***Pharmacology: Connections to Nursing Practice, 5e* (Adams)**
Chapter 1 Introduction to Pharmacology: Concepts and Connections

1) The nurse is teaching a pharmacology class to a group of student nurses. Which key events does the nurse include in the history of pharmacology?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. Early researchers used themselves and animals as test subjects.
2. Pharmacologists began to synthesize drugs in the laboratory in the 20th century.
3. Modern pharmacology began in the mid-1600s.
4. The first drugs included morphine, cocaine, and penicillin.
5. The Dark Ages provided much useful information that we still use today.
Answer: 1, 2
Explanation: Early researchers did use themselves and animals as test subjects. Pharmacologists did begin to synthesize drugs in the laboratory in the 20th century.
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: Relationship Centered Care: Learn cooperatively, facilitate the learning of others | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-1 Identify key events in the history of pharmacology.

2) Although all areas of medicine, including pharmacology, have made great advances in the past century, the early roots of pharmacology still apply for the nurse and other health professionals. What were the early roots of pharmacology?
1. Applying products to relieve human suffering
2. Creating new drugs as quickly as possible
3. Finding medicinal alternatives to plants
4. Understanding how drugs cause their effects
Answer: 1
Explanation: The early root of pharmacology was to relieve human suffering.
Cognitive Level: Remembering
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: Relationship Centered Care: Learn cooperatively, facilitate the learning of others | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-1 Identify key events in the history of pharmacology.

3) Although many substances can be considered drugs, which drug definition is the most appropriate?
1. Any substance that is found in nature or that normally occurs in the body
2. Any substance that is synthesized and tested in the laboratory setting
3. Any substance that is taken to prevent, cure, or reduce symptoms of a medical condition
4. Any substance that can be isolated from substances found in nature
Answer: 3
Explanation: A drug is considered to be any substance that is taken to prevent, cure, or reduce symptoms of a medical condition.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-2 Compare and contrast the terms drug, pharmacology, and pharmacotherapy.

4) Pharmacotherapy is a critical intervention for many conditions, and a key part of nursing intervention. Which statement best describes pharmacotherapy?
1. The study of medicine and drug therapy
2. The application of natural substances to cure diseases
3. The application of drugs for the prevention and treatment of disease and human suffering
4. Understanding the difference between trade and generic medications
Answer: 3
Explanation: Pharmacotherapy is the application of drugs for the prevention and treatment of diseases and human suffering.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-2 Compare and contrast the terms drug, pharmacology, and pharmacotherapy.

5) Which principle best describes what the nurse is expected to understand when administering medication to a client?
1. The pharmacotherapeutics for all of the medications
2. The most common side effects of the drug's prototype
3. The trade and generic names for all of the medications
4. The cost of the drug therapy from different drug manufacturers
Answer: 1
Explanation: The nurse should understand the pharmacotherapeutics for all medications that the client is receiving.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-3 Explain the importance of pharmacotherapy to clinical nursing practice.

6) The Food and Drug Administration classifies drugs by category, and these categories and drugs are found in the "Orange Book." To find out which drugs treat hypertension, the nurse would look under which classification?
1. Cardiac
2. Pharmacologic
3. Disease
4. Therapeutic
Answer: 4
Explanation: The nurse would look under the therapeutic category to find out what conditions a drug will treat.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-4 Using specific examples, explain the difference between the pharmacologic and therapeutic methods of classifying drugs.

7) The nurse is creating a teaching plan for a client on the cardiac unit and is researching the medications the client is currently taking to understand how each drug produces its effects in the body. To find this information, the nurse looks up which classification for each medication?
1. Therapeutic
2. Respiratory
3. Disease
4. Pharmacologic
Answer: 4
Explanation: The nurse researches the pharmacologic classification to discover how a drug works in the body.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-4 Using specific examples, explain the difference between the pharmacologic and therapeutic methods of classifying drugs.

8) A prototype drug is a single drug in a class and can be compared with all other medications in the class. By studying a prototype drug, the nurse would gain what knowledge for predicting the characteristics of other drugs in the same class?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. The drugs with the most favorable safety profile
2. The drug's therapeutic indications
3. The drug's actions and adverse effects
4. The drug's specific clinical use
5. Contraindications specific to any drug in that group

Answer: 2, 3, 4
Explanation: Studying the therapeutic indications of a prototype drug may allow the nurse to predict the actions and adverse effects of other drugs in the same group.
By studying the prototype, the nurse can predict the actions and adverse effects of other drugs in the same class.
Studying the prototype drug may allow the nurse to predict the clinical use of another drug in the same class.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-5 Identify the advantages of using prototype drugs to study pharmacology.

9) Chemical names are assigned to each drug. What are the major reasons for why nurses usually do not use the chemical names of 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: Chemical names are usually not brief or easy to remember.
Chemical names are often difficult to pronounce.
Cognitive Level: Remembering
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-6 Classify drugs by their chemical, generic, and trade names.

10) The trade name for a drug is usually selected to be short and easy to remember. What is the reason the nurse does not use the trade name for a drug?
1. There are no trade names for combination drugs.
2. A drug can have more than one trade name.
3. The trade name will expire and no longer be used.
4. A company might change the trade name for a drug.
Answer: 2
Explanation: A drug can have more than one trade name.
Cognitive Level: Remembering
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-6 Classify drugs by their chemical, generic, and trade names.

11) Nursing students must memorize the generic names of drugs. What is the primary reason that generic names are used by healthcare providers over chemical and trade names?
1. A drug can have more than one chemical and trade name.
2. There is only one generic name for each drug.
3. The trade names do not reflect the action of the drug as the generic name does.
4. Nursing students should learn both the generic and trade names to avoid confusion with clients.
Answer: 2
Explanation: Each drug does have only one generic name.
Cognitive Level: Remembering
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-6 Classify drugs by their chemical, generic, and trade names.

12) Which is one of the main reasons a pharmaceutical company might be granted an exclusive period to market and distribute a new drug?
1. It allows the company to recoup the cost of research and development.
2. It allows consumers to learn the trade name of the drug.
3. It allows all the adverse effects to be discovered.
4. Without competition, consumer savings are significant.
Answer: 1
Explanation: Exclusivity allows a pharmaceutical company a period of time to recoup the costs of research and development of a drug.
Cognitive Level: Remembering
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-7 Discuss the rationale for a pharmaceutical company receiving exclusivity for the marketing of a new drug.

13) Bioavailability of a drug can be affected by many factors. Which factor does not affect the bioavailability of a drug?
1. Inert ingredients
2. Rate of absorption
3. Safety margin
4. Tablet compression
Answer: 3
Explanation: Safety margin will not affect the bioavailability of a drug.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-8 Analyze possible differences between generic drugs and their trade-name equivalents.

14) Bioavailability can be different between the generic and trade versions of a drug. When is it not appropriate for a generic drug to be substituted for a trade version?
1. The trade version costs the same as the generic.
2. The time for onset of action is different between the generic and trade versions.
3. The inert ingredients are different in the generic and trade versions.
4. The drug is a critical care drug, or one with a narrow safety margin.
Answer: 4
Explanation: The nurse should not substitute a generic drug for a trade version if the drug is a critical care drug or has a narrow safety margin.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-8 Analyze possible differences between generic drugs and their trade-name equivalents.

15) Before administering a drug, what pertinent information must the nurse obtain from the client?
1. Physical assessment, medical history, previous medications, and learning capabilities
2. Medical history, growth and development level of client, and ability to pay for the medication
3. Medical history, client's growth and development level, and potential adverse effects of the medication
4. Medical history, physical assessment, disease process, and learning needs
Answer: 1
Explanation: Physical assessment, medical history, previous medications, and learning capabilities are all important pieces of information the nurse should have prior to administering drugs to clients.
Cognitive Level: Applying
Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies
Standards: QSEN Competencies: V.B.2 Demonstrate effective use of strategies to reduce risk of harm to self or others | 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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-10 Identify the responsibilities of the nurse in drug administration as part of an interprofessional team.

16) When a drug is ordered for a client, what is the nurse responsible for knowing and understanding about the drug?
1. Name, intended use, special considerations, and adverse effects
2. Drug classification, contraindications, adverse effects, gender considerations, and cost of therapy
3. Drug classification, contraindications, special considerations, and severity of adverse effects
4. Name, intended use, effects, contraindications, special considerations, and adverse effects
Answer: 4
Explanation: Name, intended use, effects, contraindications, special considerations, and adverse effects give the nurse the information needed to safely administer the drug as ordered.
Cognitive Level: Understanding
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 1-10 Identify the responsibilities of the nurse in drug administration as part of an interprofessional team.

17) After successfully completing the pharmacology course, a student nurse tells the instructor that she is glad the course is finished. What is the best response from the nursing instructor?
1. "It might be over, but now you will start your clinical courses and apply your knowledge."
2. "If you think this course was hard, you should try the graduate level."
3. "Learning is an ongoing process in pharmacology; we must continue to stay up to date."
4. "Learning difficult material is always painful, but it is necessary."
Answer: 3
Explanation: Learning is an ongoing process in pharmacology to stay current with drug therapy.
Cognitive Level: Applying
Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies
Standards: QSEN Competencies: III.C.5 Value the need for continuous improvement in clinical practice based on new knowledge | 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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-10 Identify the responsibilities of the nurse in drug administration as part of an interprofessional team.

18) The client asks the charge nurse how the healthcare provider will decide which medication to prescribe. The nurses bases the response on which rationale regarding the "ideal drug"?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. Effectively treats, prevents, or cures the client's condition
2. Is not quickly eliminated by the body so that it can produce its effects over a prolonged period of time
3. Produces minimal adverse effects
4. Produces a rapid and predictable response
5. Is inexpensive and easily accessible
Answer: 1, 4, 5
Explanation: The goal of pharmacology is to select a drug that will effectively treat, prevent, or cure a condition.
The goal of pharmacology is to select a drug that will produce a rapid, predictable response at relatively low doses.
The ideal drug is affordable and easily accessible.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-3 Explain the importance of pharmacotherapy to clinical nursing

practice.

19) A client is taking a medication for a condition whose indication is not listed and asks the nurse why the healthcare provider would prescribe this drug. Which response by the nurse is the most appropriate?
1. "Some medications may be used for conditions for which they have not been approved. This is called an 'off-label' indication."
2. "Some medications may be used as a prototype drug for a specific condition and are not listed in the nursing drug handbook."
3. "A medication can only be used for the specific condition for which it was approved."
4. "This is a generic drug, and not all generic drugs are in the nursing drug handbook. Only trade name drugs are listed."
Answer: 1
Explanation: When a drug is prescribed for a condition for which it has not been approved, this is called an "off-label" indication.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-3 Explain the importance of pharmacotherapy to clinical nursing practice.

20) A client is admitted to the emergency department with high blood pressure. The healthcare provider orders a diuretic and tells the client this medication will lower the blood pressure by decreasing intravascular fluid volume. What does this description address?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. The drug's mechanism of action
2. The drug's pharmacologic classification
3. How the drug produces its effects in the body
4. The drug's therapeutic classification
5. What condition is being treated by the drug

Answer: 1, 2, 3
Explanation: Mechanism of action describes how a drug produces its effects in the body—in this case, how it lowers blood pressure.
The pharmacologic classification describes how a drug produces its effects in the body—in this case, how it lowers blood pressure.
The diuretic lowers blood pressure by lowering fluid volume in the vasculature.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-4 Using specific examples, explain the difference between the pharmacologic and therapeutic methods of classifying drugs.

21) A client who is admitted to the intensive care unit for monitoring notices the arthritis medication does not look like the one used at home and asks the nurse about the different appearance. Which response by the nurse is the most appropriate?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. "This is a different brand from the one you use at home, but it will give you the same pain relief."
2. "Your healthcare provider feels we can safely substitute this drug for the drug you use at home."
3. "This generic drug is the one we have on formulary in the pharmacy. It has the same ingredients as the one you use at home."
4. "This is what we have in the pharmacy. Go ahead and take it for now and let me know if it doesn't relieve the pain."
5. "The medications in the hospital often do not look like the ones you get from the pharmacy."
Answer: 1, 2, 3
Explanation: Most trade-name drugs can be safely substituted with generic drugs. The exceptions to this rule are critical care drugs and drugs with a narrow margin of safety.
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Most trade-name drugs can be safely substituted with generic drugs. The exceptions to this rule are critical care drugs and drugs with a narrow margin of safety.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-8 Analyze possible differences between generic drugs and their trade-name equivalents.

22) A client who received a refill for a medication returns to the pharmacy and says, "This medication is wrong! It doesn't look anything like my usual prescription." Which response by the pharmacist would be most appropriate?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. "Your usual prescription drug is too expensive, so I substituted it with a generic one."
2. "There is no difference between this drug and the one you usually get."
3. "Our state allows me to substitute a generic drug when the prescription calls for a trade-name drug."
4. "Don't worry. Can you see that the generic ingredients are exactly the same?"
5. "This medication is a generic form of your other medication. That is why it looks different. But it has the same ingredients and should work the same way."

Answer: 3, 5
Explanation: Some states allow the pharmacist to routinely substitute a generic drug for a trade-name drug. Other states prohibit this substitution and the pharmacist or client must request the substitution from the healthcare provider.
There may be several forms of a generic medication. Although they may look different, the ingredients and mechanism of action are the same.
Cognitive Level: Applying
Client Need/Sub: Physiological Integrity: Pharmacological and Parenteral Therapies
Standards: QSEN Competencies: II.A.2 Describe scopes of practice and roles of healthcare team members | 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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-8 Analyze possible differences between generic drugs and their trade-name equivalents.

23) The physician has written an order for a client for a new antihypertensive drug. Why is it important for the nurse to have an understanding of the drug's prototype?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. Knowledge of the prototype allows the nurse to surmise important information about an unfamiliar drug in the same class.
2. If the nurse knows the actions and adverse effects of the prototype drug, this information can be relevant to use of the unfamiliar drug.
3. The safety profile for the prototype is the same as the safety profile for the unfamiliar drug.
4. Knowledge of the prototype drug's therapeutic or pharmacologic classification can offer useful information about the unfamiliar drug.
5. Traditional prototype drugs are often older and infrequently prescribed, and the information about them should not be used.
Answer: 1, 2, 4
Explanation: Prototype drugs are the drugs to which all other drugs in the class are compared. Knowledge of the actions and effects of a prototype drug can be extended to an unfamiliar drug in the same class.
Prototype drugs are the drugs to which all other drugs in the class are compared. Knowledge of the actions and adverse effects of a prototype drug can be extended to an unfamiliar drug in the same class.
Prototype drugs are the drugs to which all other drugs in the class are compared. Knowing how the prototype drug works will reveal important information about the unfamiliar drug.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Planning
Learning Outcome: 1-5 Identify the advantages of using prototype drugs to study pharmacology.

24) A client says to the nurse, "I just don't understand why my prescription costs so much. I tried to get a generic one, but the doctor said there isn't one yet." Which rationales are most appropriate for the nurse to use when responding to this client's question?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. During the time of exclusivity, there is little competition, resulting in higher prices.
2. During the time of exclusivity, there are generic versions of the drug, but the pharmacist has the right to sell only the trade-name drug.
3. Once the time of exclusivity is over, other drug companies will be able to market generic drugs for less than the trade-name drug.
4. When the generic equivalent is released, the physician may routinely substitute the trade-name version for the generic version.
5. The period of exclusivity does not apply to internet pharmacies based in other countries.
Answer: 1, 3, 4, 5
Explanation: During the time of exclusivity, the pharmaceutical company determines the cost of the medication. To offset research and development costs, trade-name drugs are often expensive.
Once the exclusive rights end, other pharmaceutical companies will be able to market the generic version at a lower cost.
In some states, the physician may routinely substitute the trade-name drug for a generic drug.
Other countries are not bound by U.S. drug laws, and clients may obtain trade-name drugs for a fraction of the price. However, these countries do not have the same quality control standards as the United States.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-7 Discuss the rationale for a pharmaceutical company receiving exclusivity for the marketing of a new drug.

25) A client tells the nurse that the healthcare provider has prescribed a new medication that "has just come on the market." The nurse has not heard of this particular medication but is able to give the client important information based on its prototype drug because of which principles?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. Knowing the prototype drug allows the nurse to predict the mechanism of action of the new medication.
2. The information regarding the prototype drug can be extended to any drug in the same class.
3. The prototype drug is the drug to which all drugs in a class are compared.
4. Knowing the prototype drug's therapeutic or pharmacologic classification can reveal important information about other drugs in the same class.
5. This is a new drug on the market. It may not have a prototype drug yet and its properties cannot be predicted.
Answer: 1, 2, 3, 4
Explanation: Knowledge about the prototype drug can help the nurse predict important information such as actions, side effects, mechanism of action, and contraindications for other drugs in the same class.
Knowledge about the prototype drug can help the nurse predict important information such as actions, side effects, mechanism of action, and contraindications for other drugs in the same class.
The prototype drug is chosen to be the representative medication in a particular classification. Just knowing a drug's therapeutic or pharmacologic classification can reveal important information about the drug.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Teaching and Learning
Learning Outcome: 1-5 Identify the advantages of using prototype drugs to study pharmacology.

26) The client is receiving a new and expensive medication. The client asks the nurse why the medication is so expensive compared with other medications. What is the nurse's best response?
1. "The drug companies spend too much money on marketing, and the cost gets passed on to you."
2. "It is expensive, but your insurance company will probably pay for it."
3. "These drugs are very expensive to develop and bring to market."
4. "I agree with you. You would think they could lower the cost of the drug."
Answer: 3
Explanation: The cost for researching and developing new drugs is tremendous. The Food and Drug Administration provides a time of exclusivity in which the drug company can try to recoup these costs.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-7 Discuss the rationale for a pharmaceutical company receiving exclusivity for the marketing of a new drug.

27) Which statement best describes the difference between a biologic drug and a biosimilar drug?
1. Biologic drugs are medications made by living cells.
2. Biosimilar drugs are medications made by cells lysed by other cells.
3. Biologic drugs are not approved by the FDA.
4. Biosimilar drugs are more expensive than biologics.
Answer: 1
Explanation: Biologic drugs are medicines made by living cells, such as bacteria or yeast.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-9 Explain how a biosimilar drug differs from its reference product.

28) Which statements are characteristics of biosimilar drugs?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Select all that apply.
1. They are FDA approved.
2. They are less expensive.
3. They are made of living cells.
4. They are a duplicate copy of the reference product.
5. They are considered a generic medication.
Answer: 1, 2
Explanation: Biosimilar drugs have comparable effectiveness and safety to FDA-approved biologic products.
Biosimilar drugs are not required to undergo the same rigorous preclinical and clinical testing as their reference products and are less expensive.
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: Relationships between knowledge/science and quality and safe patient care | Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 1-9 Explain how a biosimilar drug differs from its reference product.