

## **Chapter 1:Introduction to Drugs**

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and

Parenteral Therapies

Cognitive Level: Analyze

Difficulty: Moderate

Integrated Process: Nursing Process

Objective: 1

Page and Header: 3, Introduction

1. A nurse working in radiology administers iodine to a client who is having a computed tomography (CT) scan. The nurse working on the oncology unit administers chemotherapy to clients who have cancer. At the Public Health Department, a nurse administers a measles–mumps–rubella (MMR) vaccine to a 14-month-old child as a routine immunization. Which branch of pharmacology **best** describes the actions of all three nurses?

- A) pharmacoeconomics
- B) pharmacotherapeutics
- C) pharmacodynamics
- D) pharmacokinetics

Ans: B

**Feedback:** Pharmacology is the study of the biologic effects of chemicals. Nurses are involved with clinical pharmacology or pharmacotherapeutics, which is a branch of pharmacology that deals with the uses of drugs to treat, prevent, and diagnose disease. The radiology nurse is administering a drug to help diagnose a disease. The oncology nurse is administering a drug to help treat a disease. Pharmacoeconomics includes any costs involved in drug therapy. Pharmacodynamics involves how a drug affects the body, and pharmacokinetics is how the body acts on the body.

Format: Multiple

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Understand

Difficulty: Easy

Integrated Process: Nursing Process

Objective: 3

Page and Header: Legal Regulation of Drugs, 19, Box 1.2

2. The care provider has prescribed intravenous hydromorphone, an opioid, for a client using a client-controlled analgesia (PCA) pump. The nurse is aware that this drug has a high abuse potential. Under what category would hydromorphone be classified?

A) schedule I

B) schedule II

C) schedule III

D) shedule IV

Ans: B

**Feedback:** Opioids with a high abuse potential are classified as schedule II drugs because of severe dependence liability. Schedule I drugs have high abuse potential and no accepted medical use. Schedule III drugs have a lesser abuse potential than schedule II drugs and an accepted medical use. Schedule IV drugs have low abuse potential and limited dependence liability.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Moderate

Integrated Process: Nursing Process

Objective: 2

Page and Header: 14, Drug Evaluation

3. When involved in phase III drug evaluation studies, what action should the nurse perform?

- A) Work with animals which are given experimental drugs.
- B) Select appropriate clients to be involved in the drug study.
- C) Monitor and observe clients closely for adverse effects.
- D) Make decisions that will determine effectiveness of the drug.

Ans: C

**Feedback:** Phase III studies involve use of a drug in a larger sample of the population. The purpose is to determine the treatment benefit and to monitor side effects that may not have been apparent in the earlier studies. Phase I studies involve healthy human volunteers who are usually paid for their participation. Nurses may observe for adverse effects and toxicity. Nurses may be responsible for helping collect and analyze the information to be shared with the Food and Drug Administration (FDA) but would not conduct research independently because nurses do not prescribe medications. Use of animals in drug testing is done in the preclinical trials. Select clients who are involved in phase II studies have the disease the drug is intended to treat. These clients are monitored closely for drug action and adverse effects.

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Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Analyze

Difficulty: Moderate

Integrated Process: Nursing Process

Objective: 4

Page and Header: 22, Legal Regulation of Drugs

4. What concept is **prioritized** when a provider is considering the substitution of brand name drug with a generic drug?

- A) bioequivalency
- B) critical concentration

- C) distribution
- D) half-life

Ans: A

**Feedback:** The goal is that the generic medication is bioequivalent (has the same effect on the body) to the brand name medication. Binders used in a generic drug may not be the same as those used in the brand name drug. Therefore, the way the body breaks down and uses the drug may differ, which may eliminate a generic drug substitution. Critical concentration is the amount of a drug that is needed to cause a therapeutic effect and should not differ between generic and brand name medications. Distribution is the phase of pharmacokinetics, which involves the movement of a drug to the body's tissues and is the same in generic and brand name drugs. A drug's half-life is the time it takes for the amount of drug to decrease to half the peak level, which should not change when substituting a generic medication.

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Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Moderate

Integrated Process: Nursing Process

Objective: 5

Page and Header: 23, Legal Regulation of Drugs

5. A nurse is assessing the client's home medication use. After listening to the client list current medications, the nurse asks what **priority** question?

- A) "Do you take any generic medications?"
- B) "Are any of these medications orphan drugs?"
- C) "Are these medications safe to take during pregnancy?"
- D) "Do you take any over-the-counter medications?"

Ans: D

**Feedback:** It is important for the nurse to specifically question use of over-the-counter medications because clients may not consider them important. The client is unlikely to know the meaning of "orphan drugs" unless they are a healthcare provider. Safety during pregnancy, use of a generic medication, or classification of orphan drugs are things the client would be unable to answer but could be found in reference books if the nurse wishes to research them.

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Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Easy

Integrated Process: Teaching/Learning

Objective: 2

Page and Header: 5, Introduction

6. What goal should a nurse set when beginning a course on pharmacology for nurses?

- A) At the completion of the course, the nurse will know everything necessary for safe and effective medication administration.
- B) At the completion of the course, the nurse will know current pharmacologic therapy and will not require ongoing education for 5 years.
- C) At the completion of the course, the nurse will know general drug information because the nurse can consult a drug guide for specific drug information.
- D) At the completion of the course, the nurse will understand each drug action that is associated with each classification of medication.

Ans: C

**Feedback:** After completing a pharmacology course, nurses will have general drug information needed for safe and effective medication administration but will need to consult a drug guide for specific drug information before administering any medication. Pharmacology is constantly changing, with new drugs entering the market and new uses

for existing drugs identified. Continuing education in pharmacology is essential to safe practice. Nurses tend to become familiar with the medications they administer most often, but there will always be a need to research new drugs and also those the nurse is not familiar with because no nurse knows all medications.

Format: Multiple Choice

Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Moderate

Integrated Process: Teaching/Learning

Objective: 2

Page and Header: 19, Safety During Pregnancy, Box 1.1

7. A nurse is instructing a pregnant client concerning the potential risk to their fetus from a pregnancy category D drug. What should the nurse inform the client?

- A) "Adequate studies in pregnant clients have demonstrated there is no risk to the fetus."
- B) "Animal studies have not demonstrated a risk to the fetus, but there have been no adequate studies in pregnant clients."
- C) "Animal studies have shown an adverse effect on the fetus, but there are no adequate studies in pregnant clients."
- D) "There is evidence of human fetal risk, but the potential benefits from use of the drug may be acceptable despite potential risks."

Ans: D

**Feedback:** Category A indicates that adequate studies in pregnant clients have not demonstrated a risk to the fetus in the first trimester or in later trimesters. Category B indicates that animal studies have not demonstrated a risk to the fetus. However, there have not been adequate studies in pregnant clients to demonstrate risk to a fetus during the first trimester of pregnancy and no evidence of risk in later trimesters. Category C indicates that animal studies have shown an adverse effect on the fetus, but no

adequate studies in humans. Category D reveals evidence of human fetal risk, but the potential benefits from the use of the drugs in pregnant clients may outweigh potential risks.

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Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Analyze

Difficulty: Difficult

Integrated Process: Teaching/Learning

Objective: 4

Page and Header: 23, Legal Regulation of Drugs

8. Discharge planning for clients leaving the hospital should include instructions on the use of over-the-counter (OTC) drugs. Which comments by the client should prompt the nurse to provide additional health education? Select all that apply.

- A) "OTC drugs are safe and do not cause adverse effects if taken properly."
- B) "OTC drugs have been around for years and have not been tested by the Food and Drug Administration (FDA)."
- C) "OTC drugs are different from any drugs available by prescription and cost less."
- D) "OTC drugs could cause serious harm if not taken according to directions."
- E) "OTC drugs can often be used as a cost-effective substitute for prescribed drugs."

Ans: A, B, C, E

**Feedback:** It is important to follow package directions because OTCs are medications that can cause serious harm if not taken properly. OTCs are drugs that have been determined to be safe when taken as directed; however, all drugs can produce adverse effects even when taken properly. They may have originally been prescription drugs that were tested by the FDA or they may have been grandfathered in when the FDA laws changed. OTC education should always be included as a part of the hospital discharge instructions. Client should not view OTC drugs as being substitutes for prescribed drugs.

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Chapter: 1

Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Easy

Integrated Process: Teaching/Learning

Objective: 4

Page and Header: 6, Introduction

9. A nurse is unfamiliar with a drug that a client in the community has recently been prescribed. What information source should the nurse consult?

- A) *Drug Facts and Comparisons*
- B) a nurse's drug guide
- C) the website [www.drugs.com](http://www.drugs.com)
- D) the *Physicians' Drug Reference* (PDR)

Ans: B

**Feedback:** A nurse's drug guide provides nursing implications and client teaching points that are most useful to nurses in addition to need-to-know drug information in a very user-friendly organizational style. *Lippincott's Pocket Drug Guide* for Nurses has drug monographs organized alphabetically and includes nursing implications and client teaching points. Numerous other drug handbooks are also on the market and readily available for nurses to use. Although other drug reference books such as *Drug Facts and Comparisons* and PDR can all provide essential drug information, they will not contain nursing implications and teaching points and can be more difficult to use than nurse's drug guides. A reputable drug guide is a better source than a consumer website.

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Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Understand



Difficulty: Easy

Integrated Process: Teaching/Learning

Objective: 1

Page and Header: 5, Introduction

10. A nursing student is preparing to begin a pharmacology course. The student should anticipate what areas of study? Select all that apply.

- A) chemical pharmacology
- B) molecular pharmacology
- C) impact of drugs on the body
- D) the body's response to a drug
- E) unexpected drug effects

Ans: C, D, E

**Feedback:** Nurses study pharmacology from a pharmacotherapeutic level, which includes the effect of drugs on the body, the body's response to drugs, and both expected and unexpected drug effects. Chemical and molecular pharmacology are not included in nursing pharmacology courses.

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Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Easy

Integrated Process: Teaching/Learning

Objective: 1

Page and Header: 5, Introduction

11. The nurse is caring for an older adult who needs to know that drugs, even when taken correctly, can produce negative or unexpected effects. The nurse should address what topic during health education?

- A) teratogenic effects
- B) toxic effects
- C) adverse effects

D) paradoxical effects

Ans: C

**Feedback:** Negative or unexpected effects are known as adverse or side effects. Teratogenic effects are adverse effects on the fetus and not a likely concern for an older adult. Toxic effects occur when medication is taken in larger than recommended dosages caused by an increase in serum drug levels. Paradoxical effects are drug effects that are the opposite of what is intended.

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Client Needs: Physiological Integrity: Pharmacological and Parenteral Therapies

Cognitive Level: Apply

Difficulty: Moderate

Integrated Process: Nursing Process

Objective: 1

Page and Header: 5, Introduction

12. The nurse has just administered a client's medication. What action should the nurse perform next?

- A) Assess for drug effects.
- B) Perform a comprehensive health assessment.
- C) Educate the client about the purpose of the drug.
- D) Assess for preexisting conditions.

Ans: A

**Feedback:** After the medication is administered, the nurse assesses the client for drug effects, both therapeutic and adverse. The nurse would assess the client for allergies and preexisting conditions before administering a medication. Assessing for drug effects does not normally necessitate a comprehensive health assessment.