does not appear in breast milk."

ANS: A N

Caffeine consumption should be limited, and patients should be advised to limit coffee ingestion to 1 cup per day and to limit consumption of other sources of caffeine (tea, soda, chocolate and certain drugs). One percent of caffeine consumed will appear in breast milk, so it is wise to not drink several cups of coffee in succession.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. The nurse is caring for a patient who is 6–7 weeks pregnant and has moderate to severe vomiting. The provider has ordered doxylamine (Unisom) and intravenous fluids. The patient reports a history of asthma and type 2 diabetes mellitus. The nurse will hold the drug and contact the provider because doxylamine should be used with caution in patients who:

- a. are pregnant.
- b. are in their first trimester.
- c. have asthma.
- d. have diabetes.

ANS: C

Doxylamine is used for nausea and vomiting during pregnancy. It should be used cautiously in patients who have asthma. It may be given to pregnant women in their first trimester. Diabetes is not a contraindication.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A woman who is pregnant tells the nurse she has frequent heartburn in spite of eating small meals slowly; avoiding greasy, gas-forming foods; and remaining upright for 30 minutes after eating. The nurse will recommend which over-the-counter product?

- a. Sodium bicarbonate
- b. Magnesium and aluminum containing antacids
- c. H-2 receptor antagonist
- d. Calcium carbonate

ANS: B

If a pregnant patient does not respond to nonpharmacologic therapy, antacids are first-line therapy, and patients should choose a nonsystemic low-sodium product that contains aluminum and magnesium in combination. Products that contain sodium bicarbonate can be harmful during pregnancy. A histamine<sub>2</sub> receptor antagonist, such as Pepcid, may be used, but only if recommended by the provider. Calcium-containing antacids can be constipating during pregnancy.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A pregnant woman reports having constipation and has tried dietary changes without success. What will the nurse recommend?

- a. A stimulant laxative like bisacodyl (Dulcolax)
- b. Mineral oil
- c. A bulk-forming laxative like psyllium (Metamucil)
- d. A stimulant laxative like senna (Senokot)

ANS: C

Bulk-forming laxatives, like psyllium, should be tried first because they are not systemically absorbed. Bisacodyl and senna have systemic effects. Mineral oil can reduce the absorption of fat-soluble vitamins.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

12. A woman who is in her third trimester of pregnancy asks the nurse why she cannot take ibuprofen instead of acetaminophen for headaches. The nurse will explain that ibuprofen:

- a. will affect her fetus.

- b. use will result in renal toxicity.
- c. will induce premature labor.
- d. will prolong labor.

ANS: A

Ibuprofen can cause premature closure of the ductus arteriosus in the fetus if taken late in the pregnancy. Aspirin can induce premature labor and prolong labor.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

13. A woman who is experiencing premature labor is being given betamethasone (Celestone). She asks the nurse why this drug is being given. The nurse will explain that betamethasone is given for which reason?

- a. It lowers her blood pressure and prevents seizures.
- b. It prevents closure of the ductus arteriosus.
- c. It prevents respiratory distress in her infant.
- d. It stops her contractions.

ANS: C

The medication is given to accelerate lung maturation and lung surfactant development in the fetus in utero. It does not lower maternal blood pressure, stop maternal contractions, or prevent closure of the fetal ductus arteriosus.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies



14. The nurse is caring for a woman who is experiencing premature labor. The provider has ordered intravenous terbutaline (Brethine) to be given. The nurse will explain that this medication will have which action?

- a. It will decrease uterine contractions.
- b. It will enhance fetal lung development.
- c. It will increase fetal blood supply.
- d. It will lower her blood pressure.

ANS: A N

Terbutaline is given to relax the smooth muscle of the uterus and decrease contractions in order to stop premature labor. It does not affect fetal lung development or fetal blood supply and does not lower maternal blood pressure.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Implementation

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

15. The nurse is caring for a woman who is in labor and has a blood pressure of 180/98 mm Hg with proteinuria of 400 mg/24 h. The woman is receiving magnesium sulfate. The woman becomes lethargic with slurring of her speech and decreased muscle tone. Her serum magnesium sulfate level is 11 mEq/L. The nurse recognizes which condition in this patient?

- a. Abruptio placenta
- b. Hypertensive crisis
- c. Impending eclampsia
- d. Magnesium toxicity

ANS: D

Patients receiving magnesium sulfate can develop toxicity, evidenced by lethargy, slurred speech, and decreased muscle tone. A level greater than 10 mEq/L indicates toxicity. An elevated blood pressure and proteinuria are expected findings in a patient with pre-eclampsia. Patients with eclampsia will have marked elevation of blood pressure and seizures.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A woman who is experiencing preeclampsia asks what changes she has to make to her routine to minimize the risk of worsening her condition. The nurse will explain that she should:

- a. lie on her right side when sleeping.
- b. be hospitalized for the remainder of the pregnancy.
- c. restrict her fluids to 1000 mL/day.
- d. reduce her level of activity.

ANS: D

Nonpharmacologic treatments for preeclampsia include activity reduction, lying on left side, drinking six to eight 8-ounce glasses of water a day. There is no need for hospitalization if the condition can be controlled.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

#### MULTIPLE RESPONSE

1. Which are physiologic changes during pregnancy that affect drug absorption, metabolism, distribution, and excretion? (Select all that apply.)

- a. Changes in hormone levels
- b. Decreased gastrointestinal motility
- c. Decreased renal perfusion
- d. Increased maternal circulatory blood volume
- e. Poor sleep and fatigue
- f. Rapid respiratory rate

ANS: A, B, D

Changes in hormone levels, decreased GI motility, and increased blood volume all affect maternal drug effectiveness. Renal perfusion is increased during pregnancy. Poor sleep does not alter drug effectiveness. Rapid respiratory rate does not necessarily occur.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 50: Labor, Delivery, and Postpartum

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. The nurse is caring for a woman who is in early labor. The woman wants to avoid pain medications as long as possible. What will the nurse tell her?
  - a. "I can give you a sedative-hypnotic now to help you relax."
  - b. "I can teach you some simple breathing exercises to help lessen discomfort."
  - c. "If you take fentanyl (Sublimaze) now, it will be more effective than if you wait."
  - d. "You may take ibuprofen, which won't cause drowsiness."

ANS: B

Breathing and relaxation techniques are often used as nonpharmacologic measures to control pain during labor. Sedatives are often used to decrease maternal anxiety during false labor, latent labor, or with ruptured membranes without true labor. Fentanyl is generally not given until active labor. Ibuprofen is generally used postpartum for relief of mild to moderate pain.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is caring for an infant who is 2 days postpartum and notes that the infant has a poor sucking response. Which of the following medications can contribute to delayed breastfeeding with a poor sucking response for up to 4 days if used during labor?

- a. Butorphanol tartrate (Stadol)
- b. Fentanyl (Sublimaze)
- c. Nalbuphine (Nubain)
- d. Pentobarbital (Nembutal)

ANS: D

Sedative-hypnotic drugs, such as pentobarbital, can cause neonatal respiratory depression, hypotonia, and a poor sucking response up to 4 days. Butorphanol tartrate, fentanyl, and nalbuphine do not have prolonged effects.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is caring for a woman who is in labor. The woman is anxious and reports increasing nausea after receiving an opioid analgesic medication. The nurse will contact the provider and request an order for which intravenous medication?

- a. Hydroxyzine HCl (Vistaril)
- b. Pentobarbital sodium (Nembutal)
- c. Promethazine (Phenergan)
- d. Pentobarbital (Nembutal)

ANS: C

Phenergan is used as an adjunct to narcotic analgesics to potentiate pain relief, control anxiety, and reduce nausea. Hydroxyzine may have similar effects but is not given intravenously. Pentobarbital is used for anxiety only.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse is preparing a woman who is in labor for a lumbar epidural and explains that she will receive a continuous infusion of epidural anesthesia. She asks what will happen if that isn't effective. What response by the nurse is correct?

- a. "Increasing the amount of anesthesia will increase the risk of postdural headache."
- b. "You should tell the provider, and you may receive rescue doses of anesthesia if needed."
- c. "Epidural anesthesia cannot be combined with oral anesthesia."
- d. "The consistent level provided by the continuous anesthesia will be sufficient."

ANS: B

Continuous epidural anesthesia provides a consistent drug level and more effective pain relief than with intermittent epidural anesthesia. Patients may have rescue doses as needed.

Postdural headache occurs with accidental puncture of the dura with epidural anesthesia.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. The nurse is assisting with placement of epidural anesthesia for a woman who is in labor. To help prevent maternal hypotension, which is the nurse's initial action?

- a. Administer 40–80 mcg of intravenous phenylephrine.
- b. Infuse a bolus of 500–1000 mL of an isotonic solution before the procedure.
- c. Monitor the patient's blood pressure closely during epidural placement.
- d. Turn the patient onto her left side and give a rapid bolus of IV fluids.

ANS: B

To decrease risk of maternal hypotension before epidural placement, an IV bolus of 500–1000 mL of an isotonic solution is initially given. When hypotension develops, the woman should be turned

to her left side and administered a rapid bolus of IV fluids. Phenylephrine is given if hypotension does not resolve. Blood pressure should be monitored throughout the procedure.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse examines a woman who has received an epidural block. The woman's cervix has been dilated at 5 cm for an hour after having shown steady progression earlier. The nurse will notify the provider and anticipate a need for:

- a. caesarean section.
- b. forceps delivery.
- c. intravenous oxytocin.
- d. vacuum extraction.

ANS: C

Regional anesthetics may slow labor, and therefore the patient may need to be administered a drug to enhance uterine contractions. Intravenous oxytocin is given to stimulate contractions. If oxytocin is not effective, the other measures may be necessary.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Planning

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is caring for a patient after the third stage of labor, and the provider orders 20 units of oxytocin to be given intramuscularly. The nurse will explain to the patient that this drug is being used for which purpose?

- a. To allow the cervix to close
- b. To enhance milk letdown
- c. To prevent uterine atony

- d. To suppress lactation

ANS: C

After delivery of the infant, oxytocin is given to help the uterus stay contracted and prevent uterine atony. It may be given intravenously or intramuscularly. It does not constrict the cervix. Intranasal oxytocin may be given later to enhance letdown of breast milk. Oxytocin does not suppress lactation.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Implementation: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. Constipation is common during the postpartum period. Which of the following OTC products can be used to help manage constipation postpartum?

- a. Hydrocodone
- b. Promethazine
- c. Docusate sodium and sennosides
- d. Dinoprostone

ANS: C

Docusate sodium and sennosides are available over the counter and can be used to help with postpartum constipation. Opioid use, such as hydrocodone, can worsen symptoms of constipation. Promethazine is a prescription medication used for nausea. Dinoprostone is used to ripen an unfavorable cervix at or near term in women needing labor induction.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

9. The nurse provides teaching for a postpartal woman who will take bisacodyl tablets to help with constipation. What information will the nurse include when teaching this patient about this medication?

- a. "Crush the tablet if it is difficult to swallow."
- b. "Store this medication in a cool, dry place."
- c. "Take the tablet with a carbonated beverage."
- d. "Take with milk if gastrointestinal upset occurs."

ANS: B

Bisacodyl tablets should be stored in a cool, dry place. They should not be crushed. It is not necessary to give with a carbonated beverage. Bisacodyl tablets should not be taken within 1–2 h of milk or antacid.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

10. The nurse is caring for a postpartal patient who has just delivered her first baby by caesarean section. The mother's blood type is Rh-negative, and the infant's blood type is Rh-positive. The provider has ordered human D immune globulin (RhoGAM). The nurse understands that this patient may need:

- a. less than the usual RhoGAM dose.
- b. more than the usual RhoGAM dose.
- c. no RhoGAM.
- d. the usual RhoGAM dose.

ANS: B

For women with abruption, previa, caesarean births, or manual placental removal, more than 15 mL of fetal-maternal hemorrhage of Rh-positive red blood cells may have occurred, necessitating an increased dose of D immune globulin.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Immunizations



11. The nurse has just administered Rho(D) immune globulin (RhoGAM) to a postpartal woman. What information will the nurse include when teaching this patient?

- a. "Avoid live vaccines for 3 months."
- b. "There are no adverse reactions to this injection."
- c. "The immune globulin does not cross into breast milk."
- d. "You will not need to have the injection with future deliveries."

ANS: A

Patients receiving Rho(D) immune globulin should be cautioned to avoid live vaccines for 3 months. Patients can experience hypersensitivity reactions to the immune globulin, and Rho(D) immune globulin crosses into breast milk. Women will need to have the immune globulin with future deliveries if the infant is Rh-positive.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

12. The nurse is caring for a postpartal woman and reviews the following lab results in her medical record: HBsAg-negative, rubella titer less than 1:8/1:10, Rh-negative with Rh-positive infant. Which injections will the nurse expect to be ordered?

- a. Hepatitis B immune globulin and MMR today
- b. MMR and Rho(D) immune globulin (RhoGAM) today
- c. Rho(D) immune globulin (RhoGAM) and hepatitis B immune globulin today
- d. Rho(D) immune globulin (RhoGAM) today and MMR in 3 months

ANS: D

The woman needs RhoGAM today and will need an MMR since her rubella titer is low. Because it is a live vaccine, the MMR should be given in 3 months. She does not need hepatitis B immune globulin.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

13. A woman who is 2 months pregnant tells the nurse that she has never received the MMR vaccine and has not had these diseases. She has 3-year-old and 5-year-old children who have not been immunized. The nurse will recommend which of the following?
- a. Delay obtaining the vaccines for her children and herself until after her baby is born.
  - b. Have her children vaccinated now and obtain the vaccine for herself after the baby is born.
  - c. Obtain the MMR vaccine for her children and herself when she is in her third trimester of pregnancy.
  - d. Obtain the MMR vaccine for her children and herself within the next few weeks.

ANS: B

Pregnant women should not receive MMR vaccine because it is a live virus and there is risk to the fetus. Her children should be vaccinated so they do not contract rubella and pass it to her.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

N

Chapter 51: Neonatal and Newborn

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. The nurse prepares to assist with beractant (Survanta) administration to an infant who is intubated and mechanically ventilated. After removing the drug from the refrigerator, the nurse will perform which action?
- a. Heat the drug in a warmer.
  - b. Discard the vial if the product appears light brown.
  - c. Shake the vial and draw up the drug dose.
  - d. Warm the vial by hand for 8 min.

ANS: D

Beractant (Survanta) should be given at room temperature and should be out of the refrigerator for 20 min to warm up or warmed in the nurse's hand for 8 min. The drug should not be artificially warmed. The drug should not be shaken. The nurse may give off-white to light-brown product.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A woman who has just delivered her infant observes the nurse administering ophthalmic ointment into her infant's eyes, and she asks why this is being done. The nurse will explain that this ointment is given for which purpose?
- a. To prevent vitamin-K deficiency bleeding (VKDB)
  - b. To prevent infection
  - c. To provide moisture
  - d. To treat infection

ANS: B

To prevent the risk of infection, infants are treated with erythromycin ophthalmic ointment. Phytonadione is given via injection to newborns to prevent VKDB. Erythromycin ophthalmic ointment is not used as a moisturizer. It is given as prophylaxis, not treatment.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is caring for a newborn infant whose mother is HBsAg-negative. The nurse expects to give the infant which of the following?

- a. hepatitis B immune globulin.
- b. hepatitis B immune globulin and hepatitis B vaccine 12 h later.
- c. no vaccines.
- d. recombinant hepatitis B vaccine.

ANS: D

Infants whose mothers are HBsAg-negative will need to receive recombinant hepatitis B vaccine. Immune globulin is given to infants whose mother's status is unknown or who are positive. All infants receive the hepatitis B vaccine.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

4. The nurse is instructing a nursing student who will administer erythromycin ophthalmic ointment and phytonadione (vitamin K) injection to a newborn infant. The nurse will instruct the student to perform which action?

- a. Administer the ointment after giving the injection.
- b. Apply a 1-cm ribbon of ointment to the infant's eyes.
- c. Apply the ointment along the lower border of the upper eyelids.
- d. Flush the infant's eyes after application.

ANS: B

Erythromycin ointment should be applied in a 1-cm ribbon in the lower conjunctival sac of each eye. The ointment should be administered first, since the injection may cause the infant to cry. The infant's eyes should not be flushed after administration.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

5. The nurse tells a postpartal woman that her baby will need hepatitis B vaccine. The mother says she does not want her baby to have a shot and refuses to sign the consent. The nurse will do which of the following? N

- a. administer the vaccine without consent.
- b. note the refusal in the mother's and baby's chart.
- c. tell her she will harm her baby if she does not consent.
- d. tell the mother that it is required by law.

ANS: B

Although hepatitis B vaccine is recommended, patients have a right to refuse. The refusal should be documented in the mother's and baby's chart. The nurse should never administer the vaccine without consent. Telling the mother that she will harm her baby if she does not consent is coercive. The vaccine is recommended and is required for admission to schools, but parents still have a right to refuse.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Health Promotion and Maintenance: Postpartal Care

## Chapter 52: Women's Reproductive Health

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

### MULTIPLE CHOICE

1. A woman is taking a combination oral contraceptive and asks the nurse why progestin is necessary. The nurse will explain that progestin helps prevent pregnancy by which method?

- a. Altering the quantity and viscosity of cervical mucus
- b. Inhibiting proliferative and secretory changes in the endometrium
- c. Increasing motility of muscles and cilia in the fallopian tubes
- d. Stimulating a surge in luteinizing hormone (LH)

ANS: A

Progestin alters the quantity and viscosity of cervical mucus, making it thick and hostile to sperm penetration. Estrogen inhibits proliferative and secretory changes in the endometrium. Progestin decreases muscle and ciliary motility and decreases the LH surge.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A woman will begin taking a combination oral contraceptive (COC) that has a higher estrogenic activity than her previous COC. When teaching this woman about the new product, the nurse will explain that she may experience which effect(s)?

- a. Cyclic breast changes and chloasma
- b. Decreased dysmenorrhea and menorrhagia
- c. Decreased libido
- d. Weight gain and fatigue

ANS: A

Increased estrogenic activity may include side effects such as cyclic breast changes and chloasma as well as increased dysmenorrhea and menorrhagia. Increased progestin causes decreased libido, weight gain, and fatigue.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A woman who has recently begun taking a combination oral contraceptive calls the clinic to report breakthrough bleeding. The nurse will:
- advise her to use a back-up method of contraception.
  - counsel her to continue taking the contraceptive as prescribed.
  - recommend discussing an alternative contraceptive with her provider.
  - suggest that she perform a home pregnancy test to rule out pregnancy.

ANS: B

Breakthrough bleeding is more common at the start of COC use, and there is no evidence that an episode of bleeding is associated with a decrease in the COC's effectiveness as long as the patient continues to take the pill as prescribed. She does not need to use back-up contraception. Unless the bleeding continues and is problematic, there is no need to change products. A pregnancy test is not indicated.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A young woman who is taking Ortho-Tri-Cyclen for contraception tells the nurse that her provider has told her it will help to treat her acne. The nurse explains that this is because this product is:
- high in progestin.
  - low in androgenic activity.
  - low in estrogen.
  - triphasic.

ANS: B

Products with low androgenic activity help to reduce acne.

DIF: Cognitive Level: Understanding (Comprehension)  
TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A woman who is taking a combined oral contraceptive (COC) that contains 21 days of active pills and 7 days of inert pills reports having headaches accompanying withdrawal bleeding every month. The nurse will:

- a. counsel her to take ibuprofen to counter these side effects.
- b. tell her to stop her oral contraceptive immediately.
- c. recommend she use an alternative form of contraception.
- d. suggest she ask her provider about changing to a product that allows for continuous oral administration of active contraceptive pills.

ANS: D

Withdrawal bleeding can be eliminated altogether by continuous oral administration of active pills. The patient may discuss this approach with her provider to see if this will help with her headaches.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A woman who is using a NuvaRing transvaginal contraceptive product calls to report that the ring has slipped out while sleeping. The patient is not sure how long the product was dislodged. The nurse will instruct the patient to rinse the ring with lukewarm water, reinsert the ring, and:

- a. abstain from sexual intercourse for 24 h.
- b. replace it with a new ring as soon as possible.
- c. take an oral contraceptive product for 2 weeks.
- d. use a back-up method of contraception for 7 days.

ANS: D

If the NuvaRing slips out, it should be rinsed off and reinserted. If it has been out longer than 3 h, the woman should be counseled to use a back-up method of contraception.



DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching MSC: NCLEX: Health Promotion and Maintenance: Aging

7. A 35-year-old woman asks the nurse about oral contraceptives. The nurse learns that the patient smokes and has a family history of venous thromboembolism (VTE). The nurse will suggest that the patient:

- a. discuss a progestin-only oral contraceptive with her provider.
- b. may want to consider having a tubal ligation.
- c. use a transdermal contraceptive product.
- d. will not be a candidate for oral contraceptive products.

ANS: A

Patients who smoke or who have an increased risk of VTE may be candidates for progestin-only products. A 35-year-old woman may still want children in the future, so recommending a tubal ligation is not indicated. Transdermal products contain estrogen and carry the same risks as COCs.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A woman comes to the clinic for a Depo-Provera injection. The nurse reviews her medical record and notes that it has been 100 days since her last injection. What action will the nurse perform? N

- a. Administer Depo-Provera 150 mg IM
- b. Give Depo-Provera 300 mg IM
- c. Perform a pregnancy test
- d. Suggest she wait until she has had a period.

ANS: C

Women should receive depot medroxyprogesterone (Depo-Provera) injections every 13 weeks. Patients who are late for injections (13 weeks plus 1 day) will need to rule out pregnancy before receiving the next injection. Patients who are eligible receive 150 mg IM. It is not correct to give a higher dose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A 45-year-old woman reports cessation of menses for the past 6 months and asks the nurse if she needs to continue using contraception. The nurse will tell her:

- a. that she may discontinue using contraception.
- b. that she most likely has premature ovarian failure.
- c. to begin hormone therapy to prevent menopausal symptoms.
- d. to continue using contraception for at least 6 more months.

ANS: D

Women should use contraception until menstruation has ceased for 1 year if they do not wish to become pregnant. Premature ovarian failure occurs when menstruation stops before age 40 years. It is not necessary to treat menopausal symptoms until they occur.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A 45-year-old woman who has not had a period for 15 months reports severe hot flashes and poor sleep. The nurse reviews information about hormone replacement therapy and tells this woman that hormone therapy:

- a. is very safe and may be used freely to treat menopausal symptoms.
- b. may be used indefinitely to treat menopausal symptoms.

- c. should be used at the lowest dose possible for less than 5 years.
- d. will be necessary to prevent osteoporosis caused by estrogen depletion.

ANS: C

Women should use hormone therapy at the lowest dose possible for a period of less than 5 years. It carries risks for breast cancer and cardiovascular disease and cannot be used indefinitely. Hormone therapy can help slow osteoporosis, but it does not prevent osteoporosis and is not recommended for this use.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. The parent of a 16-year-old female tells the nurse that the child has not had a menstrual period in spite of having breast and pubic hair development. The nurse recognizes this as characteristic of which condition?

- a. Dysmenorrhea
- b. Hypothyroidism
- c. Primary amenorrhea
- d. Secondary amenorrhea

ANS: C

Females who have never had a period have primary amenorrhea, which is defined as no menses by age 14 without secondary sex characteristics, or no menses by age 16 with secondary sex characteristics. Dysmenorrhea refers to painful cramping with periods.

Hypothyroidism can contribute to secondary amenorrhea, which is characterized by cessation of periods for at least 6 months once menses have begun.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

12. A young woman reports not having a period for 7 months. Which test will the provider likely order first to evaluate the cause of amenorrhea in this patient?

- a. Pelvic ultrasound
- b. Pregnancy test
- c. Progestational challenge test
- d. Serum insulin levels

ANS: B

When secondary amenorrhea occurs, pregnancy must be ruled out prior to performing other tests. A progestational challenge test will be performed if the patient is not pregnant. If polycystic ovarian syndrome is suspected, serum insulin levels and possibly a pelvic ultrasound will be performed.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

13. A woman is diagnosed with polycystic ovarian disease (PCOS) after being unable to conceive. Her provider has ordered metformin (Glucophage) and clomiphene citrate (Clomid). The nurse will explain that metformin is given for which purpose?

- a. To increase androgen levels
- b. To induce ovulation
- c. To promote a dominant follicle
- d. To regulate menstrual periods

ANS: D

Metformin decreases androgen levels, which helps to regulate periods and promote ovulation. It does not induce ovulation per se, but increases the possibility of ovulation by its antiandrogenic effects. Metformin should not be used specifically for ovulation induction.

Clomiphene citrate promotes a dominant follicle.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

14. A 30-year-old woman describes having periods every 30 days, lasting 8 days, with heavy bleeding. The nurse understands that these are signs of which condition?

- a. Menometrorrhagia
- b. Menorrhagia
- c. Menorrhea
- d. Metrorrhagia

ANS: B

Menorrhagia is defined as regular uterine bleeding lasting more than 7 days with heavy bleeding. Metrorrhagia is irregular uterine bleeding lasting more than 7 days with heavy bleeding. Menorrhea is normal uterine bleeding. Menometrorrhagia is a combination of menorrhagia and metrorrhagia.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Assessment MSC: NCLEX: Physiological Integrity: Pathophysiology

15. A woman who has menorrhagia is prescribed ibuprofen, and she asks the nurse how a pain medication can decrease uterine bleeding. The nurse will explain that this is most likely explained by ibuprofen's effects on:

- a. estrogen levels.
- b. platelet aggregation.
- c. prostaglandin production.
- d. uterine endometrium.

ANS: C

Ibuprofen blocks prostaglandin production, which decreases uterine bleeding and cramps. Ibuprofen does not affect estrogen levels. Its effects on platelet aggregation can impair clotting. It does not have effects on the uterine endometrium.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

16. A woman who is infertile has taken 50 mg of clomiphene citrate (Clomid) from days 5 through 9 of a cycle and has not ovulated. The nurse will anticipate that the provider will perform which action?

- a. Begin recombinant follicle-stimulating hormone therapy.
- b. Increase the dose to 100 mg on days 5 through 9 of her next cycle.
- c. Order clomiphene citrate to be given throughout her next cycle.
- d. Repeat the 50 mg of clomiphene citrate for 2 more cycles.

ANS: B

If clomiphene is unsuccessful, the provider may increase the dose by 50 mg increments for 2 cycles up to 250 mg until ovulation occurs. Recombinant FSH may be used if this fails. It is not correct to administer the drug throughout the cycle or to continue with the initial dose.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Evaluation MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

17. The nurse performs a history on a woman who will begin taking clomiphene citrate (Clomid) to induce ovulation. Which aspect of this patient's history is of concern?

- a. Anovulation
- b. Dysmenorrhea
- c. Sexually transmitted infection
- d. Uterine fibroids

ANS: D

Patients with a history of uterine fibroids should not take clomiphene. Anovulation is the indication for clomiphene. Dysmenorrhea and sexually transmitted infections are not contraindications.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

### Chapter 53: Men's Reproductive Health

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A 50-year-old male patient reports having decreased libido and testicular atrophy. The nurse will anticipate that the provider may order which medication to treat these symptoms?

- a. Testosterone (Androderm)
- b. Finasteride (Proscar)
- c. Gonadotropin-releasing hormone (Gn-RH)
- d. Sildenafil (Viagra)

ANS: A

Testosterone is given patients who have low testosterone, evidenced by decreased libido and testicular atrophy in adult men. Finasteride is given to treat benign prostatic hypertrophy.

Gn-RH is used to inhibit testosterone production. Sildenafil is used to treat erectile dysfunction.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is teaching the parents of a boy who has inadequate pituitary function and delayed puberty about testosterone cypionate injections. Which statement by the parents indicates a

need for further teaching? N

- a. "He will need radiographs (x-rays) of his hands every 6 months."
- b. "Injections will be given deep into his gluteal muscles."
- c. "Sexual development will occur in 3–4 months."
- d. "His serum testosterone levels will need to be monitored."

ANS: C

It takes 3–4 years for sexual development to occur with androgen therapy for hypogonadism, so parents should be reminded of this. X-rays are needed every 6 months to assess bone effects. Injections are given deep intramuscularly into gluteal muscles. Serum testosterone levels will need to be monitored to maintain normal levels and direct changes in testosterone dosing.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. The nurse is instructing a patient about the buccal muco-adhesive testosterone system (Striant) to treat low testosterone. What information will the nurse include when teaching this patient about this drug?

- a. "If the product slides out of position more than 4 h before the next dose, replace it with a new system."
- b. "Place the flattened surface against the gum and hold it firmly in place for 30 seconds."
- c. "The product may be swallowed after it has been in place for at least 4 h."
- d. "To remove the product, slide it upwards away from the tooth until it releases."

ANS: A

If the product falls off within the 12-h dosing interval or falls out of position within 4 h of the next dose, it should be discarded and a new product applied. The rounded surface should be placed



against the gum. The product should not be swallowed. The product should be removed by sliding downwards toward the tooth.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. The nurse provides teaching to a man who will begin using an Androderm testosterone patch. Which statement by the patient indicates understanding of the teaching?

- a. "I may stop using Androderm when my serum testosterone is normal."
- b. "I should apply this to any skin other than the scrotum or bony areas."
- c. "I will apply two skin patches every morning after a shower."
- d. "My serum testosterone will continue to rise with each day of use."

ANS: B

Androderm should be applied to any intact skin other than the scrotum or over a bony area. When the medication is withdrawn, testosterone levels will drop. The patient should apply one to two patches every day at 10 PM. The first day of use results in serum testosterone levels in the normal range, and serum levels do not accumulate with continued use.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A man who has been using androgen therapy tells the nurse that he and his wife wish to conceive a pregnancy. The nurse will tell this patient that:

- a. androgen therapy will not harm the fetus.
- b. he will need to increase his dose of testosterone to increase his sperm count.
- c. it may take 3 months after cessation of androgen therapy to conceive.
- d. there should be no problems conceiving while using androgen therapy.

ANS: C

Androgens cause decreased sperm counts and usually takes 3 months after cessation of therapy to return sperm counts to normal. During pregnancy, androgens can cross the placenta and cause masculinization of the fetus. Virilization can occur in those secondarily exposed to testosterone gel and may cause teratogenic effects in fetuses. Increasing the testosterone will not increase the sperm count.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. The nurse is teaching an adult male patient about the use of testosterone gel. Which statement by the patient indicates understanding of the teaching?
- a. "A decreased urinary stream is an expected side effect."
  - b. "I should apply the gel to my forearms every day."
  - c. "I will have hand and wrist x-rays every 6 months."
  - d. "I will need regular evaluation of serum lipid levels."

ANS: D

Testosterone can increase lipid levels so these should be monitored regularly. A decreased urinary stream can indicate prostatic hypertrophy and should be reported. Patients should apply the gel where it is least likely to come in contact with other people. Only prepubertal males require bone evaluation by x-ray.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The oral antiandrogen drug flutamide (Eulexin) is used to treat which condition?

- a. Benign prostatic hypertrophy (BPH)
- b. Breast cancer
- c. Male-pattern baldness
- d. Metastatic prostate cancer

ANS: D

This antiandrogen drug is used to treat metastatic prostate cancer. It is not effective to treat other hormonally dependent diseases such as breast cancer, male-pattern baldness, or BPH.

DIF: Cognitive Level: Remembering (Knowledge) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. A patient will begin taking finasteride (Propecia) to treat benign prostatic hypertrophy (BPH)

and asks the nurse how long the medication will be necessary. The nurse will tell the patient that he will need to take this medication for how long?

- a. 6 months
- b. 12 months
- c. Indefinitely
- d. Until symptoms resolve

ANS: C

Continued treatment with finasteride is recommended in order to sustain results since reversal of effect usually occurs within 1 year after cessation of the drug.

DIF: Cognitive Level: Remembering (Knowledge)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. A 14-year-old male is being evaluated for delayed puberty. Which finding would indicate delayed puberty in this child?

- a. Androgen deficiency
- b. Growth hormone deficiency
- c. Height of 2.5 standard deviations below the mean
- d. Lack of epiphyseal closure

ANS: A

Low androgen levels indicate delayed puberty. Patients who are short and who have not developed secondary sexual characteristics may have growth hormone deficiency, normal variations in development, or delayed puberty. Growth hormone deficiency may cause short stature.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. A male patient wants to begin taking tadalafil (Cialis) to treat erectile dysfunction. Which aspect of this patient's history would be of particular concern?

- a. Angina pectoris
- b. Asthma
- c. Benign prostatic hypertrophy (BPH)
- d. Color blindness

ANS: A

Patient with angina are often treated with nitrates; phosphodiesterase inhibitors such as tadalafil are contraindicated in patients taking nitrates.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient will begin using sildenafil citrate (Viagra) to treat erectile dysfunction. The nurse will instruct the patient to take the medication:

- a. daily in the morning.
- b. just prior to sexual activity.N
- c. 30 min-4 h before sexual activity.
- d. twice daily.

ANS: C

Sildenafil should be taken at least 30 min and less than 4 h prior to sexual activity. It is not taken daily or twice daily. If taken just prior to sexual activity, it does not have time to take effect.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

Chapter 54: Sexually Transmitted Infections

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

#### MULTIPLE CHOICE

1. A woman is diagnosed with bacterial vaginosis and will begin taking metronidazole (Flagyl). What will the nurse teach the patient about this medication?

- a. "Abstain from sexual intercourse while taking this medication."
- b. "Do not consume alcohol while taking this drug and for 48 hours after finishing the prescription."
- c. "Take this medication on an empty stomach to increase absorption."
- d. "Topical preparations are ineffective for treating bacterial vaginosis."

ANS: B

Metronidazole can cause a disulfiram-like reaction when taken with alcohol, so patients should be cautioned against using foods or drug products that contain alcohol. There is no need to abstain from sexual intercourse. Metronidazole should be taken with food. The topical preparation is effective against bacterial vaginosis.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. The nurse is speaking with the parent of an 11-year-old girl that is considering vaccination for human papillomavirus (HPV). Which of the following statements is NOT correct?

- a. "HPV infections cause most cervical, vaginal and oropharyngeal cancers."
- b. "Pap tests can detect cervical dysplasia, which can be a precursor to cervical cancer if left untreated."
- c. "There are several HPV vaccines available in the US."
- d. "HPV infection is uncommon."

ANS: B

HPV infection is common, with most sexually active persons becoming infected at some point in their lifetime.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient is taking azithromycin to treat a chancroid infection. Which of the following would be important counseling to the patient?

- a. Apply a bacteriostatic ointment to the lesions twice daily.
- b. Avoid washing the lesions to prevent spread of the infection.
- c. Cover the lesions with gauze at all times to minimize discomfort.

d. Any sexual partners within the 10 days preceding the onset of symptoms should be examined and treated.

ANS: D

Sex partners of patients who have chancroid should be examined and treated if they had sexual contact with the patient during the 10 days preceding the patient's onset of symptoms. It is not necessary to apply bacteriostatic ointment or to cover the lesions with gauze. Washing the lesions is recommended.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A nursing student encounters a patient newly diagnosed with gonorrhea. The students' preceptor asks what the recommended treatment would be for this patient. Which statement by the nursing student is correct?

- a. "Ceftriaxone IM is prescribed."
- b. "Erythromycin ointment is prescribed."
- c. "IM ceftriaxone and oral azithromycin are prescribed."
- d. "Oral doxycycline is prescribed."

ANS: C

A single dose of IM ceftriaxone and a single dose of azithromycin are prescribed for gonorrhea. The use of two drugs improves treatment efficacy and slows the development of drug resistance. Erythromycin ophthalmic ointment is used on the neonate.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. Which of the following is considered the most common STI in young adults in the United States? N

- a. HIV
- b. Gonorrhea
- c. Chlamydia
- d. Genital herpes

ANS: C

Chlamydia trachomatis is the most common STI in the United States in young adults. This infection is most often asymptomatic.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A woman is diagnosed with herpes simplex virus (genital herpes). Which statement by the patient indicates understanding of the medication regime?

- a. "Antiviral drugs can help with my outbreaks and symptoms, but will not cure my genital herpes."
- b. "I take my medication as prescribed I will not have any more outbreaks."
- c. "If I stay on my medication after my current outbreak resolves I won't have any more episodes."
- d. "I can use the medications once a month to treat symptoms."

ANS: A

Suppressive therapy reduces the frequency of genital herpes recurrences by 70% in those who have frequent recurrences. Systemic antiviral drugs can control some of the signs and symptoms of genital herpes, but these do not cure herpes. Outbreaks occur even while on antiviral medication, and transmission can occur when patients are asymptomatic. Episodic treatment, to be effective, should begin within 1 day of lesion onset or during the prodrome period, not a given week each month.



DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. A woman with complaints of abnormal vaginal discharge, vaginal soreness, pruritus, and dysuria is diagnosed with vulvovaginal candidiasis (VVC). Which statement will the nurse include in teaching?

- a. "Treatment with prescription medication is lifelong."
- b. "Alcohol should be avoided during treatment."
- c. "Candida albicans can be readily passed between sex partners."
- d. "Over the counter cream can be used to treat the condition."

ANS: D

Over the counter or prescribed medications can be used to treat the condition; treatment is episodic. The medications do not interact with alcohol. Uncomplicated VVC is not usually acquired through sexual intercourse, thus treatment of sexual partners is not necessary.

DIF: Cognitive Level: Understanding (Comprehension)

TOP: Nursing Process: Nursing Intervention: Patient Teaching

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

N

Chapter 55: Adult and Pediatric Emergency Drugs

McCuiston: Pharmacology: A Patient-Centered Nursing Process Approach, 10th Edition

MULTIPLE CHOICE

1. A patient who is experiencing chest pain and shortness of breath is brought to the emergency department. The nurse assesses a heart rate of 98 beats per minute, bilateral lung crackles, and an oxygen saturation of 93%. What drug will the nurse expect to administer initially to this patient?

- a. Albuterol
- b. Aspirin
- c. Nitroglycerin
- d. Oxygen

ANS: D

The patient has signs of pulmonary edema, which can cause chest pain, crackles, and shortness of breath along with compensatory tachycardia and low oxygen saturations. The initial drug of choice is oxygen, which can minimize chest pain and open up the alveoli. The other drugs are given for specific underlying causes and may be necessary after the patient is evaluated further.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

2. A patient with suspected myocardial infarction is seen in the emergency department. The nurse is preparing to administer 325 mg of aspirin. The nurse will perform which action?

- a. Administer an enteric-coated tablet.
- b. Ask the patient to chew the tablet.
- c. Give the tablet with a large glass of water.
- d. Place the tablet under the patient's tongue.

ANS: B

To speed the absorption of aspirin, in a cardiac emergency, the patient should chew the tablet when given. An enteric-coated tablet will slow the absorption. Giving the aspirin with a large volume water or sublingually will slow the absorption rate.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

3. A patient with angina has been given 0.4 mg of nitroglycerin SL. The patient reports continued chest pain 5 min later. The nurse assesses a heart rate of 84 beats per minute and a blood pressure of 88/68 mm Hg. The nurse will take which action?

- a. Administer 0.4 mg of nitroglycerin SL.
- b. Administer 0.3 mg of nitroglycerin SL.
- c. Give nitroglycerin by translingual spray.
- d. Notify the provider of the patient's vital signs.

ANS: D

Nitroglycerin should be held if the patient has a systolic blood pressure less than 90 mm Hg. The nurse should notify the provider.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

4. A patient with congestive heart failure and pulmonary edema is experiencing chest pain. The patient has an order for morphine sulfate IV 4 mg every 5–30 min PRN until chest pain is relieved. The last dose of 4 mg was 15 min prior, and the patient is complaining of chest pain and exhibiting increased work of breathing. The nurse notes a heart rate of 82 beats per minute, a respiratory rate of 18 breaths per minute, and a blood pressure of 135/88 mm Hg. What will the nurse do next?

- a. Administer morphine sulfate IV 4 mg over 1–5 min.
- b. Administer naloxone (Narcan) to reverse respiratory depression.
- c. Request an order for morphine sulfate IV 2 mg over 1–5 min.
- d. Hold the next dose and notify the provider of the patient's symptoms.

ANS: A

Morphine acts to relieve pain, dilate venous vessels, and decrease the workload on the heart to treat acute cardiogenic pulmonary edema and can relieve the dyspnea caused by this

condition. The nurse should administer 4 mg since the patient's pain has not abated. Respiratory depression would be characterized by a decreased respiratory rate.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

5. A patient is brought to the emergency department after coming in contact with organophosphate insecticides while at work. The nurse will expect to administer which medication to reverse the toxic effects of this substance?

- a. Atropine sulfate
- b. Diazepam
- c. Epinephrine
- d. Flumazenil

ANS: A

Atropine is used to counter the toxic effects of organophosphate insecticides. Diazepam is given for seizures and for acute alcohol withdrawal. Epinephrine is used for anaphylactic shock. Flumazenil is given as an antidote for benzodiazepine overdose.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

6. A patient presents to the ED with a rapid, thready pulse, which is too fast to count. The patient is diagnosed with PSVT. The nurse will expect the provider to order which medication to treat this condition?

- a. Adenosine
- b. Albuterol
- c. Atropine
- d. Theophylline

ANS: A

Adenosine is given for supraventricular tachycardia. Albuterol and theophylline are bronchodilators, and both will increase the heart rate. Atropine is given for bradycardia and would be contraindicated in this situation.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

7. The nurse is administering amiodarone to a patient who is being treated for a ventricular arrhythmia. The patient has received a bolus of 150 mg of amiodarone IV and is now receiving a continuous infusion of 1 mg/min. The nurse notes a heart rate of 60 beats per minute and a blood pressure of 88/54 mm Hg. The nurse will notify the provider and perform which other action?

- a. Continue the amiodarone infusion at 1 mg/min.
- b. Decrease the rate of the amiodarone infusion to 0.5 mg/min.
- c. Increase the rate of the amiodarone infusion to 1.5 mg/min.
- d. Stop the infusion of amiodarone.

ANS: B

Amiodarone has significant adverse effects of hypotension and bradycardia. When these occur, the nurse should slow the infusion rate to prevent or treat these effects.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Evaluation/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

8. The nurse is caring for a patient who is receiving magnesium sulfate for ventricular tachycardia. The nurse assesses a heart rate of 68 beats per minute, a respiratory rate of 10 breaths per minute, a blood pressure of 90/60 mm Hg, and decreased deep tendon reflexes. The nurse understands that these are signs of which condition?

- a. Hyperkalemia
- b. Hypermagnesemia

- c. Impending cardiac arrest
- d. Renal compromise

ANS: B

Patients with hypermagnesemia will exhibit hypotension, bradycardia, and respiratory depression, along with decreased reflexes. Hyperkalemia causes ventricular arrhythmias.

DIF: Cognitive Level: Understanding (Comprehension) TOP: Nursing Process: Assessment

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

9. During resuscitation of a 5-year-old child, the provider requests a dose of 1 mL of epinephrine to be given STAT. The nurse will perform which action?

- a. Ask the provider to clarify the dose, route, and the concentration.
- b. Draw up the dose and give it as a rapid intravenous bolus.
- c. Give the dose as a slow intravenous bolus and monitor vital signs.
- d. Request an order to give the dose via endotracheal tube.

ANS: A

Epinephrine is available in two primary concentrations: 1:1,000 and 1:10,000 mL. The 1:10,000 concentration is used when giving a single IV dose of epinephrine. The 1:1,000 concentration is used for other routes. The nurse should clarify the dose, route, and concentration prior to administration.

DIF: Cognitive Level: Applying (Application) TOP: Nursing Process: Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

10. An unconscious patient is brought to the emergency department and intubated after respiratory arrest. The patient has a regular pulse. The patient's spouse suspects an overdose of drugs but does not know which drug may have been taken. The nurse will anticipate giving which medication or performing which treatment?

- a. Activated charcoal
- b. Flumazenil
- c. Gastric lavage
- d. Naloxone

ANS: D

Naloxone is given to reverse the respiratory depression caused by opioid medications. It may also be given to patients brought to an emergency department in a coma of unknown etiology to see if they will respond. If there is no improvement within 10 min, a non-opiate cause should be suspected. Activated charcoal is given to alert patients who have recently ingested a substance. Gastric lavage is no longer used for therapy. Flumazenil is given for

benzodiazepine overdose. N

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies

11. A patient is brought to the emergency department with severe wheezing, dyspnea, and peripheral edema. The nurse assesses a respiratory rate of 30 breaths per minute, a heart rate of 88 beats per minute, and a blood pressure of 88/54 mm Hg. Which medication does the nurse expect to be given initially?

- a. Albuterol
- b. Diphenhydramine
- c. Dopamine
- d. Epinephrine

ANS: D

The patient has signs of anaphylactic shock, and the first medication given will be epinephrine because it treats both bronchoconstriction and hypotension. Albuterol may be given later to help with respiratory distress. Diphenhydramine is an antihistamine to treat tissue-induced swelling. Dopamine will be given if hypotension persists.

DIF: Cognitive Level: Applying (Application)

TOP: Nursing Process: Assessment/Nursing Intervention

MSC: NCLEX: Physiological Integrity: Pharmacological and Parenteral Therapies