Chapter 01: Nursing Practice in Canada and Drug Therapy Sealock: Lilley's Pharmacology for Canadian Health Care Practice, 4th Edition

MULTIPLE CHOICE

1. Which is a judgement about a particular patient's potential need or problem?
   a. A goal
   b. An assessment
   c. Subjective data
   d. A nursing diagnosis

   ANS: D
   Nursing diagnosis is the phase of the nursing process during which a clinical judgement is made about how a patient responds to heath conditions and life processes or vulnerability for that response.

   DIF: Cognitive Level: Knowledge

2. The patient is to receive oral furosemide (Lasix) every day; however, because the patient is unable to swallow, he cannot take medication orally, as ordered. The nurse needs to contact the physician. What type of problem is this? a. A "right time" problem
   b. A "right dose" problem
   c. A "right route" problem
   d. A "right medication" problem

   ANS: C
   This is a "right route" problem: the nurse cannot assume the route and must clarify the route with the prescriber. This is not a "right time" problem because the ordered frequency has not changed. This is not a "right dose" problem because the dose is not related to an inability to swallow. This is not a "right medication" problem because the medication ordered will not change, just the route.

   DIF: Cognitive Level: Application

3. The nurse has been monitoring the patient's progress on his new drug regimen since the first dose and has been documenting signs of possible adverse effects. What nursing process phase is the nurse practising?
   a. Planning
   b. Evaluation
   c. Implementation
   d. Nursing diagnosis

   ANS: B
   Monitoring the patient's progress is part of the evaluation phase. Planning, implementation, and nursing diagnosis are not illustrated by this example.

   DIF: Cognitive Level: Application

4. The nurse is caring for a patient who has been newly diagnosed with type 1 diabetes mellitus. Which statement *best* illustrates an outcome criterion for this patient?
   a. The patient will follow instructions.
   b. The patient will not experience complications.
   c. The patient adheres to the new insulin treatment regimen.
   d. The patient demonstrates safe insulin self-administration technique.

   ANS: D
   Having the patient demonstrate safe insulin self-administration technique is a specific and measurable outcome criterion. Following instructions and avoiding complications are not specific criteria. Adherence to the new insulin treatment regimen is not objective and would be difficult to measure.

   DIF: Cognitive Level: Application

5. Which activity *best* reflects the implementation phase of the nursing process for the patient who is newly diagnosed with type 1 diabetes mellitus?
   a. Providing education regarding self-injection technique
   b. Setting goals and outcome criteria with the patient's input
   c. Recording a history of over-the-counter medications used at home
   d. Formulating nursing diagnoses regarding knowledge deficits related to the new treatment regimen

   ANS: A
   Education is an intervention that occurs during the implementation phase. Setting goals and outcome criteria reflects the planning phase. Recording a drug history reflects the assessment phase. Formulating nursing diagnoses regarding a knowledge deficit reflects analysis of data as part of the planning phase.

   DIF: Cognitive Level: Analysis

The nurse is working during a very busy night shift, and the health care provider has just given the nurse a medication order over the telephone, but the nurse does not recall the route. What is the *best* way for the nurse to avoid medication errors? a. Recopy the order neatly on the order sheet, with the most common route indicated
b. Consult with the pharmacist for clarification about the most common route
c. Call the health care provider to clarify the route of administration
d. Withhold the drug until the health care provider visits the patient

ANS: C
If a medication order does not include the route, the nurse must ask the health care provider to clarify it. Never assume the route of administration.

DIF: Cognitive Level: Application | Cognitive Level: Analysis

7. Which constitutes the traditional Five Rights of medication administration?
a. Right drug, right route, right dose, right time, and right patient
b. Right drug, the right effect, the right route, the right time, and the right patient
c. Right patient, right strength, right diagnosis, right drug, and right route
d. Right patient, right diagnosis, right drug, right route, and right time

ANS: A
The traditional Five Rights of medication administration were considered to be Right drug, Right route, Right dose, Right time, and Right patient. Right effect, right strength, and right diagnosis are not part of the traditional Five Rights.

DIF: Cognitive Level: Comprehension

8. What correctly describes the nursing process?
a. Diagnosing, planning, assessing, implementing, and finally evaluating
b. Assessing, then diagnosing, implementing, and ending with evaluating
c. A linear direction that begins with assessing and continues through diagnosing, planning, and finally implementing
d. An ongoing process that begins with assessing and continues with diagnosing, planning, implementing, and evaluating

ANS: D
The nursing process is an ongoing, flexible, adaptable, and adjustable five-step process that begins with assessing and continues through diagnosing, planning, implementing, and finally evaluating, which may then lead back to any of the other phases.

DIF: Cognitive Level: Application

9. When the nurse is considering the timing of a drug dose, which is most important to assess? a. The patient's identification
b. The patient's weight
c. The patient's last meal
d. Any drug or food allergies

ANS: C
The pharmacokinetic and pharmacodynamic properties of the drug need to be assessed with regard to any drug–food interactions or compatibility issues. The patient's identification, weight, and drug or food allergies are not affected by the drug's timing.

DIF: Cognitive Level: Application

10. The nurse is writing nursing diagnoses for a plan of care. Which reflects the correct format for her nursing diagnosis? a. Anxiety
b. Anxiety related to new drug therapy
c. Anxiety related to anxious feelings about drug therapy, as evidenced by statements such as "I'm upset about having to give myself shots"
d. Anxiety related to new drug therapy, as evidenced by statements such as "I'm upset about having to give myself shots"

ANS: D
Formulation of nursing diagnoses is usually a three-step process. The only complete answer is "Anxiety related to new drug therapy, as evidenced by statements such as 'I'm upset about having to give myself shots.'" The answer "Anxiety" is missing the "related to" and "as evidenced by" portions. The answer "Anxiety related to new drug therapy" is missing the "as evidenced by" portion of defining characteristics. The "related to" section in "Anxiety related to anxious feelings about drug therapy, as evidenced by statements such as 'I'm upset about having to give myself shots'" is simply a restatement of the problem "anxiety," not a separate factor related to the response.

DIF: Cognitive Level: Analysis

OTHER

1. Place the phases of the nursing process in the correct order, starting with the first phase. a. Planning
b. Evaluation
c. Assessment
d. Implementation
e. Diagnosing

ANS:
C, E, A, D, B

DIF: Cognitive Level: Analysis

Chapter 02: Pharmacological Principles

MULTIPLE CHOICE

1. A patient is receiving two different drugs, which, at their current dose forms and dosages, are both absorbed into the circulation in identical amounts. Which term best denotes that the drugs have the same absorption rates? a. Equivalent
   b. Synergistic
   c. Compatible
   d. Bioequivalent

   ANS: D
   Two drugs absorbed into the circulation at the same amount (in specific dosage forms) have the same bioavailability; thus, they are bioequivalent. "Equivalent" is incorrect because the term "bioavailability" is used to express the extent of drug absorption. "Synergistic" is incorrect because this term refers to two drugs given together whose resulting effect is greater than the sum of the effects of each drug given alone. "Compatible" is incorrect because this term is a general term used to indicate that two substances do not have a chemical reaction when mixed (or given, in the case of drugs) together.

   DIF: Cognitive Level: Comprehension

2. A patient is receiving medication via intravenous injection. Which information should the nurse provide for patient education?
   a. The medication will cause fewer adverse effects when given intravenously.
   b. The medication will be absorbed slowly into the tissues over time.
   c. The medication's action will begin faster when given intravenously.
   d. Most of the drug is inactivated by the liver before it reaches the target area.

   ANS: C
   Intravenous injections are the fastest route of absorption. The intravenous route does not affect the number of adverse effects, the intravenous route is not a slow route of absorption, and the intravenous route does not cause inactivation of the drug by the liver before it reaches the target area.

   DIF: Cognitive Level: Comprehension

3. Which is *true* regarding parenteral drugs?
   a. They bypass the first-pass effect.
   b. They decrease blood flow to the stomach.
   c. They are altered by the presence of food in the stomach.
   d. They exert their effects while circulating in the bloodstream.

   ANS: A
   Drugs given by the parenteral route bypass the first-pass effect, but they still must be absorbed into cells and tissues before they can exert their effects. Enteral drugs (drugs taken orally), not parenteral drugs, decrease blood flow to the stomach and are altered by the presence of food in the stomach. Parenteral drugs must be absorbed into cells and tissues from the circulation before they can exert their effects; they do not exert their effects while circulating in the bloodstream.

   DIF: Cognitive Level: Analysis

4. A drug's half-life is best defined as
   a. The time it takes for the drug to elicit half its therapeutic response.
   b. The time it takes one-half of the original amount of a drug to reach the target cells.
   c. The time it takes one-half of the original amount of a drug to be removed from the body.
   d. The time it takes one-half of the original amount of a drug to be absorbed into the circulation.

   ANS: C
   A drug's half-life is the time it takes for one-half of the original amount of a drug to be removed from the body. It is a measure of the rate at which drugs are removed from the body. Answers A, B, and D are not correct definitions of a drug's half-life.

   DIF: Cognitive Level: Comprehension

5. The term "duration of action" is best defined as
   a. The time it takes for the drug to elicit a therapeutic response.
   b. The time it takes a drug to reach its maximum therapeutic response.
   c. The length of time it takes to remove a drug from circulation.
   d. The time during which drug concentration is sufficient to elicit a therapeutic response.

   ANS: D
   Duration of action is the time during which drug concentration is sufficient to elicit a therapeutic response. The time it takes for a drug to elicit a therapeutic response is the drug's "onset of action." The time it takes a drug to reach its maximum therapeutic response is a drug's "peak effect." "The length of time it takes to remove a drug from circulation" defines a drug's elimination and does not correctly define a drug's duration of action.

   DIF: Cognitive Level: Comprehension

A drug interacts with enzymes by
a. altering cell membrane permeability.
b. “fooling” a receptor on the cell wall.
c. enhancing the drug’s effectiveness within the cells.
d. “fooling” the enzyme into binding with it instead of its normal target cell.

ANS: D
When drugs interact with enzymes, they inhibit the action of a specific enzyme by “fooling” the enzyme into binding to it instead of to its normal target cell. Thus, the target cells are protected from the action of the enzymes to result in a drug effect. The alteration of cell membrane permeability, the “fooling” of a receptor on the cell wall, and the enhancement of the effectiveness of drugs within cells do not occur with selective enzyme interactions.

DIF: Cognitive Level: Comprehension

7. When administering a new medication to a patient, the nurse reads that it is highly protein bound. Which consequence will result from this protein binding?
a. Renal excretion will take longer.
b. The drug will be metabolized quickly.
c. The duration of action of the medication will be longer.
d. The duration of action of the medication will be shorter.

ANS: C
Drugs that are bound to plasma proteins are characterized by a longer duration of action. Protein binding does not make renal excretion longer and does not increase metabolism of the drug. Protein binding of a drug means that the duration of action is longer, not shorter.

DIF: Cognitive Level: Application

8. When monitoring a patient on an insulin drip to reduce blood glucose levels, the nurse notes that the patient’s glucose level is extremely low, and the patient is lethargic and difficult to awaken. Which adverse drug reaction is the nurse observing? a. An adverse effect
b. An allergic reaction
c. An idiosyncratic reaction
d. A pharmacological reaction

ANS: D
A pharmacological reaction is an extension of the drug’s normal effects in the body. In this case, the insulin lowered the patient’s blood glucose levels too much. An adverse effect is a predictable, well-known adverse drug reaction that results in minor or no changes in patient management. An allergic reaction (also known as a *hypersensitivity reaction*) involves the patient’s immune system. An idiosyncratic reaction is unexpected and is defined as a genetically determined abnormal response to normal dosages of a drug.

DIF: Cognitive Level: Comprehension

9. A patient is experiencing chest pain and needs to take a sublingual form of nitroglycerin. Where should the nurse tell the patient to place the tablet?
a. Under the tongue
b. In the space between the cheek and gum
c. At the back of the throat, for easy swallowing
d. On a non-hairy area on the chest

ANS: A
Drugs taken by the sublingual route are placed under the tongue. Placing the tablet in the space between the cheek and gum is done for the buccal route; placing the tablet at the back of the throat (for easy swallowing) is done in the oral route; and placing the tablet on a non-hairy area on the chest is done in the topical or transdermal route.

DIF: Cognitive Level: Comprehension

10. The nurse is administering medications to a patient who is in liver failure due to end-stage cirrhosis. The nurse is aware that patients with liver failure are most likely to have problems with which pharmacokinetic phase? a. Absorption
b. Distribution
c. Metabolism
d. Excretion

ANS: C
The liver is the organ that is most responsible for drug metabolism. Decreased liver function will most affect a drug’s metabolism. The absorption of a drug is not affected by liver function, and distribution is not affected by liver function. Excretion is affected only because decreased liver function may not transform drugs into water-soluble substances for elimination via the kidneys, but this is not the best answer to this question.

DIF: Cognitive Level: Application

Chapter 03: Legal and Ethical Considerations

MULTIPLE CHOICE

1. In the development of a new drug by a pharmaceutical company, the researcher must ensure that the participants in experimental drug studies do not have unrealistic expectations of the new drug's usefulness. What will the researcher include in the design of the study to prevent bias that may occur? a. A placebo
   b. Health Canada approval
   c. Informed consent
   d. Efficacy information

   ANS: A
   To prevent bias that may occur as a result of unrealistic expectations of an investigational new drug, a placebo will be incorporated into the study. Health Canada approval, if given, does not be obtained until after phase III of the study. Informed consent is required in all drug studies. Efficacy information is not determined until the study is under way.

   DIF: Cognitive Level: Comprehension

2. A member of an investigational drug study team is working with healthy volunteers whose participation will help determine the optimal dosage range and pharmacokinetics of the drug. In what type of study is the team member participating? a. Phase I
   b. Phase II
   c. Phase III
   d. Phase IV

   ANS: A
   Phase I studies involve small numbers of healthy volunteers to determine the optimal dosage range and the pharmacokinetics of the drug. Phases II, III, and IV involve progressively larger numbers of volunteers who have the disease or ailment that the drug is designed to diagnose or treat.

   DIF: Cognitive Level: Application

3. A patient has a prescription for a drug classified as Schedule F. What important information should the nurse give this patient about obtaining refills for this medication?
   a. No prescription refills are permitted.
   b. Refills may be obtained via telephone order.
   c. Refills are indicated by the prescriber.
   d. The patient may have no more than six refills in a 12-month period.

   ANS: C
   Schedule F contains a list of drugs that can be sold and refilled only on prescription; prescriptions can be refilled as often as indicated by the prescriber.

   DIF: Cognitive Level: Analysis

4. A patient has been chosen to be a recipient of an investigational drug for heart failure and has given informed consent. Which is indicated by the patient's informed consent?
   a. The patient has been informed of the possible benefits of the new therapy.
   b. The patient will be informed of the details of the study as the research continues.
   c. The patient will not be assured of receiving the actual drug during the experiment.
   d. The patient has received an explanation of the study's purpose, procedures, and the benefits and risks involved.

   ANS: D
   Informed consent involves the careful explanation of the purpose of the study, procedures to be used, and the possible benefits and risks involved. Being informed of the possible benefits of the new therapy, being informed of the study details as research continues, and being assured of receiving the actual drug during the experiment do not describe informed consent.

   DIF: Cognitive Level: Comprehension

5. Which is the most significant part of legislation in regard to professional nursing practice? a. *Canada Health Act*
   b. *Nursing Practice Act*
   c. *Controlled Drugs and Substances Act*
   d. *Personal Information Protection and Electronic Documents Act*

   ANS: B
   Nurse practice acts (NPAs) are regulatory laws that are instrumental in defining the scope of nursing practice and that protect public health, safety, and welfare. Nursing practice in Canada is regulated by separate acts in each of the 10 provinces and 3 territories. These acts grant self-governance to the nursing profession, direct entry into nursing practice, define the scopes of practice, and identify disciplinary actions. NPAs are the most significant part of legislation in regard to professional nursing practice.

   DIF: Cognitive Level: Comprehension

What potential failure is identified when a patient with a documented penicillin allergy receives 1.2 g of benzylpenicillin IV?

a. Failure to assess
b. Failure to evaluate
c. Failure to ensure safety
d. Failure to identify the patient

ANS: C

Failure to ensure safety includes lack of adequate monitoring, failure to identify patient allergies and other risk factors related to medication therapy, inappropriate drug administration technique, and failure to implement appropriate nursing actions because of improper assessment of the patient's condition. Whereas failure to assess or evaluate includes failure to see significant changes in the patient's condition after taking a medication, failure to report these changes, failure to take a complete medication history and nursing assessment/history, and failure to monitor the patient after medication administration. Failure to identify the patient's identity is a medication error.

DIF: Cognitive Level: Application

7. Which statement correctly describes drugs in Part G, Part II of the *Food and Drugs Act*?
   a. They are drugs with high potential for misuse that have an accepted medical use.
   b. They are drugs with high potential for misuse that do not have an accepted medical use.
   c. They are medically accepted drugs that may cause mild physical or psychological dependence.
   d. They are medically accepted drugs with very limited potential for causing mild physical or psychological dependence.

   ANS: A

   Part G, Part II drugs are those with high potential for misuse that have an accepted medical use (e.g., barbiturates).

   DIF: Cognitive Level: Comprehension

8. Miss Knox, a 26-year-old, has returned to the surgical unit post appendectomy. The physician has prescribed intravenous (IV) morphine for pain. According to the Controlled Drugs and Substances ACT (CDSA), morphine is classified under which schedule? a. Schedule I
   b. Schedule IV
   c. Schedule V
   d. Schedule III

   ANS: A

   The CDSA is based on eight schedules that list controlled drugs and substances based on potential for misuse or harm or how easy they are to manufacture into illicit substances. A summary of Schedule I contains the most dangerous drugs, including opiates (opium, heroin, morphine, cocaine), fentanyls, and methamphetamine.

   DIF: Cognitive Level: Comprehension

MULTIPLE RESPONSE

1. Which are elements of ethical principles in nursing and health care according to the Canadian Nurses Association (CNA) Code of Ethics? (*Select all that apply.*) a. Promoting justice
   b. Maintaining anonymity
   c. Demonstrating responsibility
   d. Preserving dignity
   e. Promoting health and well-being

   ANS: A, D, E

   Elements of ethical principles in nursing and health care according to the CNA Code of Ethics include providing safe, compassionate, competent, and ethical nursing care; maintaining privacy and confidentiality; promoting justice, being accountable, preserving dignity, and promoting and respecting informed decision making; and promoting health and well-being.

   DIF: Cognitive Level: Critical Thinking

2. The personal Information Protection and Electronic Documents Act (PIPEDA) is a federal law governing the collection, use and disclosure of personal health details. Protected health information includes? (*Select all that apply.*) a. Patients' health conditions
   b. Payment information
   c. Prescription numbers
   d. Dietary restrictions
   e. Medications

   ANS: A, B, C, E

   The personal Information Protection and Electronic Documents Act (PIPEDA) requires all health care providers, health insurance and life insurance companies, public health authorities, employers, and schools to maintain patient privacy regarding protected health information. Protected health information includes any individually identifying information such as patients' health conditions, account numbers, prescription numbers, medications, and payment information. A postal code on its own covers a wide geographical area.

   DIF: Cognitive Level: Comprehension

Chapter 04: Patient-Focused Considerations

MULTIPLE CHOICE

1. During the last trimester of pregnancy, drug transfer to the fetus is more likely to occur. Which is a reason for this possibility? a. Fetal size
   b. Decreased surface area
   c. Enhanced placental blood flow
   d. Increased amount of bound drug in maternal circulation

   ANS: C
   Drug transfer to the fetus is more likely during the last trimester, as a result of enhanced placental blood flow, increased fetal surface area, and an increased amount of free drug in the mother's circulation. Increased, not decreased, fetal surface area affects drug transfer to the fetus. The placenta's surface area does not increase during this time. Drug transfer is increased due to an increased amount of free drug, not protein-bound drug, in the mother's circulation. "Fetal size" is incorrect because the first trimester of pregnancy is the period of greatest danger of drug-induced developmental defects. During this period, the fetus undergoes rapid cell proliferation. Gestational age is more important than fetal size.

   DIF: Cognitive Level: Comprehension

2. Which type of dosage calculation is used most commonly when calculating drug dosages for children? a. Fried's rule
   b. Clark's rule
   c. Young's rule
   d. The mg/kg formula

   ANS: D
   The body weight method, using the mg/kg formula, is the most common and reliable method for calculating doses for young patients. Fried's rule, Clark's rule, and Young's rule are not methods used for calculating drug dosages for young patients.

   DIF: Cognitive Level: Knowledge

3. While assessing an 82-year-old woman, the nurse determines that the patient is experiencing polypharmacy. What is this experience most likely to indicate?
   a. The patient has a lower risk of drug interactions.
   b. The patient takes medications for one illness several times a day.
   c. The patient risks problems only if she also takes over-the-counter medications.
   d. The patient takes multiple medications for several different illnesses.

   ANS: D
   Polypharmacy usually occurs when a patient has several illnesses and takes medications for each of them, medications possibly prescribed by different specialists who may be unaware of the patient's other treatments. This situation puts the patient at increased risk of drug interactions and adverse reactions. Polypharmacy means that the patient has a higher, not lower, risk of drug interactions, and that the patient is taking several different medications, not just one. Polypharmacy can include prescription drugs, over-the-counter medications, and natural health products.

   DIF: Cognitive Level: Application

4. Which statement is true in regard to children?
   a. Their levels of microsomal enzymes are decreased compared to those of adults.
   b. Their total body water content is much less than that of adults.
   c. Their first-pass elimination is increased because of higher portal circulation.
   d. Gastric emptying is more rapid than that of adults because of increased peristaltic activity.

   ANS: A
   In children, the levels of microsomal enzymes are decreased. A child's gastric emptying is slowed because of slow or irregular peristalsis. Total body water content is greater in children than in adults, and first-pass elimination by the liver is reduced because of immaturity of the liver and reduced levels of microsomal enzymes.

   DIF: Cognitive Level: Comprehension

5. For accurate medication administration to young patients, the nurse must take into account which information? a. Weight, height, age, and organ maturity
   b. Age, glomerular filtration rate, and weight
   c. Weight, height, body temperature, and age
   d. Weight, height, and total body water content

   ANS: A
   To accurately administer medications to young patients, their weight, height, age, physical condition, metabolism and organ maturity must be taken into account. Glomerular filtration rate, body temperature, and total body water content are not considerations when administering medications to young patients.

   DIF: Cognitive Level: Comprehension
   An older adult patient will often experience a reduction in the stomach's ability to produce hydrochloric acid. This change will result in which alteration?
   a. Delayed gastric emptying
   b. Increased gastric acidity
   c. Decreased intestinal absorption of medications

d. Altered absorption of select drugs

ANS: D
This aging-related change results in a decrease in gastric acidity and may alter the absorption of some drugs. Delayed gastric emptying, increased gastric acidity, and decreased intestinal absorption of medications are not results of reduced hydrochloric acid production.

DIF: Cognitive Level: Application

7. Which is the reason drug toxicity is more likely to occur in the neonate?
   a. The lungs are immature.
   b. The kidneys are smaller.
   c. The liver is not fully developed.
   d. Renal excretion of the drug is faster.

   ANS: C
   A neonate's liver is not fully developed and cannot detoxify many drugs; thus, drug toxicity is more likely to occur in the neonate. The lungs and kidneys do not play major roles in drug metabolism. Renal excretion of the drug is slower, not faster, due to organ immaturity.

   DIF: Cognitive Level: Comprehension

8. An 83-year-old female patient has been given a thiazide diuretic to treat mild heart failure. She and her daughter should be taught to watch for which complications? a. Dizziness and constipation
   b. Fatigue and dehydration
   c. Daytime sedation and lethargy
   d. Edema and blurred vision

   ANS: B
   Electrolyte imbalance, fatigue, and dehydration are common complications of thiazide diuretics in older adult patients. Dizziness and constipation, daytime sedation and lethargy, and edema and blurred vision are not complications that occur when these drugs are given to older adults.

   DIF: Cognitive Level: Comprehension

9. Which complication is common with an older adult patient who is taking digoxin? a. Hallucinations
   b. Edema
   c. Dry mouth
   d. Constipation

   ANS: A
   Common complications for older adults taking digoxin include visual disorders, nausea, diarrhea, dysrhythmias, hallucinations, decreased appetite, and weight loss. Nonsteroidal anti-inflammatory drugs may cause edema, anticholinergics and antihistamines may cause dry mouth, and opioids may cause constipation.

   DIF: Cognitive Level: Comprehension

10. The nurse is aware that confusion, ataxia, and increased risk for falls are older adult patients' common responses to which medication?
    a. Laxatives
    b. Anticoagulants
    c. Sedatives
    d. Diuretics

    ANS: C
    In older adults, sedatives and hypnotics often cause confusion, daytime sedation, ataxia, lethargy, and increased risk for falls. Laxatives, anticoagulants, and diuretics may cause adverse effects in older adults, but not the adverse effects specified in the question.

    DIF: Cognitive Level: Application

11. The nurse is trying to give a liquid medication to a 2-year-old child and notes that the medication has a strong taste. The best way for the nurse to give this medication to a child is to
    a. Give the medication with spoonfuls of sherbet.
    b. Add the medication to the child's bottle.
    c. Tell the child you have candy.
    d. Add the medication to a cup of milk.

    ANS: A
    Using sherbet or another non-essential food that makes the medication taste better is the best way to give a strong-tasting medication to a child. Adding the medication to the child's bottle is not correct because the child may not drink the entire contents of the bottle, thus wasting the medication. Telling the child that the medication is candy is not correct because using the word "*candy"* with drugs may lead to the child's thinking that drugs are actually candy. Adding the medication to a cup of milk is not correct because the child may not drink the entire cup of milk, and the distasteful drug may cause the child to refuse milk in the future.

    DIF: Cognitive Level: Application

12. For which cultural group must the nurse respect the value placed on natural health products, the use of heat, and a concern for the balance of opposing forces that lead to illness or health? a. Hispanic Canadians
    b. Asian Canadians

c. Indigenous peoples
d. Black people of African descent

ANS: B
Some Asian Canadians believe in yin and yang, which are opposing forces leading to illness or health, depending on which force is in balance. Other health practices for this cultural group include belief in the use of heat and in the value of herbal remedies. Hispanic Canadians, Indigenous peoples, and Black people of African descent do not typically engage in these practices.

DIF: Cognitive Level: Comprehension

13. A nurse is assessing an older adult Indigenous woman who is being treated for hypertension. During the assessment, what important information should the nurse remember or expect in regard to culture?
    a. The patient should be discouraged from using traditional remedies and rituals.
    b. The nurse should expect the patient to value protective bracelets and herbal teas.
    c. The nurse should remember that the balance between body, mind, and environment is important to this patient's health beliefs.
    d. The assessment should include information about cultural practices and beliefs regarding medication, treatment, and healing.

    ANS: D
    All beliefs need to be strongly considered to prevent a conflict between the goals of nursing and health care and the dictates of a patient's cultural background. Assessing cultural practices and beliefs is part of a thorough assessment. The nurse should not ignore a patient's cultural practices. Protective bracelets, use of herbal teas, and balance between body, mind, and environment do not describe beliefs and practices that usually apply to this patient's cultural group.

    DIF: Cognitive Level: Application

14. Which ethnocultural group believes in harmony with nature and views ill spirits as causing disease? a. Black people of African descent
    b. South Asian Canadians
    c. Filipino Canadians
    d. Indigenous peoples

    ANS: D
    Indigenous peoples believe in harmony with nature and view ill spirits as causing disease.

    DIF: Cognitive Level: Comprehension

15. Which contributes to drug polymorphism?
    a. The number of drugs ordered by the physician
    b. The patient's drug history
    c. The patient's age, sex, and body composition
    d. Different dosage forms of the same drug

    ANS: C
    A patient's age, sex, size, and body composition are some of the factors that contribute to drug polymorphism, which is the effect of such variables on how an individual absorbs or metabolizes specific drugs. The number of drugs ordered by the physician, the patient's drug history, and different dosage forms of the same drug are not factors that contribute to drug polymorphism.

    DIF: Cognitive Level: Comprehension

16. Which best describes drug polymorphism?
    a. Cultural and genetic effects on drug metabolism and excretion
    b. Gender and cultural effects on drug absorption and distribution
    c. Age or body composition effects on drug absorption or metabolism
    d. Multidrug use resulting in impaired excretion

    ANS: C
    Drug polymorphism is the variation in response to a drug because of a patient's age, sex, size, and body composition.

    DIF: Cognitive Level: Comprehension

MULTIPLE RESPONSE

1. Which is true regarding young patients? (*Select all that apply.*)
    a. The levels of microsomal enzymes are decreased.
    b. Perfusion to the kidneys may be decreased, which may result in reduced renal function.
    c. First-pass elimination is increased because of higher portal circulation.
    d. First-pass elimination is reduced because of the immaturity of the liver.
    e. Total body water content is much less than in adults.
    f. Gastric emptying is slowed because of slow or irregular peristalsis.
    g. Gastric emptying is more rapid because of increased peristaltic activity.

    ANS: A, B, D, F

    In children, microsomal enzymes are decreased and first-pass elimination by the liver is reduced because of the immaturity of the liver. In addition, gastric emptying is reduced because of slow or irregular peristalsis. Perfusion to the kidneys may be decreased, resulting in reduced renal function. “First-pass elimination is increased because of higher portal circulation” and “Gastric emptying is more rapid because of increased peristaltic activity” are not correct statements. Total body water content is greater in children than in adults.

    DIF: Cognitive Level: Application

2. Which is true regarding older adults? (*Select all that apply.*)
    a. The levels of microsomal enzymes are decreased.
    b. Fat content is increased because of decreased lean body mass.
    c. Fat content is decreased because of increased lean body mass.
    d. The number of intact nephrons is increased.
    e. The number of intact nephrons is decreased.
    f. Gastric pH is less acidic.
    g. Gastric pH is more acidic.

    ANS: A, B, E, F

    In older adults, levels of microsomal enzymes are decreased because the aging liver is less able to produce them; fat content is increased because of decreased lean body mass; the number of intact nephrons is decreased due to aging; and gastric pH is less acidic due to a gradual reduction of the production of hydrochloric acid. “Fat content is decreased because of increased lean body mass,” “The number of intact nephrons is increased,” and “Gastric pH is more acidic” are incorrect statements.

    DIF: Cognitive Level: Application

Chapter 05: Gene Therapy and Pharmacogenomics Sealock: Lilley's Pharmacology for Canadian Health Care Practice, 4th Edition

MULTIPLE CHOICE

1. Which is the most important compound that transfers genes from parents to offspring? a. Chromatin
   b. Deoxyribonucleic acid (DNA)
   c. Alleles
   d. Ribonucleic acid

   ANS: B
   It is now recognized that DNA is the most important body compound that serves to transfer genes from parents to offspring.

   DIF: Cognitive Level: Knowledge

2. Which is manufactured as a result of indirect gene therapy?
   a. Vitamin K
   b. epoetin (Eprex)
   c. Human insulin
   d. Heparin

   ANS: C
   A recombinant form of human insulin is one of the most widespread uses of indirect gene therapy.

   DIF: Cognitive Level: Comprehension

3. Eugenics is defined as
   a. the use of gene therapy to prevent disease.
   b. the development of new drugs based on gene therapy.
   c. the intentional selection, before birth, of genotypes that are considered more desirable than others.
   d. the determination of genetic factors that influence a person's response to medications.

   ANS: C
   Eugenics is the intentional selection, before birth, of genotypes that are considered more desirable than others. Eugenics is a major ethical issue related to gene therapy.

   DIF: Cognitive Level: Knowledge

4. What is the main purpose of the Human Genome Project?
   a. To study genetic diseases
   b. To study genetic traits in humans
   c. To discover new genetic diseases
   d. To describe the entire genome of a human being

   ANS: D
   The Human Genome Project was undertaken to describe in detail the entire genome of a human being.

   DIF: Cognitive Level: Knowledge

5. Genotyping for the presence of cytochrome P-450 2D6 (CYP2D6) enzymes and alleles will be helpful in which area of medicine? a. Cardiology
   b. Psychiatry
   c. Respirology
   d. Oncology

   ANS: B
   Psychiatry and general medicine will benefit. Genotyping for the presence of CYP2D6 will determine whether patients are poor, intermediate, extensive, or ultrarapid metabolizers with these enzymes, which will help guide the prescribing of specific medications.

   DIF: Cognitive Level: Comprehension

SHORT ANSWER

1. Name one clinical application of pharmacogenomics.

   ANS:
   Several possible clinical applications are listed in Table 5-1: Clinical Applications of Pharmacogenomics.

   DIF: Cognitive Level: Application

Chapter 06: Medication Errors: Preventing and Responding Sealock: Lilley's Pharmacology for Canadian Health Care Practice, 4th Edition

MULTIPLE CHOICE

1. Which situation is an example of a medication error?
   a. A patient refuses her morning medications.
   b. A patient receives a double dose of a medication because the nurse did not cut the pill in half.
   c. A patient develops hives after starting an intravenous antibiotic 24 hours earlier.
   d. A patient reports severe pain still present 60 minutes after a pain medication was given.

   ANS: B
   A medication error is defined as a *preventable* adverse drug event that involves inappropriate medication use by a patient or health care provider. Refusing morning medications and reporting severe pain after having been given medication are examples of patient behaviours. The development of hives is a possible allergic reaction. None of these situations is preventable.

   DIF: Cognitive Level: Application

2. Which is the proper notation for the dose of the drug ordered?
   a. digoxin .125 mg
   b. digoxin .1250 mg
   c. digoxin 0.125 mg
   d. digoxin 0.1250 mg

   ANS: C
   Always use a leading zero for decimal dosages (e.g., digoxin 0.125 mg) with medication orders or their transcription. Omitting the leading zero may cause the order to be misread, resulting in a large drug overdose. Never use trailing zeros.

   DIF: Cognitive Level: Application

3. When the nurse is giving a scheduled morning medication, the patient states, "I haven't seen that pill before. Are you sure it's correct?" The nurse checks the medication administration record and sees that medication is listed. Which is the nurse's best response to the patient?
   a. "It's listed here on the medication sheet, so you should take it."
   b. "Go ahead and take it, and then I'll check with your doctor about it."
   c. "It wouldn't be listed here if it wasn't ordered for you!"
   d. "I'll check on the order first, before you take it."

   ANS: D
   When giving medications, the nurse must always listen to and honour any concerns or doubts expressed by the patient. If the patient doubts an order, the nurse should check the written order, check with the prescriber, or both. The other options included with this example illustrate the nurse's not listening to the patient's concerns.

   DIF: Cognitive Level: Application

4. The physician has written admission orders, and the nurse is transcribing them. The nurse is having difficulty transcribing one order because of the physician's handwriting. The best action for the nurse to take is to a. ask a colleague what the order says.
   b. contact the physician to clarify the order.
   c. contact the pharmacy to clarify the order.
   d. ask the patient what medications are being taken at home.

   ANS: B
   If a prescriber writes an order that is illegible, the nurse should contact the prescriber for clarification. The nurse should not ask a colleague what the order says because the colleague did not write the order. The nurse should not contact the pharmacy to clarify the order because this action would delay implementation of the order. Asking the patient what medications are taken at home is incorrect because this question will not clarify the current order.

   DIF: Cognitive Level: Comprehension

5. Health care providers should report actual and potential medication errors to which organization?
   a. Institute for Safe Medications Practices (ISMP) Canada
   b. Accreditation Canada
   c. Canadian Patient Safety Institute (CPSI)
   d. Health Canada

   ANS: A
   Actual and potential medication errors should be reported to ISMP Canada; confidentiality of the reporter is respected. Accreditation Canada, CPSI, and Health Canada all offer information pertaining to medication safety.

   DIF: Cognitive Level: Knowledge

MULTIPLE RESPONSE

1. Which statements are true regarding an adverse drug reactions (ADRs)? (*Select all that apply.*)
   a. Adverse effects are ADRs that are usually predictable.
   b. ADRs always result in harm to patients.
   c. All ADRs are preventable if proper precautions are taken.
   d. ADRs can be unexpected and unintended responses to medications.

   ANS: A, D
   An ADR is defined as any unexpected, undesired, or excessive response to a medication. Adverse effects are ADRs that are usually not severe enough to warrant stopping the medication. Not all ADRs result in harm to the patient. Some ADRs, such as allergic or idiosyncratic reactions, may not be preventable or predicted.

   DIF: Cognitive Level: Knowledge

Chapter 07: Patient Education and Drug Therapy Sealock: Lilley's Pharmacology for Canadian Health Care Practice, 4th Edition

MULTIPLE CHOICE

1. Which diagnosis is appropriate for the patient who has just received a prescription for a new medication? a. Nonadherence related to a new drug therapy
   b. High risk for nonadherence related to new drug therapy
   c. Knowledge deficit related to newly prescribed drug therapy
   d. Deficient knowledge related to newly prescribed drug therapy

   ANS: D
   The patient who has a limited understanding of newly prescribed drug therapy may have the nursing diagnosis of deficient knowledge. "Nonadherence" implies that the patient does not follow a recommended regimen, which is not the case with a newly prescribed drug. "High risk for nonadherence related to new drug therapy" is not a North American Nursing Diagnosis Association nursing diagnosis, and "Deficient knowledge related to newly prescribed drug therapy" is an outdated nursing diagnosis.

   DIF: Cognitive Level: Analysis

2. Which statement reflects a measurable goal?
   a. The patient will know about insulin injections.
   b. The patient will understand the principles of insulin preparation.
   c. The patient will demonstrate the proper technique of mixing insulin.
   d. The patient will comprehend the proper technique of preparing insulin.

   ANS: C
   The word "demonstrate" is a measurable verb, and measurable terms should be used when developing goals and outcome criteria statements. The terms "know," "understand" and "comprehend" are not measurable terms.

   DIF: Cognitive Level: Analysis

3. During an assessment, which question allows the nurse to clarify and open up discussion with the patient? a. "Are you allergic to penicillin?"
   b. "What medications do you take?"
   c. "Have you had a reaction to this drug?"
   d. "Are you taking this medication with meals?"

   ANS: B
   "What medications do you take?" is an open-ended question that will encourage more clarification and discussion from the patient. "Are you allergic to penicillin?" is a closed-ended question, as are "Have you had a reaction to this drug?" and "Are you taking this medication with meals?" Closed-ended questions prompt only a "yes" or "no" answer and provide limited information.

   DIF: Cognitive Level: Application

4. The nurse is setting up a teaching–learning session with an 85-year-old patient who will be going home on anticoagulant therapy. Which strategy will reflect consideration of aging changes that may occur? a. Showing a colourful video about anticoagulation therapy
   b. Presenting all the information in one session just before discharge
   c. Giving the patient pamphlets about the medications to read at home
   d. Developing large-print handouts that reflect the verbal information presented

   ANS: D
   Developing large-print handouts that reflect the verbal information presented will address altered perception in two ways. First, using visual aids reinforces the verbal instructions by addressing the patient's possibly decreased ability to hear high-frequency sounds. Second, developing the handouts in large print addresses the possibility of decreased visual acuity. Showing a colourful video about anticoagulation therapy does not allow for discussion of the information; furthermore, the text and print may be small and difficult to read and understand. Presenting all the information in one session just before discharge also does not allow for discussion, and the patient may not be able to hear or see the information sufficiently. Because of the possibility of decreased short-term memory and slowed cognitive function, giving the patient pamphlets about the medications to read at home is not appropriate.

   DIF: Cognitive Level: Application

5. When the nurse is teaching a manual skill, such as self-injection of insulin, the best way to set up the teaching-learning session is to
   a. provide written pamphlets for instruction.
   b. show a video and allow the patients to practice as needed on their own.
   c. verbally explain the procedure and provide written handouts for reinforcement.
   d. allow the patients to do several "return" demonstrations after the nurse has demonstrated the procedure.

   ANS: D
   Return demonstrations allow the nurse to evaluate the patient's newly learned skills. Providing written pamphlets for instruction, showing a video and then allowing patients to practice as needed on their own, and verbally explaining the procedure and providing written handouts for reinforcement do not allow for evaluation of the patient's technique.