Chapter 32, Diuretics

1. The health care provider has prescribed spironolactone for a client. The nurse is prepared to carefully monitor the client's potassium level if the client is also administered which drug?
   A) Lisinopril
   B) Metoprolol
   C) Terazosin
   D) Diltiazem

   Answer: A

   Rationale: Spironolactone when given with ACE inhibitors (lisinopril) can lead to hyperkalemia. Hyperkalemia is not associated with the combination of spironolactone and metoprolol, terazosin, or diltiazem. The three drugs are all used to treat hypertension, which may include the use of a diuretic as well.
   Question format: Multiple Choice
   Chapter: 32
   Learning Objective: 2
   Cognitive Level: Understand
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 406, Interactions

2. A client with cerebral edema is prescribed mannitol. Which assessment should the nurse **prioritize** during the ongoing assessment?
   A) Blood pressure every 4 hours
   B) Response of pupils to light
   C) Joint pain
   D) Serum uric acid concentrations

   Answer: B

   Rationale: When caring for a client who has been given mannitol for intracranial pressure, the nurse should perform neurologic assessments such as response of the pupils to light, level of consciousness, or response to a painful stimulus at the time intervals ordered by the primary health care provider. The nurse monitors the client for joint pain and other discomforts when the client is administered thiazide diuretics for renal impairment. When caring for clients taking thiazide diuretics, the nurse also monitors the serum uric acid concentrations because these drugs may precipitate an acute attack of gout. The nurse needs to monitor the client's blood pressure every 30–60 minutes when caring for a client receiving the osmotic diuretic mannitol or urea for the treatment of increased intracranial pressure caused by cerebral edema.
   Question format: Multiple Choice
   Chapter: 32

Learning Objective: 3
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 408, Client with Increased Intracranial Pressure

3. A nurse is preparing a teaching plan for a client with edema who is prescribed a diuretic. Which teaching should the nurse **prioritize**?
   A) Decrease fluid intake.
   B) Gradually increase the dosage.
   C) Administer early in the day.
   D) Encourage exercise.

   Answer: C

   Rationale: The drug should be administered early in the day to prevent any nighttime sleep disturbance caused by increased urination. Asking the client to decrease fluid intake may contribute to fluid and electrolyte imbalance. The drug should be used as directed without the client making any adjustments to the dosage. The client should remain as active as possible, depending on their overall condition; however, exercise is not a priority in this situation.
   Question format: Multiple Choice
   Chapter: 32
   Learning Objective: 5
   Cognitive Level: Apply
   Client Needs: Physiological Integrity: Basic Care and Comfort
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 408, Increased Urinary Frequency

4. A client with a history of seizures is admitted to the unit with pulmonary edema. After administering furosemide, which assessment should the nurse **prioritize** after discovering the client is also prescribed phenytoin?
   A) Increased risk of bleeding
   B) Decreased diuretic effectiveness
   C) Increased blood glucose levels
   D) Increased seizure episodes

   Answer: B

   Rationale: The nurse should monitor for decreased diuretic effectiveness in the client as the effect of the interaction between furosemide and hydantoins. When the client is administered loop diuretics with anticoagulants or thrombolytics, there is an increased risk of bleeding. Increased blood glucose may occur when thiazide diuretics are given with antidiabetic drugs. Decreased effectiveness of hydantoins, such as manifested by increased seizure activity, is not known to occur as a result of the effect of the interaction between furosemide and hydantoins, and so the nurse need not monitor for the same in the client.
   Question format: Multiple Choice
   Chapter: 32

Learning Objective: 3
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Interactions

5. A health care provider prescribes diuretic therapy to a client with nephrotic syndrome. The nurse suspects that the client is hyponatremic based on which assessment finding?
   A) Paresthesias
   B) Tremors
   C) Visual hallucination
   D) Tachycardia

   Answer: D

   Rationale: The nurse should monitor for tachycardia, cold and clammy skin, confusion, and hypotension in the client experiencing hyponatremia. Hyponatremia is excessive loss of sodium and is a common fluid and electrolyte imbalance associated with diuretic therapy. Tremors, visual hallucinations, and paresthesias are the symptoms of hypomagnesemia and not hyponatremia.
   Question format: Multiple Choice
   Chapter: 32
   Learning Objective: 3
   Cognitive Level: Analyze
   Client Needs: Physiological Integrity: Physiological Adaptation
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 409, Box 32.1 Signs and Symptoms of Common Fluid and Electrolyte Imbalance Associated with Diuretic Therapy

6. The nurse is preparing to teach a client with renal insufficiency about the recently prescribed bumetanide for hypertension. Which instruction should the nurse **prioritize** for this client?
   A) Avoid salt substitutes containing potassium.
   B) Avoid over-the-counter drugs for cold symptoms.
   C) Always take the drug before meals.
   D) Omit the drug dose when feeling dizzy.

   Answer: B

Rationale: The nurse should instruct the client to avoid medications that increase blood pressure, such as OTC drugs for appetite suppression and cold symptoms. The nurse should instruct clients taking potassium-sparing diuretics, not loop diuretics such as bumetanide, to refrain from using salt substitutes containing potassium. The nurse need not instruct the client to take the drug before meals since doing so will not decrease the client's blood pressure. The nurse should instruct the client to observe caution while driving or performing hazardous tasks when dizziness or weakness occurs. In such cases, the nurse instructs the client to rise slowly from a sitting or lying position and avoid standing in one place for an extended time.
Question format: Multiple Choice
Chapter: 32
Learning Objective: 5
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Teaching/Learning
Reference: p. 411, Educating the Client and Family

7. A nurse is preparing to administer spironolactone to a client. The nurse would question this order if which disorder is noted in the client's history?
   A) Hyperkalemia
   B) Liver disease
   C) Gout
   D) Diabetes

   Answer: A

   Rationale: The nurse should know that potassium-sparing diuretics are contraindicated in clients with hyperkalemia and are not recommended for children. Potassium-sparing diuretics should be used cautiously in clients with liver disease, diabetes, or gout.
   Question format: Multiple Choice
   Chapter: 32
   Learning Objective: 2
   Cognitive Level: Analyze
   Client Needs: Physiological Integrity: Pharmacological Therapies
   Integrated Process: Clinical Problem-solving Process (Nursing Process)
   Reference: p. 406, Contraindications

8. A client with congestive heart failure and currently administered digoxin is now prescribed indapamide for edema. Which intervention should the nurse **prioritize**?
   A) Encourage oral fluids at frequent intervals during waking hours.
   B) Encourage the client to eat or drink between meals and in the evening.
   C) Frequently monitor the client's pulse rate and rhythm.
   D) Closely monitor the client for signs of hyperkalemia.

   Answer: C

Rationale: Clients receiving a diuretic, particularly a loop or thiazide diuretic such as indapamide, and a digitalis glycoside concurrently require frequent monitoring of the pulse rate and rhythm because of the possibility of cardiac arrhythmias. Any significant changes in the pulse rate and rhythm are immediately reported to the primary health care provider. The nurse should encourage oral fluids at frequent intervals during waking hours when caring for older clients to prevent a fluid volume deficit. In such cases, the nurse should also encourage elderly clients to eat or drink between meals and in the evening. The nurse must closely observe clients receiving a potassium-sparing diuretic for signs of hyperkalemia, a serious and potentially fatal electrolyte imbalance.
Question format: Multiple Choice
Chapter: 32
Learning Objective: 3
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 410, Injury Risk

9. A nurse administers chlorothiazide to a client with renal compromise. Which action should the nurse **prioritize** after noting the BUN level is rising?
   A) Give prescribed magnesium supplements.
   B) Withhold the next dose of the drug.
   C) Administer the drug in a diluted form.
   D) Increase the fluid intake for the client.

Answer: B

Rationale: The nurse should withhold the drug or discontinue its use if the blood urea nitrogen (BUN) rises in the client with renal compromise who is receiving a thiazide diuretic. Magnesium supplements or add-ons may be provided to clients taking loop diuretics as they are prone to magnesium deficiency. The nurse should encourage fluid intake to prevent a fluid volume deficit in elderly clients who are particularly prone to fluid volume deficit and electrolyte imbalances when taking a diuretic. The nurse need not administer the drug in a diluted form since doing so will not have an effect on the blood urea nitrogen level.
Question format: Multiple Choice
Chapter: 32
Learning Objective: 5
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 408, Client with Renal Compromise

10. A primary health care provider has prescribed a loop diuretic for hypertension in a client with diabetes mellitus. Which assessment should the nurse **prioritize**?
    A) Sudden pain in the joints
    B) Increased blood glucose levels
    C) Occurrence of gout attacks
    D) Sudden increase in weight

Answer: B

Rationale: The nurse should monitor for increased blood glucose levels in the client with diabetes receiving a loop diuretic. The blood glucose levels may be elevated or urine may test positive for glucose. Thiazide diuretic agents may cause gout attacks and sudden joint pain. The nurse need not monitor for a sudden increase in weight as the administration of loop diuretics to a client with diabetes will not cause this. The weight should decrease as the client loses fluid.
Question format: Multiple Choice
Chapter: 32
Learning Objective: 3
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 411, Educating the Client and Family

11. The nurse has finished a teaching session with a client who is prescribed a diuretic to be taken twice a day. The nurse determines the session is successful when the client correctly chooses which times to take the drug?
    A) In the early morning and at bedtime
    B) After lunch and dinner
    C) At breakfast and midafternoon
    D) Midmorning and before dinner

Answer: C

Rationale: Twice a day dosing should be administered early in the morning (e.g., 0700) and early afternoon (e.g., 1400) to prevent the drug from interfering with the client's sleep.
Question format: Multiple Choice
Chapter: 32
Learning Objective: 5
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 411, Educating the Client and Family

12. A client is admitted in acute renal failure and prescribed mannitol. The nurse prepares to administer this drug via which route?
    A) Intramuscularly
    B) Subcutaneously
    C) Intravenously
    D) Orally

Answer: C

Rationale: Mannitol is administered intravenously. It is not given intramuscularly, subcutaneously, or orally.

Question format: Multiple Choice
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 408, Client with Increased Intracranial Pressure

13. A client has been receiving acetazolamide as prescribed. Which substance(s) will the nurse **prioritize** for monitoring on routine laboratory work? Select all that apply.
    A) Sodium
    B) Magnesium
    C) Potassium
    D) Bicarbonate
    E) Chloride

    Answer: A, C, D

    Rationale: Carbonic anhydrase inhibitors, like acetazolamide, result in the excretion of sodium, potassium, bicarbonate, and water. Magnesium can be lost with loop diuretics. Chloride can be lost with loop, osmotic, and thiazide and related diuretics.
    Question format: Multiple Select
    Chapter: 32
    Learning Objective: 2
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Pharmacological Therapies
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 404, Actions

14. A nursing instructor is teaching a class on the actions of the different classes of diuretics. Which drug(s) will the instructor point out as exerting action on the loop of Henle and distal and proximal tubules? Select all that apply.
    A) Chlorothiazide
    B) Furosemide
    C) Bumetanide
    D) Mannitol
    E) Spironolactone

    Answer: B, C

Rationale: Loop diuretics, such as furosemide and bumetanide, cause dieresis by inhibiting reabsorption of sodium and chloride ions in the distal and proximal tubules and in the loop of Henle. Thiazide and related diuretics such as chlorothiazide inhibit the reabsorption of sodium and chloride ions in the ascending portion of the loop of Henle and the early distal tubule of the nephron. Osmotic diuretics such as mannitol increase the density of the filtrate in the glomerulus. Potassium-sparing diuretics such as spironolactone work by blocking the reabsorption of sodium in the kidney tubules.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Understand
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 412, Summary Drug Table

15. A nurse is administering amiloride to several clients. The nurse should **prioritize** monitoring the serum potassium levels for clients with which noted disorder(s)? Select all that apply.
    A) Diabetes
    B) Hypertension
    C) Renal disease
    D) Epilepsy
    E) Asthma

    Answer: A, C

    Rationale: Hyperkalemia may occur with the administration of potassium-sparing diuretics such as amiloride. It is most likely to occur in clients with an inadequate fluid intake and urine output, those with diabetes or renal disease, the elderly, and those who are severely ill. Many diuretics are used in the treatment of hypertension. Acetazolamide a carbonic anhydrase inhibitor can be used in the treatment of epilepsy. Some thiazide diuretics contain tartrazine that may cause an allergic-type reaction or bronchial asthma in clients who have a hypersensitivity to tartrazine.
    Question format: Multiple Select
    Chapter: 32
    Learning Objective: 2
    Cognitive Level: Understand
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 405, Other System Reactions

16. The nurse is preparing to administer a diuretic to a client. The nurse should question this order if which disorder(s) is noted in the client's history? Select all that apply.
    A) Hyponatremia
    B) Hypokalemia
    C) Hypertension
    D) Anuria

E) Asthma

Answer: A, B, D

Rationale: Diuretics are contraindicated in clients with known hypersensitivity to the drugs, electrolyte imbalance (hyponatremia and hypokalemia), severe kidney or liver dysfunction, and anuria. Diuretics are often used in the treatment of hypertension. Some thiazide diuretics contain tartrazine, which can cause an allergic-type reaction or bronchial asthma in individuals who have a hypersensitivity to tartrazine.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Contraindications

17. A nurse is preparing to administer a diuretic to a client. The nurse should question administering which drug after noting an allergy to sulfamethoxazole/trimethoprim? Select all that apply.
A) Chlorothiazide
B) Furosemide
C) Chlorthalidone
D) Metolazone
E) Spironolactone

Answer: A, B, C, D

Rationale: A cross-sensitivity reaction may occur with the thiazides (chlorothiazide, chlorthalidone, and metolazone) and sulfonamides (sulfamethoxazole), as well as to loop diuretics (furosemide). Spironolactone is not noted to have allergic reactions; however, gynecomastia in males is a noted adverse reaction.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Precautions

18. The nurse is preparing to administer amiloride to a client. The nurse will exercise caution if the client is diagnosed with which disorder(s)? Select all that apply.
A) Gout
B) Asthma
C) Diabetes
D) Glaucoma
E) Hepatic disease

Answer: A, C, E

Rationale: Potassium-sparing diuretics, like amiloride, should be used cautiously in clients with gout, diabetes, and hepatic disease. Thiazide diuretics should be used cautiously in clients with asthma. Carbonic anhydrase inhibitor diuretics should be used cautiously in clients with glaucoma.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Precautions

19. A nurse notes on assessment of a client receiving furosemide a decrease in urinary output. Which drug(s) should the nurse suspect is affecting the diuretic? Select all that apply.
    A) Phenytoin
    B) Naproxen
    C) Digoxin
    D) Lithium
    E) Ibuprofen

Answer: A, B, E

Rationale: A nurse may notice a decrease in diuretic effect when furosemide is given with the following drugs: hydantoins (phenytoin) and NSAIDs (naproxen and ibuprofen). There is an increased risk of lithium toxicity if furosemide is given with lithium. An increased risk of cardiac arrhythmias occurs when digoxin is given with furosemide.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Interactions

20. The nurse is preparing to administer bumetanide to the client. The nurse should question this order after noting which drug(s) are currently being administered? Select all that apply.
    A) Lithium
    B) Phenytoin
    C) Gentamicin
    D) Warfarin
    E) Digoxin

Answer: A, C, D, E

Rationale: Loop diuretics, like bumetanide, can increase toxicity of the following medications: lithium, gentamicin, warfarin, and digoxin. A decrease in diuretic effect occurs when bumetanide is given with phenytoin.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Interactions

21. A client with diabetes, controlled by metformin, was recently prescribed a diuretic. The nurse should question the administration of which drug(s) after noting the elevation of blood glucose levels? Select all that apply.
A) Hydrochlorothiazide
B) Furosemide
C) Chlorthalidone
D) Acetazolamide
E) Metolazone

Answer: A, C, E

Rationale: Thiazide diuretics, like hydrochlorothiazide, chlorthalidone, and metolazone, can result in hyperglycemia in clients receiving antidiabetic drugs, like metformin. Loop diuretics, such as furosemide, should be used cautiously as they may exacerbate or activate the disease. Carbonic anhydrase inhibitors, such as acetazolamide, are used for cerebral edema, seizures, intraocular pressure, and altitude sickness.
Question format: Multiple Select
Chapter: 32
Learning Objective: 2
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 406, Interactions

22. The nurse is preparing to administer furosemide to a client. Which factor(s) should the nurse **prioritize** on the preadministration assessment? Select all that apply.
A) Weight
B) Blood glucose
C) Pulse
D) Temperature
E) Respiratory rate

Answer: A, C, D, E

Rationale: Before administering furosemide, the nurse takes the vital signs (blood pressure, pulse, temperature, respiratory rate) and weight. There is no need to assess the client's blood glucose, unless the client has diabetes.
Question format: Multiple Select
Chapter: 32
Learning Objective: 3
Cognitive Level: Apply
Client Needs: Physiological Integrity: Pharmacological Therapies
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 407, Preadministration Assessment

23. The nurse has administered torsemide to a client. Which finding(s) on the ongoing assessment should the nurse **prioritize**? Select all that apply.
    A) Diarrhea
    B) Anorexia
    C) Depression
    D) Hypoglycemia
    E) Drowsiness

    Answer: B, C, E

    Rationale: The following are signs of hypokalemia: anorexia, nausea, vomiting, depression, confusion, cardiac arrhythmias, impaired thought process, and drowsiness. Diarrhea is a possible adverse reaction but not an indication of hypokalemia. Hyperglycemia is more of a concern with the use of diuretics than hypoglycemia.
    Question format: Multiple Select
    Chapter: 32
    Learning Objective: 3
    Cognitive Level: Apply
    Client Needs: Physiological Integrity: Physiological Adaptation
    Integrated Process: Clinical Problem-solving Process (Nursing Process)
    Reference: p. 409, Box 32.1 Signs and Symptoms of Common Fluid and Electrolyte Imbalance Associated with Diuretic Therapy

24. The nurse has administered acetazolamide to a client. The nurse should question the client's serum sodium level after noting which finding(s) on the ongoing assessment? Select all that apply.
    A) Bradycardia
    B) Anorexia
    C) Hypotension
    D) Hypoglycemia
    E) Decreased skin turgor

    Answer: C, E

Rationale: The following are signs of hyponatremia: cold, clammy skin; decreased skin turgor; confusion; hypotension; irritability; and tachycardia. Bradycardia and anorexia are potential signs of hypokalemia. Hyperglycemia would be a possible indication of an adverse reaction versus hypoglycemia.
Question format: Multiple Select
Chapter: 32
Learning Objective: 3
Cognitive Level: Analyze
Client Needs: Physiological Integrity: Physiological Adaptation
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 409, Box 32.1 Signs and Symptoms of Common Fluid and Electrolyte Imbalance Associated with Diuretic Therapy

25. The nurse is teaching a client about the prescribed metolazone and providing suggestions for foods to eat, which will help increase potassium consumption. The nurse determines the teaching is successful after the client correctly chooses which food(s)? Select all that apply.
    A) Bananas
    B) Pinto beans
    C) Asparagus
    D) Salmon
    E) Peanuts

    Answer: A, C, D, E

    Rationale: The top 10 foods with the highest amount of potassium per serving include white beans (not pinto beans), dark leafy greens, baked potatoes with skin on, dried apricots, acorn squash, plain low-fat yogurt, salmon, avocado, mushrooms, and bananas. Fruits high in potassium include apricots, prunes, dried currants/raisins, dates, figs, dried coconut, avocado, bananas, oranges, nectarines, and peaches. Vegetables high in potassium include sun-dried tomatoes, spinach, Swiss chard, mushrooms, sweet potato, kale, Brussels sprouts, zucchini, green beans, and asparagus. Other sources include chocolate, molasses, nuts, and nut butters.
    Question format: Multiple Select
    Chapter: 32
    Learning Objective: 5
    Cognitive Level: Analyze
    Client Needs: Physiological Integrity: Reduction of Risk Potential
    Integrated Process: Teaching/Learning
    Reference: p. 410, Preventing Potassium Imbalances

26. A client has been receiving a diuretic as prescribed. Which finding(s) on the ongoing assessment should the nurse **prioritize**? Select all that apply.
    A) Dry mouth
    B) Diaphoresis
    C) Muscle cramps
    D) Hypertension
    E) Tachycardia

Answer: A, C, E

Rationale: Clients using diuretics are at risk for developing fluid and electrolyte imbalances. Warning signs include dry mouth, thirst, lethargy, weakness, drowsiness, restlessness, muscle pain or cramps, confusion, GI disturbances, hypotension (not hypertension), oliguria, tachycardia, and seizures. Dehydration is also more likely than diaphoresis.
Question format: Multiple Select
Chapter: 32
Learning Objective: 3
Cognitive Level: Analyze
Client Needs: Physiological Integrity: Physiological Adaptation
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 410, Preventing Potassium Imbalances

27. A nurse is reviewing the laboratory test results of a client who is receiving diuretic therapy. The nurse determines that the client is at risk for electrolyte imbalance based on which result(s)? Select all that apply.
    A) Potassium 4.5 mEq/L
    B) Sodium 139 mEq/L
    C) Magnesium 2 mEq/L
    D) Sodium 124 mEq/L
    E) Potassium 2.9 mEq/L

Answer: D, E

Rationale: Sodium levels below 132 mEq/L, such as 124 mEq/L, or above 145 mEq/L would indicate an imbalance. Potassium imbalances would occur with levels below 3 mEq/L, such as 2.9 mEq/L, or above 5 mEq/L. A magnesium level of 2 mEq/L is within the normal range of 1.5–2.5 mEq/L.
Question format: Multiple Select
Chapter: 32
Learning Objective: 3
Cognitive Level: Analyze
Client Needs: Physiological Integrity: Reduction of Risk Potential
Integrated Process: Clinical Problem-solving Process (Nursing Process)
Reference: p. 409, Box 32.1 Signs and Symptoms of Common Fluid and Electrolyte Imbalance Associated with Diuretic Therapy