

***Pharmacology for Nurses - A Pathophysiologic
Approach 7th edition Adams Test Bank***

SKU: 9780138097141-TEST-BANK

Pharmacology for Nurses, 7e (Adams)
Chapter 1 Introduction to Pharmacology

1) The 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: Analyzing

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the relationship between medicine and pharmacology.

2) The nursing student asks why anatomy and physiology as well as microbiology are required courses when learning about pharmacology. Which response will the instructor make?

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Identify how drugs are named and classified.

3) The nurse is teaching about the differences between pharmacology and therapeutics. Which statement indicates that teaching was effective?

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 and alleviate suffering."

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 the study of drug interactions.
5. Pharmacology is the study of drugs for the purpose of disease prevention and to alleviate suffering.

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Cognitive Level: Analyzing

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Identify how drugs are named and classified.

4) The nurse is preparing to administer a vaccine to a client. Which information about the manufacture of vaccines should the nurse recall when administering this medication?

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 Domains and Competencies: 5.2 Contribute to a culture of patient safety. | 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 including biosimilars, and complementary and alternative medicine therapies.

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

5) An older client with gastrointestinal bleeding asks why the condition developed when only ibuprofen was used to self-treat arthritis. Which response should the nurse make?

1. "There are nonpharmacologic methods to relieve joint pain."
2. "Maybe you should take acetaminophen because it is safer."
3. "Ask your healthcare provider before taking over-the-counter medications."
4. "I'm going to review the side effects of ibuprofen with you."

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; however, it is beyond the nurse's scope of practice to suggest or prescribe medications.
3. It is not a realistic plan to expect clients to contact the healthcare provider prior to taking any over-the-counter 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 Domains and Competencies: 2.2 Communicate effectively with individuals. | NLN Competencies: Context and Environment: Health promotion/disease prevention. | Nursing/Integrated Concepts: Nursing Process: Implementation

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

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

6) The nurse discusses with a new graduate the pharmacological classification of drugs. Which response indicates that teaching provided to the new graduate was effective?

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. Saying 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. Stating that a drug lowers blood pressure addresses the therapeutic usefulness of the drug, not the pharmacological classification.
4. Explaining that a drug influences blood clotting addresses the therapeutic usefulness of the drug, not the pharmacological classification.

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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 Domains and Competencies: 2.2 Communicate effectively with individuals. | 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: Examine the basic concepts of pharmacology.

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 Domains and 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: Examine the basic concepts of pharmacology.

8) A student nurse is concerned about remembering all of the different types of drugs. Which response should be made to this student?

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 Domains and Competencies: 2.2 Communicate effectively with individuals. | 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: Examine the basic concepts of pharmacology.

9) A client taking paroxetine (Paxil) for a year reports that it is no longer effective. Which response should the nurse make?

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 Inventory 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 Domains and Competencies: 1.3 Demonstrate clinical judgment founded on a broad knowledge base. | 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: Examine the basic concepts of pharmacology.

10) A student nurse completing an initial pharmacology course tells the nurse that it was difficult. Which response should the nurse make?

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 Domains and Competencies: 2.2 Communicate effectively with individuals. | 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: Examine the basic concepts of pharmacology.

11) A client is concerned because of having different side effects than a partner who takes the same medication. Which response should the nurse make?

1. "Differences such as your gender 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, gender, body mass, health status, and genetics.
2. The nurse should not have to check the drug; basic knowledge should include knowing that the gender 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

12) A client that had a myocardial infarction reports taking an over-the-counter (OTC) antacid for indigestion for years. Which response should the nurse make?

1. "It sounds like you were self-treating and you probably will be fine."
2. "Why did you do that? You should have seen a physician."
3. "Well, your discomfort was not indigestion."
4. "Your wife was self-diagnosing, which is generally not a good idea."

Answer: 4

Explanation:

1. Saying that the client will be fine is giving false hope without knowing the status of the client's condition.
2. Asking why the client was taking an over-the-counter antacid is nontherapeutic and too accusatory; "why" questions should be avoided.
3. Saying that the client's discomfort was not indigestion is judgmental and will alienate the client.
4. Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is frequently 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 Domains and Competencies: 2.2 Communicate effectively with individuals. |

NLN Competencies: Relationship-Centered Care, Knowledge, Effective Communication. |

Nursing/Integrated Concepts: Nursing Process: Implementation

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

MNL Learning Outcome: Examine the basic concepts of pharmacology.

13) The nurse instructs a client about the use of over-the-counter (OTC) medications. Which client response indicates to the nurse that the teaching was effective?

1. "I will check with my provider first before I take any over-the-counter medicine."
2. "A pharmacist can tell me how to take the over-the-counter 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 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 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 the 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

Domains and Competencies: 5.2 Contribute to a culture of patient safety. | NLN Competencies:

Quality and Safety: Commit to a generative safety culture. | Nursing/Integrated Concepts:

Nursing Process: Teaching/Learning; Implementation

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

MNL Learning Outcome: Examine the basic concepts of pharmacology.

14) A client asks why a prescribed medication is very expensive. Which action should the nurse take?

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; however, the client may not qualify for it and so this would not be the best action.
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 Domains and Competencies: 2.6 Demonstrate accountability for care delivery. | 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: Examine the basic concepts of pharmacology.

15) A client asks why a newly prescribed medication is so expensive. Which response should the nurse make?

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 personal 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

16) The nurse reviews key events in the history of pharmacology with a student nurse. Which student comment indicates to the nurse that additional teaching is required?

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 were able to synthesize new medications faster than by isolating active agents from natural resources.

Page Ref: 3

Cognitive Level: Analyzing

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

17) The nurse is preparing a seminar about pharmacology concepts. Which information should the nurse include when teaching this class?

1. Biologics include natural plant extracts and dietary supplements.
2. Biosimilar drugs do not require the same clinical testing as the comparable biologic drug.
3. Alternative therapies are agents produced in animal cells or by microorganisms.
4. Therapeutics uses drugs to treat diseases and eliminate 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 the treatment of suffering.

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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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | NLN Competencies:

Knowledge and Science: Integration of knowledge from nursing and other disciplines. |

Nursing/Integrated Concepts: Nursing Process: Teaching/Learning; Planning

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

MNL Learning Outcome: Examine the basic concepts of pharmacology.

18) A client with chronic back pain reports receiving therapeutic touch in addition to medications. In which way should the nurse classify the 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 complementary and alternative medicine therapy. Therapeutic touch would be a body-based practice.
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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Assessment

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

MNL Learning Outcome: Examine the basic concepts of pharmacology.

19) A client taking a brand name drug wants to change to the generic form because it is less expensive. Which outcome should the nurse identify for the client after instructing about the use of generic medications?

1. States two ways a brand name drug differs from a generic name drug.
2. Takes the brand name drug after speaking with the physician.
3. Asks the nurse why brand name drugs are better than generic drugs.
4. Lists 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.

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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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

20) A client is prescribed furosemide (Lasix); however, the pharmacy substitutes the generic equivalent of the medication. Which statement explains the nurse's action when giving the medication to the client?

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 supports 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: 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

21) The nurse is documenting a client's list of current medications. Which substance should the nurse categorize 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. Acetaminophen

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. Acetaminophen 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 Domains and Competencies: 1.3 Demonstrate clinical judgment founded on a broad knowledge base. | 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 including biosimilars, and complementary and alternative medicine therapies.

MNL Learning Outcome: Examine the basic concepts of pharmacology.

22) The nurse is asked to explain the type of classification system used when drugs are grouped together because they help treat a particular disease or condition. Which response should the nurse make?

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-5 Explain the basis for placing drugs into therapeutic and pharmacologic classes.

MNL Learning Outcome: Examine the basic concepts of pharmacology.

23) The nurse explains how knowing information about a drug from a particular class will help understand other drugs in the same class. Which approach is the nurse 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 focus on drug classifications.
2. Generic names are not used to understand drugs in a particular classification.
3. Trade names are specific to only one drug and do not focus on classifications.
4. In the prototype approach, one drug from a classification helps to understand other drugs in the same 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

24) The nurse expects a medication to work by reducing blood pressure by blocking receptor sites. Which pharmacotherapeutic principle is the nurse applying?

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 nurse is expecting the way 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

25) The nurse is asked to explain generic drug names. Which response should the nurse make?

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 the 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

26) A client asks why names of over-the-counter (OTC) supplements need to be reported because they are not drugs. Which response should the nurse make?

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. 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 the client is taking—both prescription and 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 the client 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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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 including biosimilars, and complementary and alternative medicine therapies.

MNL Learning Outcome: Examine the basic concepts of pharmacology.

27) The nurse explains to a student the benefit of using a prototype approach to learn pharmacology because it helps predict the characteristics of drugs in the same class. Which response by the student indicates additional teaching is required?

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 helps predict actions and adverse effects of other drugs in the same group.
3. Studying the prototype drug helps predict the adverse effects of another drug in the same class.
4. Drugs in the same class may have a different duration of action.

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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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | NLN Competencies: Knowledge and Science: Integration of knowledge from nursing and other disciplines. | Nursing/Integrated Concepts: Nursing Process: Evaluation
Learning Outcome: 1-6 Discuss the prototype approach to drug classification.

MNL Learning Outcome: Examine the basic concepts of pharmacology.

28) The nurse reviews the chemical name for a client's prescribed medication. For which reason should the nurse avoid using this name when teaching the client about the medication?

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 Domains and Competencies: 1.1 Demonstrate an understanding of the discipline of nursing's distinct perspective and where shared perspectives exist with other disciplines. | 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: Examine the basic concepts of pharmacology.

29) A client is upset because so much money is spent on cancer drugs but medications for other conditions are not developed. Which information should the nurse consider when responding to the client?

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. There are drugs to treat most if not all health conditions.
3. The amount of money spent on drug development is determined at the federal level.
4. It would be easier to achieve a cure for cancer than to achieve a cure for other health problems.
5. The client should realize that family members 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 many drugs developed to treat health conditions.
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 other health problems.
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 Domains and Competencies: 2.2 Communicate effectively with individuals. | 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: Examine the basic concepts of pharmacology.

30) A client with advanced heart disease wants the healthcare provider to prescribe a new drug that was just developed. Which information should the nurse include in the response?

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 healthcare provider 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: 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 Domains and Competencies: 2.2 Communicate effectively with

individuals. | 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: Examine the basic concepts of pharmacology.

CHAPTER 1

INTRODUCTION TO PHARMACOLOGY

Learning Outcomes

1. Identify key events in the history of pharmacology.
2. Explain the interdisciplinary nature of pharmacology, giving an example of how knowledge from different sciences impacts the nurse's role in drug administration.
3. Compare and contrast therapeutics and pharmacology.
4. Compare and contrast traditional drugs, biologics including biosimilars, and complementary and alternative medicine therapies.
5. Explain the basis for placing drugs into therapeutic and pharmacologic classes.
6. Discuss the prototype approach to drug classification.
7. Describe what is meant by a drug's mechanism of action.
8. Distinguish among a drug's chemical name, generic name, and trade name.
9. Outline the major differences between prescription and over-the-counter drugs.
10. Explain the differences between trade name drugs and their generic equivalents.
11. Describe how decisions are made relative to drug therapy among groups of patients.

Key Concepts

- 1.1. The history of pharmacology began thousands of years ago with the use of plant products to treat disease.
- 1.2. Pharmacology is the study of medicines, including the study of how drugs are administered and how the body responds.
- 1.3. The fields of pharmacology and therapeutics are closely connected. Pharmacotherapy is the application of drugs to treat disease and ease human suffering.
- 1.4. Therapeutic agents may be classified as drugs, biologics and biosimilar drugs, or complementary and alternative medicine (CAM) therapies.
- 1.5. Drugs may be organized by their therapeutic or pharmacologic classification.
- 1.6. Drugs have chemical, generic, and trade names. A drug has only one chemical or generic name but may have multiple trade names.
- 1.7. Drugs are available by prescription or over the counter (OTC). Prescription drugs require an order from a healthcare provider.
- 1.8. Generic drugs are less expensive than trade-name drugs, but they may differ in their bioavailability, which is the ability of the drug to reach its target cell and produce its action.
- 1.9. Group-based decisions for drug therapy center around cost benefit, effectiveness in health improvement, minimization of benefit to patients within a similar group, and improved quantitative and qualitative utility.

Suggested Classroom Activities

LEARNING OUTCOME ONE

Have students create a list of ten drugs released on the market within the past 5 years and the diseases for which they were developed.

Invite a representative from a pharmaceutical company or clinical pharmacist to speak to the class on the research and development of a new drug.

LEARNING OUTCOME TWO

Discuss how DNA technology has changed the practice of pharmacology. Give an example of five drugs and how they are used, such as insulin, chemotherapy agents, or biological modifiers. Discuss the roles of the pharmacist, healthcare prescriber, and advanced practice nurse as they relate to the importance of continuous learning in pharmacology as a healthcare practitioner.

LEARNING OUTCOME THREE

Discuss five different examples of therapeutics and pharmacotherapy and how they maintain a healthy lifestyle, or prevent disease or prevent complications of the disease.

LEARNING OUTCOME FOUR

Divide the class into four groups. Assign one complementary therapy (acupuncture, hypnosis, biofeedback, or massage) to each group, and have each group provide information to the class on how the therapy complements the disease process.

Give the students a list of substances containing medications, biologics, and ingested CAM substances and have the students classify them into the three categories.

LEARNING OUTCOME FIVE

Divide the students into four groups. Assign each group to identify from a current medical or nursing journal, the purpose of an advertisement and whether the drugs would be classified as therapeutic or pharmacological.

The students will interview each other to determine whether therapeutic or pharmacological drugs are being taken.

LEARNING OUTCOME SIX

Have students identify one prototype drug used for each body system.

Identify the prototype differences in each generation of the drug's development and the reasons for its refinement.

LEARNING OUTCOME SEVEN

Divide students into groups of four. Assign each group a disease, identify the pathophysiologic process, and find a drug to counteract the pathophysiological process.

Discuss the differences between mechanism of action of a drug, evaluation, and outcome management.

LEARNING OUTCOME EIGHT

Assign each student five common drugs to present to the class, identifying their chemical name, generic name, and trade name, plus their pharmacologic and therapeutic classifications.

Discuss how the Affordable Healthcare Act (ACA) has changed the process of prescribing of medication.

LEARNING OUTCOME NINE

Make a list of five drugs that require a prescription and/or can be purchased OTC. Have the students identify the chemical name, generic name, and trade name, dosage, and indications, such as its pharmacologic and therapeutic classifications.

LEARNING OUTCOME TEN

Make a matching list of 20 drugs with the trade name in column A, and generic name in column B. Have the student match them up.

Divide the students into four groups. Assign each group to find out the cost of the trade name brand versus the generic brand with and without insurance.

LEARNING OUTCOME ELEVEN

Have students identify the role of the nurse in drug research for limited populations.

Divide the students into four groups. Assign each group a topic to research that deals with pharmacoeconomics.

Suggested Clinical Activities

LEARNING OUTCOME ONE

Assign the clinical group of students to contrast and compare the most common drugs that their patients are receiving.

On assigned patients, have each student identify therapeutics and pharmacotherapy of newly developed medications.

LEARNING OUTCOME TWO

Assign the clinical group of students to contrast and compare the role of each healthcare provider in the distribution, prescribing, and administration of medications to their assigned patients.

On assigned patients, have each student identify three resources available in the clinical setting to obtain information regarding clinical applications, interactions, side effects, and nursing interventions.

LEARNING OUTCOME THREE

On assigned patients, have each student identify therapeutics and pharmacotherapy and how these areas prevent disease and/or treat complications in the assigned patient.

Have the student identify each of the patient's pathologies and how the drugs may work on more than one pathology.

LEARNING OUTCOME FOUR

Have students identify any complementary or alternative therapies on assigned patients and describe their efficacy.

Identify any complementary therapy that is or should be utilized in the clinical agency and explain its importance.

LEARNING OUTCOME FIVE

On assigned patients, have each student identify therapeutics and pharmacotherapy and how these areas prevent disease and/or treat complications.

Have the student review the admission history and the current medications the patient is receiving in the facility. Contrast and compare drugs in therapeutic and pharmacological classes, including the prescribed and OTC medication the patient is receiving.

LEARNING OUTCOME SIX

On assigned patients, have each student identify the prototype drugs the patients are receiving and why.

Assign each student to obtain the hospital formulary, Pyxis, or policy manual for approved prototype drugs dispensed at the facility.

LEARNING OUTCOME SEVEN

Using the nursing process, have the students evaluate the current pharmacological drugs being used to manage the course of the patient's disease.

On the assigned unit, have the student identify how one drug is working and the parameters used to evaluate this process.

LEARNING OUTCOME EIGHT

Have students present in post-conference the medication lists for their assigned patient, listing the generic, chemical, and trade names of each drug.

On assigned patients, have each student identify whether the patient is receiving a generic or trade-name brand of medication.

LEARNING OUTCOME NINE

On assigned patients, have each student identify whether the patient is receiving a prescription and over-the-counter drugs and explain the rationale for both.

LEARNING OUTCOME TEN

Have students present in post-conference the medication lists for their assigned patient, listing both the generic and trade names of each drug.

LEARNING OUTCOME ELEVEN

Have students identify which medications are on a restricted list and require special approval before being dispensed.