***Pharmacology for Nurses, 7e* (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.