CHAPTER 1: DRUGS/AGENTS AND FACTORS AFFECTING THEIR ACTION

TRUE/FALSE

1. Solutions must be kept in tightly capped containers to prevent solvent evaporation.

   ANS: T PTS: 1 REF: p. 7 OBJ: Cognitive Level: Knowledge

2. The nurse must use caution to prevent self-medication when applying transdermal patches to clients.

   ANS: T PTS: 1 REF: p. 9, Safe Nursing Practice 1-1
   OBJ: Cognitive Level: Application

3. During a clinical trial, a client may be given an investigational drug without informed consent.

   ANS: F

	Feedback
Correct	Informed consent must be obtained for each client participating in clinical trials for investigational drugs.
Incorrect	

   PTS: 1 REF: p. 14 OBJ: Cognitive Level: Comprehension

4. Health care providers should not report "adverse events" with medications, because it will increase liability.

   ANS: F

	Feedback
Correct	Health care professionals should voluntarily report adverse events with medication.
Incorrect	

   PTS: 1 REF: p. 14 OBJ: Cognitive Level: Application

5. Allergic reactions do not occur unless the client has been previously exposed to the agent or a chemically related compound.

   ANS: T PTS: 1 REF: p. 20 OBJ: Cognitive Level: Knowledge

MULTIPLE CHOICE

The client with an elevated temperature, fatigue, and a productive cough visits the physician. The physician examines the client and determines that he has pneumonia. An antibiotic is prescribed, and the client is advised to take aspirin every four hours to reduce the fever and to drink plenty of fluids. The following questions relate to this client and to the background information about drugs the nurse needs to know to provide care to clients like this one.

1. A drug information source that would be most appropriate to use to identify an unknown drug product by its appearance is
   a. *Physician's Desk Reference.* c. *AHFS Drug Information.*
   b. *Facts and Comparisons.* d. *American Drug Index.*

   ANS: A

	Feedback
A	**Correct:** The PDR provides color pictures of many drugs to facilitate the identification of unknown drug products.
B	Incorrect: This does not provide color pictures of drugs.
C	Incorrect: This does not provide color pictures of drugs.
D	Incorrect: This does not provide color pictures of drugs.

   PTS: 1 REF: p. 16 OBJ: Cognitive Level: Comprehension

2. A device used to estimate body surface area based on a client's height and weight is a:
   a. plasma concentration versus time plot. c. dosimeter.
   b. histograph. d. nomogram.

   ANS: D

	Feedback
A	Incorrect: This does not provide estimated body surface.
B	Incorrect: A histograph is a graph showing frequency distribution.
C	Incorrect: A dosimeter is a device for measuring X-ray output.
D	**Correct:** A nomogram is a chart that permits estimation of BSA from height and weight data.

   PTS: 1 REF: p. 26 OBJ: Cognitive Level: Comprehension

3. If the half-life of an antibiotic is 6 hours, the percentage of the original dose that will remain in a client's body 24 hours after a single dose has been administered is:
   a. 4%.
   b. 25%.
   c. 2.5%.
   d. 6.25%.

   ANS: D

	Feedback
A	Incorrect: In 24 hours, the client will have more than 4% remaining.
B	Incorrect: The client will have 25% remaining after 12 hours.
C	Incorrect: The client will have more than 2.5% remaining.
D	**Correct:** As each 6-hour interval (one half-life) elapses, the drug concentration in the body is further reduced by 50% of what it was at the beginning of the interval.

   PTS: 1 REF: p. 24 OBJ: Cognitive Level: Application

4. When a drug, such as an antibiotic, is classified as a "legend drug," this means that:
   a. the drug may be sold directly to the consumer without a prescription
   b. it is a controlled substance, regulated by law.
   c. it is labeled with the caution: "Federal law prohibits dispensing without prescription."
   d. it contains extensive information in the package.

   ANS: C

	Feedback
A	Incorrect: This is a nonprescription agent.
B	Incorrect: Controlled substances are legend drugs, but so are all prescription drugs.
C	**Correct:** All prescription drugs are legend drugs.
D	Incorrect: This is not the definition of a legend drug, nor does this statement define what is meant by "extensive."

   PTS: 1 REF: p. 10 OBJ: Cognitive Level: Knowledge

5. Abnormal reactivity that is based on genetic factors, and may occur with the first exposure to a drug, is known as a(n):
   a. idiosyncratic effect.
   b. side effect.
   c. hypersensitivity reaction.
   d. allergic reaction.

   ANS: A

	Feedback
A	**Correct:** An idiosyncratic drug reaction is an adverse reaction that can occur with the first exposure to the drug.
B	Incorrect: This is an additional effect other than the intended effects of the drug.
C	Incorrect: Hypersensitivity reaction occurs in the client who has previously been exposed to the drug.
D	Incorrect: The allergic reaction is the same as a hypersensitivity reaction.

   PTS: 1 REF: p. 20 OBJ: Cognitive Level: Comprehension

6. The study of the biochemical and physiological effects of drugs as well as their mechanism(s) of action is called:
   a. pharmacodynamics.
   b. pharmacognosy.
   c. pharmacokinetics.
   d. pharmacotherapeutics.

   ANS: A

	Feedback
A	**Correct:** The question defines pharmacodynamics.
B	Incorrect: This is the study derived from herbal and other natural sources.
C	Incorrect: This is the study of the absorption, distribution, biotransformation, and excretion of drugs.
D	Incorrect: This is the study of how drugs may best be used in the treatment of illness.

   PTS: 1 REF: p. 3 OBJ: Cognitive Level: Knowledge

7. Soft gelatin capsules are most commonly employed in encapsulating:
   a. sustained-release dosage forms.
   b. drugs that do not easily dissolve in stomach fluids.
   c. large drug doses.
   d. liquid drugs.

   ANS: D

	Feedback
A	Incorrect: These are forms of hard-shelled capsules.
B	Incorrect: Soft gelatin capsules usually are designed to encapsulate liquid medications.
C	Incorrect: This is not a use for gelatin capsules.
D	**Correct:** Soft gelatin capsules usually are designed to encapsulate liquid medications.

   PTS: 1 REF: p. 7 OBJ: Cognitive Level: Knowledge

8. A liquid medicinal product that contains both oil and water is known as a(n):
   a. emulsion.
   b. elixir.
   c. suspension.
   d. tincture.

   ANS: A
   a. b. c. d.

	Feedback
A	**Correct:** An emulsion is a dispersion of fine droplets of an oil in water or water in oil.
B	Incorrect: An elixir is a liquid that contains a solvent mixture of alcohol and water.
C	Incorrect: A suspension is a liquid dosage form that contains solid drug particles suspended in a suitable liquid.
D	Incorrect: A tincture is a solution that contains alcohol as a primary solvent; although water may be used and is used for both external and internal use.

   PTS: 1 REF: p. 7 OBJ: Cognitive Level: Knowledge

9. The Controlled Substance Act classifies drugs according to their potential for abuse and it also:
   a. regulates drugs used for clinical research
   b. regulates the manufacture and distribution of drugs that may cause dependence.
   c. permits the sale of a drug without a prescription in some states.
   d. designates that certain drugs be handled as legend drugs.

   ANS: B

	Feedback
A	Incorrect: The FDA develops the requirements for investigational drugs.
B	**Correct:** The Controlled Substance Act of 1970 identified agents with the potential for abuse or physical or emotional dependence and placed them in categories called schedules. There are five numbered schedules that decrease in abuse and dependency potential as the number increases.
C	Incorrect: This is part of the Food, Drug, and Cosmetic Act of 1938.
D	Incorrect: This is part of the Food, Drug, and Cosmetic Act of 1938 as an amendment in 1952.

   PTS: 1 REF: p. 11 OBJ: Cognitive Level: Comprehension

10. Secretion of a drug into the renal tubule generally occurs at the:
    a. loop of Henle.
    b. proximal tubule.
    c. distal tubule.
    d. collecting duct.

    ANS: B

	Feedback
A	Incorrect: Secretion of the drug into the renal tubule does not occur at the loop of Henle.
B	**Correct:** As shown in Figure 1-10 on page 23, the secretion of the drug into the renal tubule occurs at the proximal tubule.
C	Incorrect: Secretion of the drug into the renal tubule does not occur at the distal tubule.
D	Incorrect: Secretion of the drug into the renal tubule does not occur at the collecting duct.

    PTS: 1 REF: p. 23, Figure 1-10
    OBJ: Cognitive Level: Comprehension

11. A dosage form that is to be inserted into one of the external orifices of the body, for example, the rectum, is called a
    a. troche.
    b. lozenge.
    c. suppository.
    d. suspension.

    ANS: C

	Feedback
A	Incorrect: This is a lozenge.
B	Incorrect: This is a troche.
C	**Correct:** A suppository is a dosage form that is to be inserted into the vagina, rectum, urethra, etc, that dissolves or melts at body temperature and absorbs through mucous membranes.
D	Incorrect: This is a solution most commonly administered orally.

    PTS: 1 REF: p. 7 OBJ: Cognitive Level: Comprehension

12. Because aspirin can be purchased without a prescription order form, it is called a(n):
    a. prescription drug.
    b. over-the-counter drug.
    c. legend drug.
    d. illicit drug.

ANS: B

	Feedback
A	Incorrect: Aspirin is a nonprescription agent.
B	**Correct:** Aspirin can be purchased without a prescription and also termed an over-the-counter (OTC) agent.
C	Incorrect: Aspirin is not a legend drug.
D	Incorrect: Aspirin is FDA approved.

PTS: 1 REF: p. 12 OBJ: Cognitive Level: Comprehension

13. The process by which a drug passes into the fluids of the body is called:
    a. absorption.
    b. distribution.
    c. biotransformation.
    d. elimination.

ANS: A

	Feedback
A	**Correct:** Absorption is the process by which a drug passes from the site of administration into the body fluids that will carry it to its site(s) of action.
B	Incorrect: Distribution is the process by which a drug is carried from its site of absorption to its site of action.
C	Incorrect: Biotransformation is drug metabolism to a water-soluble form.
D	Incorrect: Elimination is the excretion of the drug from the body.

PTS: 1 REF: p. 21 OBJ: Cognitive Level: Knowledge

14. Drug molecules that are bound to plasma proteins are:
    a. ready for elimination
    b. pharmacologically inactive.
    c. pharmacologically active
    d. biotransformed.

ANS: B

	Feedback
A	Incorrect: They have not been distributed to their site of action.
B	**Correct:** Protein-bound drugs are unable to elicit a pharmacological effect until the active drug level falls.
C	Incorrect: Once the drug is released from the plasma protein, it is pharmacologically active.
D	Incorrect: Protein-binding occurs during distribution.

PTS: 1 REF: p. 22 OBJ: Cognitive Level: Comprehension

15. The minimal level of a drug required to elicit a pharmacological response is called the:
    a. therapeutic window
    b. peak plasma level.
    c. minimum toxic concentration
    d. minimum effective concentration.

ANS: D

	Feedback
A	Incorrect: This describes the time frame for a drug to elicit a therapeutic response.
B	Incorrect: This is when the elimination rate of the drug is equivalent to its rate of absorption.
C	Incorrect: This describes the minimum amount of the drug it takes to elicit toxic response.
D	**Correct:** The question describes the least amount of the drug needed to elicit the expected pharmacological response.

PTS: 1 REF: p. 24 OBJ: Cognitive Level: Comprehension

16. Which of the following factor(s) is/are known to affect an individual's response to a drug?
    a. age.
    b. sex.
    c. genetic factors.
    d. all of the above.

ANS: D

	Feedback
A	Incorrect: Age is among the factors.
B	Incorrect: Gender is among the factors.
C	Incorrect: Genetic factors affect the individual's response to a drug.
D	**Correct:** All of these factors affect the individual's response to a drug.

PTS: 1 REF: p. 26 OBJ: Cognitive Level: Comprehension

17. When the pharmacological effects of one drug are potentiated or diminished by another drug, it is called a:
    a. drug interaction.
    b. chemical incompatibility.
    c. physical incompatibility
    d. biotransformation.

    ANS: A

	Feedback
A	**Correct:** This is the definition of drug interaction, which can be synergistic (potentiate the effects) or antagonistic (diminish the effects).
B	Incorrect: Chemical incompatibility involves conflicting drug actions that usually change the appearance of the mixture.
C	Incorrect: Physical incompatibility means the physical properties result in conflicting drug actions.
D	Incorrect: This refers to the metabolism of the drug.

    PTS: 1 REF: p. 27 OBJ: Cognitive Level: Knowledge

18. The "clinical pharmacology" section of a drug product insert describes:
    a. possible ways to treat toxic effects caused by the drug
    b. physical and chemical properties of the active drug in the product.
    c. situations when the drug product should not be used.
    d. the mechanism of action of the active drug in the human body.

    ANS: D

	Feedback
A	Incorrect: This is in the "overdose" section.
B	Incorrect: This is in the "description" section.
C	Incorrect: This is in the "contraindication" section.
D	**Correct:** The clinical pharmacology section of the drug insert describes the mechanism of action of the active drug in the human body.

    PTS: 1 REF: p. 18 OBJ: Cognitive Level: Knowledge

19. A physician has prescribed enteric-coated tablets for the client. The nurse knows that which of the following is true about enteric-coated tablets?
    a. The tablets should be administered with antacids.
    b. The tablets are designed to carry drugs that can irritate the stomach.
    c. The tablets are designed to dissolve in the stomach.
    d. The tablets should be crushed.

    ANS: B

	Feedback
A	Incorrect: Most enteric-coated agents should not be taken with antacids.
B	**Correct:** Enteric-coated tablets are designed to carry drugs that can irritate the stomach.
C	Incorrect: Enteric-coated tablets are designed to dissolve in the duodenum.
D	Incorrect: Enteric-coated tablets should never be crushed.

    PTS: 1 REF: p. 6 OBJ: Cognitive Level: Comprehension

20. The client was switched from a brand name drug to a generic version of the same drug. The nurse knows to assess the client's response because:
    a. it is possible for the client to respond in a different manner to the generic version.
    b. the generic version of the same drug will be a different dose.
    c. the drugs are made by different manufacturers.
    d. manufacturers of generic drugs do not have to comply with FDA rules.

    ANS: A

	Feedback
A	**Correct:** Because the generic drug may not be bioequivalent to the brand name because of differences in formulation, clients can react differently to the generic form.
B	Incorrect: The drug and dosage would be the same.
C	Incorrect: The fact that the drugs are made by different manufacturers doesn't necessarily mean they will not be bioequivalent.
D	Incorrect: This is a false statement.

    PTS: 1 REF: p. 10 OBJ: Cognitive Level: Application

21. Drug-induced teratogenesis is most likely to occur:
    a. during the first trimester of pregnancy
    b. during the second trimester of pregnancy.
    c. during the third trimester of pregnancy.
    d. during labor and delivery.

    ANS: A

	Feedback
A	**Correct:** This is true, because this is the time of active and rapid development of new fetal organs.
B	Incorrect: Although these effects can occur then, this is a period of less formation and more maturation.
C	Incorrect: Although these effects can occur then, this is a period of less formation and more maturation.
D	Incorrect: There is the time teratogens are least likely to affect the fetus, although they certainly can affect the fetus at this time.

    PTS: 1 REF: p. 21 OBJ: Cognitive Level: Comprehension

22. The client is an elderly woman with mild liver damage due to hepatitis. The nurse is aware that the client may need reduced dosages of medications because:
    a. her kidneys cannot eliminate medications at the usual rate.
    b. the drugs may accumulate in the client's body and produce toxicity.
    c. the rate of absorption will increase, allowing more drug to enter the bloodstream.
    d. liver damage will cause drugs to bind to plasma proteins.

    ANS: B

	Feedback
A	Incorrect: Liver damage does not affect the kidneys's ability to excrete the drug.
B	**Correct:** This is a cumulative effect of both the drug and active metabolites.
C	Incorrect: Hepatic insufficiency will not increase drug absorption.
D	Incorrect: Drugs binding to plasma proteins is a part of drug distribution not biotransformation.

    PTS: 1 REF: p. 23 OBJ: Cognitive Level: Comprehension

23. The client asks the nurse if she should take the herb ginkgo to help with her forgetfulness. The nurse's best response is:
    a. "Studies have shown ginkgo prevents dementia."
    b. "Herbal medicine can't hurt you and it might help."
    c. "Herbal medicine is used in all cultures with much success."
    d. "Herbal medicines are not regulated by the FDA; therefore, their safety and effectiveness cannot be established."

    ANS: D

	Feedback
A	Incorrect: This is not an appropriate professional nursing response.
B	Incorrect: Because herbal medicines are not regulated, we don't know whether they can hurt a client.
C	Incorrect: This is not a responsible nursing reply.
D	**Correct:** This response answers the client's question factually and professionally.

    PTS: 1 REF: p. 29 OBJ: Cognitive Level: Application

24. The study of how drugs are best used to treat illness is called:
    a. pharmacodynamics.
    b. pharmacognosy.
    c. pharmacokinetics.
    d. pharmacotherapeutics.

    ANS: D

	Feedback
A	Incorrect: Pharmacodynamics is the study of the biochemical and physiological effects and mechanisms of action of drugs.
B	Incorrect: Pharmacognosy is the study of drugs developed from herbal or other natural sources.
C	Incorrect: Pharmacokinetics is the study of the absorption, distribution, biotransformation, and excretion of drugs.
D	**Correct:** Pharmacotherapeutics also studies which drug would be most or least appropriate to use for a specific disease.

    PTS: 1 REF: p. 3 OBJ: Cognitive Level: Knowledge

25. Sterile sealed glass containers that hold a single liquid dose are called:
a. syringes.
b. ampules.
c. tubes.
d. vials.

ANS: B

	Feedback
A	Incorrect: Usually these are plastic for the administration of medications.
B	**Correct:** This is the definition of ampules.
C	Incorrect: Tubes may or may not be sterile and/or sealed.
D	Incorrect: These are small sterile glass medication containers that hold either single or multiple doses accessed through a rubber diaphragm.

PTS: 1 REF: p. 9 OBJ: Cognitive Level: Knowledge

26. During the earliest stages of development, the first name applied to a new drug is its:
a. chemical name.
b. generic name.
c. brand name.
d. nonproprietary name.

ANS: A

	Feedback
A	**Correct:** The chemical name is derived from the chemical structure of the drug.
B	Incorrect: The generic name is adopted once the drug is ready to be marketed.
C	Incorrect: The brand, or trade, name is assigned when the drug appears to be ready for commercial distribution.
D	Incorrect: This is the same as the generic name.

PTS: 1 REF: p. 9 OBJ: Cognitive Level: Knowledge

27. Under the Controlled Substances Act of 1970, Schedule 1 drugs are those that:
a. have the lowest potential for abuse.
b. have low potential for abuse, but may lead to psychological dependence.
c. have high potential for abuse, but do have currently accepted medical uses.
d. have high potential for abuse and no accepted medical use in the United States.

ANS: D

	Feedback
A	Incorrect: These drugs are in Schedule V.
B	Incorrect: This does not describe any schedule.
C	Incorrect: These drugs are in Schedule II.
D	**Correct:** These are drugs like heroin, LSD, etc.

PTS: 1 REF: p. 13 OBJ: Cognitive Level: Comprehension

28. Drugs that are administered via the sublingual route:
a. have a longer lasting effect than those administered by mouth.
b. are absorbed directly into the bloodstream.
c. are absorbed and transported directly to the liver.
d. are prone to rapid chemical decomposition because of absorption in the mouth.

ANS: B

	Feedback
A	Incorrect: Sublingual medications have a more rapid onset of action, but do not have as long a duration as most oral medications.
B	**Correct:** They have a more rapid onset of action, because they are directly absorbed into the bloodstream.
C	Incorrect: They are absorbed into the bloodstream to their site of action before any biotransformation by the liver.
D	Incorrect: The liver is the primary site of biotransformation.

PTS: 1 REF: p. 2 OBJ: Cognitive Level: Comprehension

29. Some clinical trials have indicated that garlic may have which of the following beneficial effects?
a. It helps to improve stamina, concentration, and energy.
b. It reduces the risk of heart attack and stroke.
c. It helps to prevent depression.
d. It reduces the risk of ovarian cancer.

ANS: B

	Feedback
A	Incorrect: Garlic's primary benefits are cardiovascular.
B	**Correct:** Garlic is used for hyperlipidemia and age-related vascular changes, such as those that can occur in the vessels of the brain and coronary arteries of the heart.
C	Incorrect: Garlic has no labeled use in preventing or treating depression.
D	Incorrect: Garlic has no labeled use in preventing or treating ovarian cancer.

PTS: 1 REF: p. 28, Table 1-1 on p. 31
OBJ: Cognitive Level: Comprehension

30. When administering medications the nurse understands that:
    a. Adverse effects do not result from the normal pharmacological effects of the medicatio
    b. Only certain drugs have the ability to produce toxic effects.
    c. Allergic reactions are not the result of the pharmacological effects of the medication.
    d. Toxic effects are not related to the dosage of the medication that is administered.

    ANS: C

	Feedback
A	Incorrect: Adverse effects do result from the normal pharmacological action of the medication.
B	Incorrect: All drugs have the potential to produce toxic effects.
C	**Correct:** Allergic reactions are not the result of the pharmacological effects of the medication.
D	Incorrect: Toxic effects are related to the dosage of the medication administered.

    PTS: 1 REF: p. 20 OBJ: Cognitive Level: Application

31. After receiving numerous doses of a narcotic for pain, the client seems to require the medication more often and states that it doesn't seem to be working now. The nurse understands that this probably represents the client has developed ____ to the medication or dose
    a. tolerance
    b. psychological dependence
    c. cognitive dependence
    d. synergism

    ANS: A

	Feedback
A	**Correct:** Tolerance or resistance to the effects of the drug occurs with certain drugs, including narcotics.
B	Incorrect: This occurs when the drug is the center of the client's thoughts, which is not indicated in this question.
C	Incorrect: This is not a defined response.
D	Incorrect: This is not a type of client reaction to medication.

    PTS: 1 REF: p. 23 OBJ: Cognitive Level: Comprehension

32. The nurse understands that when administering a medication the route of administration primarily affects the drug's:
    a. elimination.
    b. absorption.
    c. distribution.
    d. biotransformation.

    ANS: B

	Feedback
A	Incorrect: The route does not affect the process of elimination.
B	**Correct:** Absorption is the process by which a drug passes from its site of administration into the fluids of the body.
C	Incorrect: The route does not affect the process of distribution.
D	Incorrect: The route does not affect the process of biotransformation.

    PTS: 1 REF: p. 21 OBJ: Cognitive Level: Comprehension

33. A client who is taking black cohosh for PMS is talking to the nurse about considering getting pregnant. What would be the best response for the nurse:
    a. "Black cohosh will help with your migraine headaches while you are pregnant."
    b. "Taking herbals especially black cohosh will decrease your morning sickness."
    c. "Pregnancy will eliminate your PMS but continue to take it anyway."
    d. "Pregnancy is a contraindication for taking black cohosh."

    ANS: D

	Feedback
A	Incorrect: Black cohosh does not treat migraine headaches and is contraindicated during pregnancy, due to increased risk of miscarriage.
B	Incorrect: Black cohosh does not treat nausea and is contraindicated during pregnancy, due to increased risk of miscarriage.
C	Incorrect: Black cohosh is contraindicated during pregnancy, due to increased risk of miscarriage.
D	**Correct:** Black cohosh is contraindicated during pregnancy, due to increased risk of miscarriage.

    PTS: 1 REF: p. 30, Table 1-1 OBJ: Cognitive Level: Application

34. A client taking a medication to increase the time it takes to clot her blood (anticoagulant) has a long history of using herbal agents. Which of the following statements made by the client would indicate the need for further teaching?
    a. "I should not take feverfew because it increases the effects of my medication
    b. "I can take ginger for my motion sickness when I fly."
    c. "I can take black cohosh for my PMS because there is not known interaction with my anticoagulant medication."
    d. "I can continue to use the garlic for a dietary supplement to decrease my cholesterol."

    ANS: D

	Feedback
A	Incorrect: This is a true statement, illustrating client understanding.
B	Incorrect: This is a true statement, illustrating client understanding.
C	Incorrect: This is a true statement, illustrating client understanding.
D	**Correct:** Garlic has been shown to increase the risk of bleeding in clients taking anticoagulant medications.

    PTS: 1 REF: p. 31, Table 1-1 OBJ: Cognitive Level: Evaluation

35. A client has renal insufficiency and is taking multiple medications. The nurse understands that:
    a. This can effect how the medications are distributed in the body.
    b. As long as the client's liver function is normal, no adjustment in dosage is required.
    c. The client should stop all medications until renal function improves.
    d. The client may need to have lower dosages, because of the risk of accumulation of the medications.

    ANS: D

	Feedback
A	Incorrect: Renal insufficiency affects elimination, not distribution of medications.
B	Incorrect: Even with unimpaired liver function, the dosages may need to be decreased to prevent cumulative effects of medications secondary to lack of normal renal elimination function.
C	Incorrect: This action will put the client at risk, which could be life-threatening.
D	**Correct:** The kidneys are the primary route of drug elimination, so for this client, decreased dosages may be required to prevent cumulative effects of medications.

    PTS: 1 REF: p. 23 OBJ: Cognitive Level: Comprehension

36. The nurse understands that microsomal enzymes are important in which pharmacokinetic factor in drug therapy?
    a. absorption
    b. distribution
    c. biotransformation
    d. liberation

    ANS: C

	Feedback
A	Incorrect: Absorption does not involve microsomal enzymes.
B	Incorrect: Distribution does not involve microsomal enzymes.
C	**Correct:** Microsomal enzymes originate in the smooth endoplasmic reticulum of the liver and are necessary for metabolism/biotransformation of drugs.
D	Incorrect: Liberation does not involve microsomal enzymes.

    PTS: 1 REF: p. 23 OBJ: Cognitive Level: Comprehension

37. What action should the nurse take before administering a drug in suspension form?
    a. Administer the drug in its separated form.
    b. Prepare the intravenous line for administration of the drug.
    c. Document the administration time.
    d. Shake the suspension thoroughly.

    ANS: D

	Feedback
A	Incorrect: The dosage will be altered, if the suspension is administered in its separated form.
B	Incorrect: Most suspensions are administered orally.
C	Incorrect: The administration of a drug should never be documented until after the administration.
D	**Correct:** Suspension must be shaken thoroughly immediately before administration.

    PTS: 1 REF: p. 9, Safe Nursing Practice 1-1 OBJ: Cognitive Level: Application

38. The nurse is preparing to administer an antibiotic to a client. The nurse understands that the use of the antibiotic is:
    a. diagnostic.
    b. preventative.
    c. health maintenance
    d. curative.

    ANS: D

	Feedback
A	Incorrect: Drug usage for diagnostic purposes include TB skin test, radiopaque dye, etc.
B	Incorrect: Immunizations are examples of preventative drug use.
C	Incorrect: Insulin is an example of a health maintenance agent.
D	**Correct:** Antibiotics are given to cure an infection.

PTS: 1 REF: p. 4-5 OBJ: Cognitive Level: Comprehension

MULTIPLE RESPONSE

1. The nurse understands that which of the following are necessary pieces of information needed when measuring the plasma concentration of a drug? Choose all that apply.
    a. Client's age and weight.
    b. Client's renal, hepatic, and cardiovascular functioning status.
    c. Client's family history of using this drug
    d. Client's use of other medications.

    ANS: A, B, D

	Feedback
Correct	Answers a, b, and d are necessary information when measuring the plasma concentration of a drug.
Incorrect	Answer c is wrong, because the client's history of the drug's use is necessary, but not the client's family history of using the drug.

PTS: 1 REF: p. 26 OBJ: Cognitive Level: Comprehension

2. The nurse is preparing to administer acetaminophen with codeine to a postoperative client understanding that this agent is a:
    a. Schedule II agent.
    b. Schedule III agent.
    c. Controlled substance.
    d. Nonprescription drug.

    ANS: B, C

	Feedback
Correct	Answers b and c are correct, as acetaminophen with codeine is a Schedule III controlled substance.
Incorrect	Answers a and d are incorrect, as acetaminophen with codeine is not a Schedule II controlled substance and requires a prescription.

PTS: 1 REF: p. 13, Box 1-1
OBJ: Cognitive Level: Comprehension