

***Pharmacology for Nurses, 6e (Adams)***

**Chapter 1 Introduction to Pharmacology**

- 1) A nurse is reviewing key events in the history of pharmacology with a student nurse. Which student comment indicates an understanding?
1. "Early researchers used themselves as test subjects."
  2. "A primary goal of pharmacology is to prevent disease."
  3. "Penicillin is one of the initial drugs isolated from a natural source."
  4. "Pharmacologists began synthesizing drugs in the laboratory in the nineteenth century."

Answer: 1

Explanation:

1. Some early researchers, like Friedrich Serturner, used themselves as test subjects.
2. An early goal of pharmacology was to relieve human suffering.
3. Initial drugs isolated from complex mixtures included morphine, colchicine, curare, and cocaine, but not penicillin.
4. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-1 Identify key events in the history of pharmacology.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.

- 2) A student nurse asks a nursing instructor why anatomy and physiology as well as microbiology are required courses when the student only wants to learn about pharmacology. What is the best response by the instructor?
1. "Because pharmacology is an outgrowth of those subjects."
  2. "You must learn all, since all of those subjects are part of the curriculum."
  3. "Knowledge of all those subjects will prepare you to administer medication."
  4. "An understanding of those subjects is essential to understand pharmacology."

Answer: 4

Explanation:

1. Pharmacology is an outgrowth of anatomy, physiology, and microbiology, but this is not the most essential reason for the nurse to learn them.
2. The nurse must learn anatomy, physiology, and microbiology to understand pharmacology, not because they are part of the curriculum.
3. Knowledge of anatomy, physiology, and microbiology prepares the nurse to understand pharmacology, not to provide care such as administration of medications.
4. It is essential for the nurse to have a broad knowledge base of many sciences in order to learn pharmacology.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-2 Explain the interdisciplinary nature of pharmacology, giving an example of how knowledge from different sciences impacts the nurse's role in drug administration.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.

- 3) A nurse is teaching a group of nurses about the differences between pharmacology and therapeutics. The nurse determines that learning has occurred when which statements are made?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. "Pharmacology is the development of medicines."
2. "Pharmacology is the study of medicines."
3. "Therapeutics relates to drug use to treat suffering."
4. "Therapeutics is the study of drug interactions."
5. "Pharmacology is the study of drugs to prevent disease."

Answer: 2, 3, 5

Explanation:

1. Pharmacology is not the development of medicines.
2. Pharmacology is the study of medicines.
3. Therapeutics is the use of drugs in the treatment of suffering.
4. Therapeutics is not related to study of drug interactions.
5. Pharmacotherapy is the application of drugs for the purpose of disease prevention.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-3 Compare and contrast therapeutics and pharmacology.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.

- 4) A nurse administers a vaccine to a client. What is the nurse's best understanding as it relates to the manufacture of a vaccine?
1. The vaccine is produced by natural plant extracts in the laboratory.
  2. The vaccine is naturally produced in animal cells or microorganisms.
  3. The vaccine is produced by a combination of animal and plant products.
  4. The vaccine is most commonly synthesized in a laboratory.

Answer: 2

Explanation:

1. Vaccines are not produced by natural plant extracts.
2. Vaccines are naturally produced in animal cells, microorganisms, or by the body itself.
3. Vaccines are not produced by a combination of animal and plant products.
4. Vaccines are not synthesized in a laboratory.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-4 Compare and contrast traditional drugs, biologics, and complementary and alternative medicine therapies.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.

5) An older client is admitted with gastrointestinal bleeding. The client says to the nurse, "I don't understand this. All I did was take ibuprofen (Advil) for my arthritis." What is the nurse's best response?

1. Review nonpharmacologic methods to relieve joint pain.
2. Encourage the client to substitute safer drugs, such as acetaminophen (Tylenol).
3. Remind the client to contact their healthcare provider before taking any over-the-counter (OTC) medications.
4. Teach the client about the side effects of ibuprofen (Advil).

Answer: 4

Explanation:

1. Reviewing nonpharmacologic methods to relieve joint pain is appropriate for this client, but it's not the highest priority. It doesn't address the client's current concern about how ibuprofen may have increased the risk of having a GI bleed.
2. Substitution of other drugs may be beneficial, but this cannot be done in all situations. In addition, it doesn't address the client's current concern about how ibuprofen may have increased the risk of having a GI bleed.
3. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication. In addition, it doesn't address the client's current concern about how ibuprofen may have increased the risk of having a GI bleed.
4. It is essential for the nurse to teach clients about the advantages, and the disadvantages (including side effects), of all medications and supplements the client is taking.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: II.7 Promote factors that create a culture of safety and caring. | NLN Competencies: Context and Environment: Health promotion/disease prevention. | Nursing/Integrated Concepts: Nursing Process: Planning

Learning Outcome: 1-9 Outline the major differences between prescription and over-the-counter drugs.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

- 6) A nurse teaches a student nurse about the pharmacological classification of drugs. The nurse evaluates that learning has occurred when the student makes which response?
1. "An anti-anginal treats angina."
  2. "A calcium channel blocker blocks heart calcium channels."
  3. "An antihypertensive lowers blood pressure."
  4. "An anticoagulant influences blood clotting."

Answer: 2

Explanation:

1. To say that a drug treats angina addresses the therapeutic usefulness of the drug, not the pharmacological classification.
2. The pharmacological classification addresses a drug's mechanism of action, or how a drug produces its effect in the body.
3. To say that a drug lowers blood pressure addresses the therapeutic usefulness of the drug, not the pharmacological classification.
4. To say that a drug influences blood clotting addresses the therapeutic usefulness of the drug, not the pharmacological classification.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-5 Explain the basis for placing drugs into therapeutic and pharmacologic classes.

MNL Learning Outcome: 1.2 Identify how drugs are named and classified.

- 7) A nurse is providing medication education to a client with hypertension. The nurse teaches the client that the healthcare provider ordered a diuretic to decrease the amount of fluid in the client's body. Which statement best describes the nurse's instruction?
1. The nurse provided appropriate medication education.
  2. The nurse explained the drug's mechanism of action.
  3. The nurse taught the client about a prototype drug.
  4. The nurse explained the consequences of not using the drug.

Answer: 2

Explanation:

1. The education was most likely appropriate, but this response is too vague.
2. A drug's mechanism of action explains how a drug produces its effect in the body.
3. There is no drug name present, so it is not known whether this is a prototype drug.
4. The nurse did not explain the consequences of not using the drug.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-7 Describe what is meant by a drug's mechanism of action.

MNL Learning Outcome: 1.2 Identify how drugs are named and classified.

- 8) A student nurse asks a nursing instructor how to remember all of the antibiotic drugs since there are so many. What is the best response by the nursing instructor?
1. "Mnemonics will help you tell the difference between drugs."
  2. "A flow chart will help enhance your memory."
  3. "Categorize the individual drugs by therapeutic effect."
  4. "Focus on a representative drug from each class."

Answer: 4

Explanation:

1. Using mnemonics is not the best way to learn about drugs.
2. Flow charts are not the best way to learn about drugs.
3. Categorizing individual drugs is not the best way to learn about drugs.
4. A prototype, or representative, drug is the well-understood drug model from which other drugs in a pharmacological class are compared.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts:

Nursing Process: Implementation

Learning Outcome: 1-6 Discuss the prototype approach to drug classification.

MNL Learning Outcome: 1.2 Identify how drugs are named and classified.



- 9) A client has been taking paroxetine (Paxil) for a year and tells a nurse it is no longer working. What is the best response by the nurse?
1. "This sounds like your medication needs changing."
  2. "Let's look for interactions with other medications you are taking."
  3. "Are you taking name brand Paxil or the generic version paroxetine?"
  4. "It is time for us to do the Beck Depression assessment again."

Answer: 3

Explanation:

1. Considering a change in medication is appropriate, but another assessment takes priority.
2. Assessing for interactions with other drugs is appropriate, but another assessment takes priority.
3. The bioavailability of a generic drug may not be the same as the bioavailability of a brand name drug.
4. Assessing for worsening of depression is appropriate, but another assessment takes priority.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 1-10 Explain the differences between trade name drugs and their generic equivalents.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

10) A student nurse has completed an initial pharmacology course and tells a nurse that it was difficult. What is the best response by the nurse?

1. "It may be over, but now you must apply what you have learned to patient care."
2. "Learning is gradual and continuous; we never completely master all areas of pharmacology."
3. "Learning is always painful, but we must continue anyway."
4. "It really isn't over; you should take a graduate course next."

Answer: 2

Explanation:

1. It is true that the student must apply what has been learned to patient care, but this response implies that learning is over.
2. Learning pharmacology is a gradual, continuous process that does not end with graduation.
3. Learning is not always painful.
4. There is no reason for the student nurse to take a graduate level pharmacology course at this time.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-7 Describe what is meant by a drug's mechanism of action.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

11) A client says to the nurse, "My wife and I take the same drug, but we have different side effects. Are we doing something wrong?" What is the best response by the nurse?

1. "Differences such as your sex can result in different side effects."
2. "I'll have to check. What is the name of the drug you were using?"
3. "Possibly. This could happen if one uses generic or brand name drugs."
4. "I'm not sure. Maybe the drug is not the same; you should check it."

Answer: 1

Explanation:

1. Drugs may elicit different responses depending on individual client factors such as age, sex, body mass, health status, and genetics.
2. The nurse should not have to check the drug; basic knowledge should include knowing that the sex of clients can result in different side effects.
3. There are differences between some generic and brand name drugs, but this is not the best answer.
4. Asking the client to check a medication is fine, but this does not answer the client's question.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: II.7 Promote factors that create a culture of safety and caring. | NLN Competencies: Relationship-Centered Care, Knowledge, Effective Communication. |

Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-10 Explain the differences between trade name drugs and their generic equivalents.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

12) A client comes to the emergency department with a myocardial infarction. The client's husband tells the nurse that his wife has been taking calcium carbonate (Tums) for years for what she thought was indigestion. What is the best response by the nurse?

1. "Your wife should not have self-diagnosed herself. I hope she will be okay."
2. "Why did you let her do that? She should have seen a physician."
3. "Well, I am glad she is here, as it certainly wasn't indigestion."
4. "Your wife was self-diagnosing, which is generally not a good idea."

Answer: 4

Explanation:

1. Telling the husband "I hope she will be okay" is a very frightening response that implies she might die, and this is nontherapeutic.
2. Asking the husband why he let his wife take Tums is nontherapeutic and too accusatory; do not ask "why" questions.
3. Telling the husband that "it certainly wasn't indigestion" is judgmental and will alienate the client and husband.
4. Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is sometimes ineffective, and the potential for harm may increase if the disease is allowed to progress.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.C.1 Value seeing healthcare situations "through patients' eyes." | AACN Essential Competencies: IX.4 Communicate effectively with all members of the healthcare team, including the patient and the patient's support network. | NLN Competencies: Relationship-Centered Care, Knowledge, Effective Communication. | Nursing/Integrated Concepts: Nursing Process: Caring

Learning Outcome: 1-9 Outline the major differences between prescription and over-the-counter drugs.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

13) A nurse is teaching a class for clients about over-the-counter (OTC) medications. The nurse determines that education has been effective when the clients make which of the below statements?

1. "I will check with my provider first before I take any over-the-counter (OTC) medicine."
2. "A pharmacist can tell me how to take the over-the-counter (OTC) medicine."
3. "After reading all the directions on the label, I will call the healthcare provider's office if they are not clear."
4. "Medicines that are available over-the-counter (OTC) are really safe, or they would be prescription medicines."

Answer: 3

Explanation:

1. It is not realistic to expect clients to call the doctor's office before taking any over-the-counter (OTC) medicine.
2. Asking the pharmacist is a good idea, but does not replace reading the label directions. Also, the pharmacist might not always be in the store when the medicine is purchased.
3. In most cases, clients may treat themselves safely if they carefully follow instructions included with the medication.
4. Most OTC medicines have a high margin of safety, but none is considered completely safe.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.4 Examine how the safety, quality, and cost effectiveness of healthcare can be improved through the active involvement of patients and families. | AACN Essential Competencies: IX.7 Provide appropriate patient teaching that reflects developmental stage, age, culture, spirituality, patient preferences, and health literacy considerations to foster patient engagement in their care. | NLN Competencies: Quality and Safety: Commit to a generative safety culture. | Nursing/Integrated Concepts: Nursing Process: Teaching/Learning Learning Outcome: 1-9 Outline the major differences between prescription and over-the-counter drugs.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

14) A client asks a nurse why a prescribed medication is very expensive. What is the best response by the nurse?

1. Help the client receive free medicine through a "patient assistance" program.
2. Ask the healthcare provider if a cheaper brand name drug may be substituted.
3. Contact the healthcare provider to ask if a generic drug may be substituted.
4. Maintain the client on samples of the brand name drug from the physician's office.

Answer: 3

Explanation:

1. A patient assistance program is a good idea, but since the client may not qualify for this, it is not the best plan.
2. Another brand name drug may not be what the client needs for the illness.
3. Generic drugs are much less costly than brand name drugs.
4. Providing samples is an option, but the office may temporarily run out of samples and the client will not receive the medication.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-10 Explain the differences between trade name drugs and their generic equivalents.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

15) A client is receiving a very expensive medication. The client asks the nurse why the medicine is so expensive. What is the best response by the nurse?

1. "It is expensive, but your insurance covers it and you have a low co-pay."
2. "Drug companies are allowed to advertise medications and this adds to the cost."
3. "Drug companies must recoup the cost of developing and producing the drug."
4. "I think the drug companies should be more accountable for lowering costs."

Answer: 3

Explanation:

1. Telling the client that insurance covers the drug doesn't answer the client's question.
2. Advertising costs are expensive, but this answer implies the drug company is raising costs unnecessarily.
3. If the cost of developing a new drug is not recouped by the drug company, there is no impetus for the company to continue drug development.
4. It is nontherapeutic for the nurse to introduce her own beliefs, such as accountability of drug companies, into a conversation with the client.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-8 Distinguish among a drug's chemical name, generic name, and trade name.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

16) A nurse is reviewing key events in the history of pharmacology with a student nurse. Which student comment from below indicates a need for further teaching?

1. "Modern pharmacology began in the early 1600s."
2. "Herbal medicine is one of the oldest forms of healthcare."
3. "John Jacob Abel is considered the father of American pharmacology."
4. "New drugs can be synthesized faster than isolating active agents from natural resources."

Answer: 1

Explanation:

1. Modern pharmacology began in the 1800s, not the 1600s.
2. It is true that herbal medicine is one of the oldest forms of healthcare.
3. John Jacob Abel, who is considered the father of American pharmacology owing to his many contributions to the field, founded the first pharmacology department in the United States at the University of Michigan in 1890.
4. In the twentieth century, pharmacologists are able to synthesize new medications faster than by isolating active agents from natural resources.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-1 Identify key events in the history of pharmacology.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.



17) A nurse is preparing to teach pharmacology concepts to a group of students. The nurse should include which of the following?

1. Biologics include natural plant extracts and dietary supplements.
2. Biosimilar drugs don't require the same clinical testing as the comparable biologic drug.
3. Alternative therapies are agents produced in animal cells or by microorganisms.
4. Therapeutics is using drugs for the purpose of treating diseases and treatment of suffering.

Answer: 2

Explanation:

1. Biologics are agents naturally produced in animal cells, by microorganisms, or by the body itself.
2. Biosimilar drugs are similar to current biologic agents. They do not require the same level of testing as their comparable biologic agents.
3. Alternative therapies include natural plant extracts, herbs, vitamins, minerals, dietary supplements, and additional techniques outside the realm of conventional therapeutics.
4. Therapeutics is concerned with the prevention of disease and treatment of sufferings.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 1-3 Compare and contrast therapeutics and pharmacology.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

18) A client with chronic back pain informs the nurse he has been receiving therapeutic touch in addition to his medications. What is the nurse's best classification of this client's treatment?

1. Pharmacotherapy
2. Drug-absence therapy
3. Complementary therapy
4. Biologic therapy

Answer: 3

Explanation:

1. Pharmacotherapy is the application of drugs for the purpose of treating diseases and alleviating human suffering.
2. The client is using medications as well as an alternative therapy.
3. The client is using a nonconventional type of treatment (therapeutic touch) that is classified as complementary to his conventional pharmacotherapy. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body. The client is using medications as well as an alternative therapy, which is why complementary therapy is the best choice.
4. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Relationship-Centered Care: Respect the patient's dignity, uniqueness, integrity, and self-determination, and his or her own power and self-healing process. | Nursing/Integrated Concepts: Nursing Process: Analysis

Learning Outcome: 1-4 Compare and contrast traditional drugs, biologics, and complementary and alternative medicine therapies.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

19) A client is receiving a brand name drug and wants to change to the generic form because it is less expensive. What is the best outcome for this client?

1. State two ways a brand name drug differs from a generic name drug.
2. Take the brand name drug after speaking with the physician.
3. Ask the nurse why brand name drugs are better than generic drugs.
4. List two ways to obtain the medication at a reduced cost.

Answer: 1

Explanation:

1. The dosage of drugs may be the same with a brand name and generic drug, but the bioavailability may be affected by the inert ingredients and tablet compression.
2. Referring the client to the physician is inappropriate because the nurse can educate the client about the difference between generic and brand name drugs.
3. The client asking the nurse a question is not an outcome.
4. Knowing ways to obtain medication at a reduced cost is an appropriate outcome, but the client will not learn why a brand name drug may be preferable over a generic drug.

Page Ref: 6

Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts:

Nursing Process: Planning

Learning Outcome: 1-9 Outline the major differences between prescription and over-the-counter drugs.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

20) A healthcare provider orders Lasix (furosemide) for a client. The hospital formulary substitutes the generic equivalent of the brand name drug, and the nurse administers the generic drug. Which of the statements best represent the nurse's action?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. The nurse should have contacted the physician prior to administering the drug.
2. The nurse should have called the pharmacist to see if the drugs were bioequivalent.
3. The nurse used good judgment in administering the drug.
4. The nurse was correct; hospital policies allow for this.
5. The nurse should ask the client which brand of drug is used at home.

Answer: 3, 4

Explanation:

1. It is not feasible for the nurse to contact the physician every time there is a generic substitution.
2. The pharmacist should only fill the prescription with a bioequivalent drug from the approved formulary.
3. The nurse used good judgment as hospital policies allow for generic substitution of certain drugs.
4. Use of formularies and negative formularies support the hospital policies allowing substitution.
5. In most cases, the client will not know which brand of medication is used at home. The brand used at home would be relevant only in very few medications.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation

Learning Outcome: 1-10 Explain the differences between trade name drugs and their generic equivalents.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

21) A nurse is documenting a client's list of current medications. Which substances would be categorized as complementary and alternative medicine?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. Garlic
2. Vitamin C
3. Zinc
4. Aspirin
5. Benadryl

Answer: 1, 2, 3

Explanation:

1. Garlic is considered an herb, which is considered complementary and alternative medicine therapy.
2. Vitamins are considered complementary and alternative medicine therapy.
3. Zinc is a mineral and is considered complementary and alternative medicine therapy.
4. Aspirin is an over-the-counter medication.
5. Benadryl is an over-the-counter medication.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Analysis

Learning Outcome: 1-4 Compare and contrast traditional drugs, biologics, and complementary and alternative medicine therapies.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

22) A student nurse asks a nursing instructor about which type of classification system is being used when drugs are grouped together because they help treat a particular disease or condition? What is the nursing instructor's best response?

1. Therapeutic
2. Mechanism of action
3. Chemical
4. Pharmacological

Answer: 1

Explanation:

1. Therapeutic classification is based on the drug's usefulness in treating a particular disease.
2. Mechanism of action is how a drug produces its physiological effect in the body.
3. Chemical classification relates to a substance's physical and chemical properties.
4. Pharmacological classification addresses a drug's mechanism of action.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 1-5 Explain the basis for placing drugs into therapeutic and pharmacologic classes.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

23) A nursing student asks a nursing instructor whether there are any tips that will make learning pharmacology easier. The instructor gives an example of the anticoagulant heparin. The instructor indicates that knowing heparin and comparing other drugs to it will facilitate learning the many anticoagulants. Which approach is the instructor using?

1. Mechanism of action approach
2. Generic name approach
3. Trade name approach
4. Prototype drug approach

Answer: 4

Explanation:

1. Mechanism of action is how the drug produces its physiological effect in the body. This approach does not limit the number of drugs that must be learned.
2. Heparin is the generic name, but this does not help the student understand the drug.
3. Trade names are specific to only one drug, so learning by this approach does not limit the number of drugs that must be examined.
4. In the prototype approach, the student learns about one well-understood drug from a class of drugs. Learning about this drug helps the student understand the other drugs in the class.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-6 Discuss the prototype approach to drug classification.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

24) A nurse understands that a particular agent causes a reduction in blood pressure by blocking receptor sites. The nurse recognizes that this is an example of which drug information?

1. Drug-drug interaction
2. Adverse effects
3. Indication
4. Mechanism of action

Answer: 4

Explanation:

1. Drug-drug interactions refer to possible adverse reactions from using multiple drugs at the same time.
2. Adverse effects are what can result from drug use, not a description of how the drug works.
3. Indications are the reasons the drug is being used.
4. The instructor is describing how a drug produces an effect within the body, which is known as the mechanism of action.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-7 Describe what is meant by a drug's mechanism of action.

MNL Learning Outcome: 1.1 Examine the relationship between medicine and pharmacology.

25) A student nurse asks a nurse what the generic name of a drug means. Which of the following is true regarding the generic name of a drug?

1. It describes the chemical composition of the medication.
2. Drugs that contain more than one active ingredient are classified as generic drugs.
3. The name drug is assigned by the company marketing the drug.
4. There is only one name for each medication.

Answer: 4

Explanation:

1. This answer describes the chemical name of a medication.
2. A combination drug contains more than one active ingredient.
3. Trade names are assigned by the company marketing the drug.
4. Although drugs can have multiple trade names, each drug only has one generic name.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a



variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Analysis

Learning Outcome: 1-8 Distinguish among a drug's chemical name, generic name, and trade name.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

26) A client says to a nurse, "Why do you need to know the names of all the over-the-counter supplements I take? They aren't drugs." Which of the nurse's responses are appropriate?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. "The healthcare provider needs to know everything you are taking."
2. "You're right. I'm not sure why the admitting paperwork asks for this information. Would you mind listing them anyway?"
3. "The law requires us to keep a list of over-the-counter drugs and supplements that you are taking."
4. "It is true that supplements are not considered drugs; however, some of these products can cause adverse effects with prescribed drugs."
5. "We need to know if you are having an allergic reaction to one of them."

Answer: 1, 4

Explanation:

1. The healthcare providers involved in this client's care will need to know everything she is taking—both prescription and over-the-counter (OTC).
2. While it is true that supplements are not considered drugs, there is a specific reason why the healthcare team needs to know this information, which is the reason for the requested list on the paperwork. The nurse's answer did not address the client's question appropriately.
3. No law requires hospitals to keep records of OTC drugs and supplements that clients take. This information is needed, however, for other reasons.
4. Supplements are not subject to the same regulatory process as drugs, and some of these products can cause adverse effects and interact with medications.
5. It is possible that this client could be having an allergic reaction, but there is not enough information to determine this, and this is not the main reason why the healthcare team needs to know what OTC medications she is taking.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: I.A.1 Integrate understanding of multiple dimensions of patient-centered care: patient/family/community preferences, values; coordination and integration of care; information, communication, and education; physical comfort and emotional support; involvement of family and friends; and transition and continuity. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical

management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-4 Compare and contrast traditional drugs, biologics, and complementary and alternative medicine therapies.

MNL Learning Outcome: 1.3 Recognize features of generic and trade-name equivalent drugs, and biosimilar drugs.

27) A nurse is explaining the benefits of using a prototype approach to learn pharmacology to a nursing student. The nurse understands that studying the prototype drug makes it possible to predict certain characteristics of drugs in the same class. Which response by the nursing student below indicates the need for further teaching?

1. Therapeutic indications
2. Mechanism of action
3. Adverse effects
4. Duration of action

Answer: 4

Explanation:

1. The prototype drug has the same therapeutic indications, or clinical use, of other drugs in the same class.
2. Studying the therapeutic indications of a prototype drug may allow the nurse to predict actions and adverse effects of other drugs in the same group.
3. Studying the prototype drug may allow the nurse to predict the adverse effects of another drug in the same class.
4. Drugs in the same class may have different duration of action.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts:

Nursing Process: Analysis

Learning Outcome: 1-6 Discuss the prototype approach to drug classification.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

28) A nurse understands that chemical names are assigned for each drug. What are the major reasons that nursing usually does not use the chemical name of the drugs?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. They are usually not brief or easy to remember.
2. They are often difficult to pronounce.
3. There is no standard for assigning names.
4. They do not explain the nature of the drug.
5. There is only one chemical name for each drug.

Answer: 1, 2

Explanation:

1. Chemical names are usually not brief or easy to remember.
2. Chemical names are often difficult to pronounce.
3. Chemical names are assigned by a standard nomenclature.
4. Chemical names do explain the nature of the drug.
5. While it is true each drug has only one chemical name, this is not one of the reasons nurses do not use the chemical name.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: I.7 Integrate the knowledge and methods of a variety of disciplines to inform decision making. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-8 Distinguish among a drug's chemical name, generic name, and trade name.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

29) A client says, "I don't understand why so much money is spent on trying to find a cure for cancer. I have epilepsy and wish more money went into epilepsy drugs." What should the nurse consider prior to responding?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. More people are affected by cancer than by epilepsy.
2. Drugs that are effective in treating epilepsy exist.
3. The amounts of money spent on drug development are determined at the federal level.
4. It would be easier to achieve a cure for cancer than to achieve a cure for epilepsy.
5. The client should realize that personal family may develop cancer one day.

Answer: 1, 2

Explanation:

1. According to the tenets of pharmacoeconomics, more money should be spent on development of drugs that will impact the most people.
2. There are more drugs to successfully treat epilepsy than to cure cancer.
3. Money spent on drug development is determined at several levels, including individual corporations, universities, and governments.
4. There is no indication that curing cancer is easier than curing epilepsy.
5. The nurse should not judge this client's statement as good or bad, but should attempt to explain the allocation of resources.

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Cognitive Level: Applying

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Planning

Learning Outcome: 1-11 Describe how decisions are made relative to drug therapy among groups of patients.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.

30) A client with advanced heart disease says, "I read about a new drug that was just released. Do you think my doctor could get it for me?" What should the nurse include in discussion with the client?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected. Select all that apply.*

1. "Since the drug is new it is dangerous to use."
2. "Decisions on using drugs are based on many different variables."
3. "We certainly can talk to your physician about the drug."
4. "When drugs are first developed, they are very expensive and their use is limited to those who can afford to purchase them."
5. "People who are very sick often have unrealistic expectations of what drugs can do."

Answer: 2, 3

Explanation:

1. It is nontherapeutic to tell the client the drug is dangerous. At this point, the nurse has no knowledge of which drug is being discussed.
2. Use of particular drugs is based on many different variables, including cost-benefit ratio.
3. The nurse should support the client's interest in this drug by advocating for a discussion about its use.
4. The nurse should not assume the drug is expensive or that the client is unable to obtain it.
5. It is nontherapeutic to tell the client that interest in this drug is unrealistic.

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Cognitive Level: Analyzing

Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies

Standards: QSEN Competencies: III.A.1 Demonstrate knowledge of basic scientific methods and processes. | AACN Essential Competencies: IX.3 Implement holistic, patient-centered care that reflects an understanding of human growth and development, pathophysiology, pharmacology, medical management, and nursing management across the health-illness continuum, across lifespan, and in all healthcare settings. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 1-11 Describe how decisions are made relative to drug therapy among groups of patients.

MNL Learning Outcome: 1.4 Examine the nurse's role and responsibilities in drug administration.