Chapter 6. Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. The nurse is caring for a patient with dehydration. The patient asks the nurse about the cause. Which does the nurse identify as the most likely cause?
1. Constipation
2. Nausea
3. Kidney failure
4. Profuse diaphoresis

____ 2. The nurse is caring for a patient with fluid volume excess. Which medication can the nurse expect to administer?
1. Pamidronate disodium (Aredia)
2. Potassium chloride
3. Furosemide (Lasix)
4. Calcium gluconate

____ 3. The nurse is told to administer IV fluid the same osmolarity as blood. Which fluid can the nurse expect to administer?
1. 0.9% normal saline
2. 0.45% saline (1/2 NS)
3. 10% dextrose in water (D10W)
4. 5% dextrose in 0.9% saline (D5NS)

____ 4. An older adult with gastroenteritis is disoriented and weak and has the following laboratory test results:
Hematocrit (Hct) 56% (normal 40%–51%)
Blood urea nitrogen (BUN) 32 mg/dL (normal 6–20 mg/dL)
Which nursing diagnosis should the nurse select for this patient?
1. Risk for injury
2. Excess fluid volume
3. Deficient fluid volume
4. Impaired skin integrity

____ 5. A patient with hypertension is placed on a low-sodium diet. The nurse recognizes that further teaching is necessary if the patient chooses which menu?
1. Pork chop, steamed brown rice, and fruit cocktail
2. Broiled salmon, mashed sweet potato, broccoli, and pumpkin pie
3. Tomato soup, grilled cheese sandwich, salad, and chocolate chip cookie
4. Grilled chicken, boiled potatoes, frozen green beans, and gelatin dessert

____ 6. An older adult patient has an IV infusion of 0.45% normal saline infusing at 150 mL/hr. Which assessment finding should cause the nurse to be most concerned?
1. Tenderness at the IV site
2. Capillary refill is <3 seconds

3. Urine specific gravity is 1.018
4. Newly noted crackles in the lungs

____ 7. The nurse is reviewing laboratory results for a group of patients. Which value should be of most concern to the nurse?
1. Sodium level 140 mEq/L
2. Magnesium level 1.0 mEq/L
3. Potassium level 3.5 mEq/L
4. Calcium level 10 mg/dL

____ 8. The nurse is caring for a group of patients. Which patient most warrants a phone call to the health care provider (HCP)?
1. A patient with end-stage renal failure and 1+ pitting edema
2. A patient who is crying and wants a visitor
3. A patient with abdominal cramping and hyperactive deep tendon reflexes
4. A patient who just received furosemide (Lasix) for hypervolemia

____ 9. The nurse is preparing to administer furosemide (Lasix) to a patient with a potassium level of 2.8 mEq/L. Which action should the nurse take?
1. Administer the medication as ordered.
2. Notify the HCP before administering the dose.
3. Hold the medication and document the potassium level.
4. Give the patient half of the ordered dose.

____ 10. The nurse is caring for a group of patients. Which patient is at highest risk for hyponatremia?
1. A patient with a nasogastric tube connected to suction
2. A patient with chronic constipation
3. A patient who experienced a saltwater near-drowning
4. A patient with diabetes insipidus

____ 11. A patient develops an irregular heart rate, abdominal cramping, and diarrhea after a thyroidectomy. Which emergency medication should the nurse anticipate being prescribed for this patient?
1. Furosemide (Lasix)
2. Calcium gluconate
3. Potassium chloride
4. Diazepam (Valium)

____ 12. The nurse is using Chvostek sign to assess for hypocalcemia. Which statement correctly describes this test?
1. Inflate a blood pressure cuff around the upper arm for 4 minutes.
2. Apply pressure over the ulnar and radial arteries.
3. Tap the face just below and in front of the ear.
4. Forcefully dorsiflex the ankle when the knee is in an extended position.

____ 13. The nurse is concerned that an older patient is at risk for dehydration. What reduced function did the nurse assess in this patient?
1. Filtration
2. Kidney function
3. Sensation of thirst

4. Cardiac contractility

____ 14. While assessing an older adult patient with fluid excess, the nurse notes the following: T = 98.6°F, P = 92, R = 18, BP = 166/88 mm Hg, bilateral crackles, oxygen saturation = 95%. Which action should the nurse take first?
1. Provide oxygen at 2 L per nasal cannula.
2. Place the patient in a high Fowler position.
3. Provide a urinal and encourage the patient to void.
4. Lay the patient flat in bed to listen to bowel sounds.

____ 15. The nurse reviews the following results for an arterial blood gas (ABG). How does the nurse interpret these results? pH 7.46, PCO_2 34, HCO_3 26, PaO_2 88%
1. Metabolic acidosis
2. Respiratory acidosis
3. Metabolic alkalosis
4. Respiratory alkalosis

____ 16. An older patient is admitted for treatment of fluid volume excess. For which serious respiratory complication of fluid volume excess should the nurse assess this patient?
1. Pulmonary edema
2. Pulmonary infarction
3. Pulmonary fibrosis
4. Pulmonary embolism

____ 17. The nurse is caring for a patient who is being treating for fluid volume excess. Which assessment finding indicates that treatment has been effective?
1. Respiratory rate 24/min
2. Output 1,500 mL in 24 hours
3. Blood pressure 132/80 mm Hg
4. Weight loss of 5 lb in 24 hours

____ 18. Which serum pH can the nurse expect to see in a patient with chronic obstructive pulmonary disease (COPD)?
1. 7.30
2. 7.40
3. 7.50
4. 7.60

____ 19. The nurse is caring for a patient with arterial blood gas results of: pH 7.18, PCO_2 42, HCO_3 15, and Pa O_2 84%. The patient has a blood glucose level of 845. How should the nurse interpret these results?
1. Respiratory acidosis
2. Metabolic acidosis
3. Respiratory alkalosis
4. Metabolic alkalosis

____ 20. A patient with uncontrolled diabetes mellitus develops metabolic acidosis. Which assessment finding indicates that the patient's compensatory mechanisms are working?
1. Vomiting

2. Excessive thirst
3. Watery diarrhea
4. Deep rapid breathing

____ 21. A patient having a severe anxiety attack has an arterial blood gas result showing respiratory alkalosis. Which nursing action should the nurse take first?
1. Administer nasal oxygen at 6 L/min.
2. Give the patient a glass of orange juice.
3. Place the patient in high Fowler position.
4. Have the patient rebreathe air from a paper bag.

____ 22. The nurse is caring for a group of patients. Which patient is at highest risk for hypovolemia?
1. A patient with congestive heart failure
2. A patient with end-stage kidney failure
3. A patient who received 6 liters of IV fluid
4. A patient who lost 2 liters of blood during surgery

____ 23. The nurse is teaching a patient with a calcium level of 7.8 mg/dL about food choices. Which food choice made by the patient indicates an understanding of the teaching?
1. 1.5 ounces of cheddar cheese
2. 1 large apple
3. 1 small steak
4. 1-ounce potato chips

____ 24. The nurse is caring for a group of patients. Which patient is at highest risk for developing metabolic alkalosis?
1. A patient with COPD
2. A patient with diabetes
3. A patient with severe anxiety
4. A patient with prolonged vomiting

Multiple Response
Identify one or more choices that best complete the statement or answer the question.

____ 25. The nurse is teaching a patient about taking oral potassium supplements. Which topics should the nurse cover in the teaching? (Select all that apply.)
1. Take potassium supplements on an empty stomach.
2. Keep appointments for laboratory tests to check potassium level.
3. It is okay to supplement the potassium supplement for a cheaper version.
4. Do not crush extended-release potassium tablets.
5. Nausea, vomiting, and diarrhea are normal side effects of this medication.

____ 26. The nurse is planning care for a patient with a fluid volume excess and a serum sodium level of 125 mg/dL. Which interventions should the nurse include in this patient's plan of care? (Select all that apply.)
1. Weigh daily.
2. Monitor strict intake and output.
3. Administer diuretics as prescribed.

4. Implement fluid restriction as prescribed.
5. Administer IV saline as prescribed.

____ 27. During an assessment, the nurse learns that an older patient has been taking twice the prescribed amount of calcium supplements. Which physical assessment findings should the nurse identify as being consistent with this patient's intake of calcium? (Select all that apply.)
1. Muscle weakness
2. Faint bowel sounds
3. Increased heart rate
4. Elevated blood pressure
5. Dry mucous membranes

____ 28. The nurse is caring for a patient with hypokalemia. Which clinical manifestations can the nurse expect to find upon assessment? (Select all that apply.)
1. Muscle cramping
2. Weak and thready pulse
3. Nausea
4. Diarrhea
5. Hyperactive deep tendon reflexes (DTRs)

Other

29. The nurse is caring for a group of patients. Prioritize from 1 to 4, with one being the highest priority, the order in which the nurse should assess the patients.

__1. A 47-year-old patient who reports two loose stools and feels nauseated
__2. A 52-year-old patient with fluid volume excess and 2+ pedal edema
__3. A 60-year-old patient with a potassium level of 2.6 mEq/L and heart palpitations
__4. A 71-year-old patient with a calcium level of 10 mg/dL and negative Trousseau sign

Completion
Complete each statement.

30. A patient with dehydration is prescribed 1 L of 0.9% normal saline intravenously to run over 8 hours. At what rate should the nurse set the infusion pump? Enter the numeral only.

31. The nurse is preparing to administer furosemide (Lasix) 40 mg intravenously to a patient with heart failure. Available is furosemide (Lasix) 20 mg/mL vials. How many mL will the nurse administer? Enter the numeral only.

Chapter 6. Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances Answer Section

MULTIPLE CHOICE

1. ANS: 4
   Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
   Objective: 3. Predict patients who are at the highest risk for dehydration and fluid excess.
   Page: 54
   Heading: Pathophysiology and Etiology
   Integrated Process: Caring
   Client Need: PHYS—Physiological Adaptation
   Cognitive Level: Analysis (Analyzing)
   Concept: Fluid and Electrolyte Balance
   Difficulty: Moderate

	Feedback
1	Diarrhea, not constipation, is a cause of dehydration.
2	Vomiting, not nausea, is a contributing factor to dehydration.
3	Kidney failure is a cause of fluid volume excess.
4	Profuse diaphoresis is a common cause of dehydration.

   PTS: 1 CON: Fluid and Electrolyte Balance
2. ANS: 3
   Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
   Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
   Page: 57
   Heading: Drug Therapy
   Integrated Process: Caring
   Client Need: PHYS—Pharmacological Therapies
   Cognitive Level: Application (Applying)
   Concept: Fluid and Electrolyte Balance
   Difficulty: Moderate

	Feedback
1	Pamidronate disodium (Aredia) is used to treat hypercalcemia.
2	Potassium chloride is used to treat hypokalemia.
3	Furosemide (Lasix) is a loop diuretic used to remove fluid.
4	Calcium gluconate is used to treat hypocalcemia and hyperkalemia.

   PTS: 1 CON: Fluid and Electrolyte Balance
3. ANS: 1
   Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
   Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
   Page: 54

Heading: Osmosis
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Pharmacological Therapies
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	0.9% normal saline is an isotonic solution (same osmolarity as blood).
2	1/2 NS is a hypotonic solution.
3	D10W is a hypertonic solution.
4	D5NS is a hypertonic solution.

PTS: 1 CON: Fluid and Electrolyte Balance

4. ANS: 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 4. Identify data to collect in patients with fluid and electrolyte imbalances.
Page: 54
Heading: Diagnostic Tests
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Impaired skin integrity and risk for injury are possible, but they are not indicated by the data provided.
2	Excess fluid volume would be associated with low BUN and Hct.
3	Elevated BUN and Hct show concentration due to deficient fluid volume.
4	Impaired skin integrity and risk for injury are possible, but they are not indicated by the data provided.

PTS: 1 CON: Fluid and Electrolyte Balance

5. ANS: 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 8. Identify foods that have high sodium, potassium, and calcium contents.
Page: 58
Heading: Common Food Sources of Potassium (Table 6.1)
Integrated Process: Teaching/Learning
Client Need: Health Promotion and Maintenance
Cognitive Level: Application (Applying)
Concept: Health Promotion
Difficulty: Moderate

	Feedback
1	Poultry, fish, fruits, and fresh vegetables have small amounts of sodium.
2	Poultry, fish, fruits, and fresh vegetables have small amounts of sodium.

3	Processed cheeses and canned soups are high in sodium.
4	Poultry, fish, fruits, and fresh vegetables have small amounts of sodium.

PTS: 1 CON: Health Promotion

6. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 3. Predict patients who are at the highest risk for dehydration and fluid excess.
Page: 58
Heading: Complications
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Tenderness at the IV site is concerning but is not the highest priority listed.
2	The values listed for urine specific gravity and capillary refill are normal.
3	The values listed for urine specific gravity and capillary refill are normal.
4	This patient is at risk for fluid volume overload; newly noted crackles are indicative of fluid volume overload.

PTS: 1 CON: Fluid and Electrolyte Balance

7. ANS: 2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 4. Identify data to collect in patients with fluid and electrolyte imbalances.
Page: 66
Heading: Electrolyte Imbalance
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Difficult

	Feedback
1	This level is normal (135–145 mEq/L).
2	Normal magnesium level is 1.5 to 2.5 mEq/L. This is quite low.
3	This level is on the low end of normal (3.5–5 mEq/L).
4	This level is normal (9–11 mg/dL).

PTS: 1 CON: Fluid and Electrolyte Balance

8. ANS: 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 7. Categorize common signs, symptoms, and treatments for sodium, potassium, calcium, and magnesium imbalances.
Page: 64
Heading: Signs and Symptoms

Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Patients with kidney failure have signs of hypervolemia.
2	Psychosocial needs do not come first in prioritization.
3	This patient could have hypocalcemia; the HCP should be notified.
4	The patient is being treated for hypervolemia and there is no indication of distress.

PTS: 1 CON: Fluid and Electrolyte Balance

9. ANS: 2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 61
Heading: Therapeutic Measures
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Pharmacological Therapies
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	The nurse should not administer the medication; the potassium level is very low, and Lasix is a potassium-wasting diuretic.
2	The nurse should notify the HCP prior to administering the medication.
3	The nurse should notify the HCP and not hold the medication and document the level; the potassium is low.
4	It is not within the nurse's scope of practice to half a prescribed dose.

PTS: 1 CON: Fluid and Electrolyte Balance

10. ANS: 1
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 2. List the signs and symptoms of common fluid imbalances.
Page: 60
Heading: High-Risk Conditions for Hyponatremia (Box 6.3)
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	A patient with a nasogastric tube connected to suction is at risk for hyponatremia.

2	A patient with constipation will not experience hyponatremia.
3	A patient who experienced a fresh-water near downing is at high risk for hyponatremia.
4	A patient with diabetes insipidus will have hypernatremia.

PTS: 1 CON: Fluid and Electrolyte Balance

11. ANS: 2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 63
Heading: Therapeutic Measures
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Pharmacological Therapies
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	This will not raise serum calcium levels.
2	These are initial signs of hypocalcemia, which can occur with accidental removal of the parathyroid glands during thyroidectomy.
3	This will not raise serum calcium levels.
4	This will not raise serum calcium levels.

PTS: 1 CON: Fluid and Electrolyte Balance

12. ANS: 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 63
Heading: Signs and Symptoms
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	This describes Trousseau sign.
2	This describes Allen test.
3	This describes Chvostek sign.
4	This describes Homan sign.

PTS: 1 CON: Fluid and Electrolyte Balance

13. ANS: 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 3. Predict patients who are at highest risk for dehydration and fluid excess.

Page: 54
Heading: Gerontological Issues
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	This can potentially increase water retention.
2	This can potentially increase water retention.
3	Reduced sensation of thirst causes patients to take in less water, which can be dangerous in an older patient who has reduced body water.
4	This can potentially increase water retention.

PTS: 1 CON: Fluid and Electrolyte Balance

14. ANS: 2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 57
Heading: Positioning
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Application (Applying)
Concept; Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Oxygen is not necessary at this time, as the pulse oximeter reading is within normal limits.
2	To facilitate ease in breathing, the head of the patient's bed should be in semi-Fowler or high Fowler position. These positions allow greater lung expansion and thus aid respiratory effort.
3	Voiding will not relieve fluid overload in the absence of diuretic therapy.
4	Laying the patient flat in bed may cause dyspnea.

PTS: 1 CON: Fluid and Electrolyte Balance

15. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 10. Compare how arterial blood gases change for each type of acid-base imbalance.
Page: 67
Heading: Sources of Acids and Bases
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Analysis (Analyzing)
Concept: Acid/Base Balance

Difficulty: Difficult

	Feedback
1	These results do not indicate metabolic acidosis.
2	These results do not indicate respiratory acidosis.
3	These results do not indicate metabolic alkalosis.
4	These blood gas results are indicative of respiratory alkalosis.

PTS: 1 CON: Acid/Base Balance

16. ANS: 1
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 2. Identify signs and symptoms of common fluid imbalances.
Page: 57
Heading: Complications
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Acute fluid excess typically results in congestive heart failure. As the fluid builds up in the heart, the heart is not able to properly function as a pump. The fluid then backs up into the lungs, causing a condition known as pulmonary edema.
2	Pulmonary infarction is not related to fluid volume.
3	Pulmonary fibrosis is not related to fluid volume.
4	Pulmonary embolism is not related to fluid volume.

PTS: 1 CON: Fluid and Electrolyte Balance

17. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 2. Identify signs and symptoms of common fluid imbalances.
Page: 57
Heading: Data Collection
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	The respiratory rate is slightly elevated, which can be a sign of fluid excess.
2	Output of 1,500 mL may be normal and does not necessarily indicate resolution of fluid excess.
3	The blood pressure may be within the patient's normal limits.
4	Weight is the most reliable measure of fluid volume.

PTS: 1 CON: Fluid and Electrolyte Balance

18. ANS: 1
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 10. Compare how arterial blood gases change for each type of acid-base imbalance.
Page: 67
Heading: Acid-Base Imbalances
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Analysis (Analyzing)
Concept: Acid/Base Balance
Difficulty: Moderate

	Feedback
1	A pH less than 7.35 is acidotic; a patient with COPD is in respiratory acidosis.
2	This is a normal pH.
3	This pH is alkalotic.
4	This pH is alkalotic.

PTS: 1 CON: Acid/Base Balance

19. ANS: 2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 10. Compare how arterial blood gases change for each type of acid-base imbalance.
Page: 67
Heading: Acid-Base Imbalances
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Analysis (Analyzing)
Concept: Acid/Base Balance
Difficulty: Difficult

	Feedback
1	The patient is not experiencing respiratory acidosis.
2	The pH is acidotic and the HCO_3 is low; this patient is experiencing metabolic acidosis.
3	The patient is not experiencing respiratory alkalosis.
4	The patient is not experiencing metabolic alkalosis.

PTS: 1 CON: Acid/Base Balance

20. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 9. Give examples of common causes for acidosis and alkalosis.
Page: 67
Heading: Acid-Base Imbalances
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Acid/Base Balance

Difficulty: Moderate

	Feedback
1	Vomiting causes acid loss and can result in alkalosis.
2	Thirst corrects dehydration, not acidosis.
3	Watery diarrhea can worsen metabolic acidosis.
4	Deep rapid breathing gets rid of carbon dioxide, which leaves less carbon dioxide to combine with water to make carbonic acid in the body.

PTS: 1 CON: Acid/Base Balance

21. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 9. Give examples of common causes of acidosis and alkalosis.
Page: 67
Heading: Acid-Base Imbalances
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Acid/Base Balance
Difficulty: Moderate

	Feedback
1	Oxygen and orange juice will not help.
2	Oxygen and orange juice will not help.
3	The Fowler position will increase ventilation and could worsen alkalosis.
4	Rebreathing from a paper bag reduces carbon dioxide loss, which increases carbonic acid in the body, correcting alkalosis.

PTS: 1 CON: Acid/Base Balance

22. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 3. Predict patients who are at the highest risk for dehydration and fluid excess.
Page: 54
Heading: Pathophysiology and Etiology
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	This patient is at risk for hypervolemia.
2	This patient is at risk for hypervolemia.
3	This patient is at risk for hypervolemia.
4	This patient is at risk for hypovolemia.

PTS: 1 CON: Fluid and Electrolyte Balance

23. ANS: 1
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 63
Heading: Food Sources of Calcium (Table 6.3)
Integrated Process: Teaching/Learning
Client Need: Health Promotion and Maintenance
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1	Cheese is high in calcium.
2	An apple is not high in calcium.
3	A steak is not high in calcium.
4	Potato chips are not high in calcium.

PTS: 1 CON: Fluid and Electrolyte Balance

24. ANS: 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 9. Give examples of common causes of acidosis and alkalosis.
Page: 68
Heading: Acid-Base Balance
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Analysis (Analyzing)
Concept: Acid/Base Balance
Difficulty: Difficult

	Feedback
1	A patient with lung disease is at risk for respiratory acidosis.
2	A patient with diabetes is at risk for metabolic acidosis.
3	A patient with severe anxiety is at risk for respiratory acidosis.
4	A patient with prolonged vomiting is at risk for metabolic alkalosis.

PTS: 1 CON: Acid/Base Balance

MULTIPLE RESPONSE

25. ANS: 2, 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 6. Identify the education needs of patients with fluid imbalances.
Page: 62
Heading: Tips for Taking Oral Potassium Supplements (Box 6.4)
Integrated Process: Teaching/Learning
Client Need: PHYS—Pharmacological Therapies

Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1.	Potassium supplements should be taken with a full meal.
2.	It is important to have the potassium level monitored while on the medication.
3.	Do not supplement a potassium supplement for another.
4.	Extended-release potassium tablets such as K-Dur or Slow-K cannot be crushed.
5.	Nausea, vomiting, diarrhea, and abdominal cramping should be reported to the HCP.

PTS: 1 CON: Fluid and Electrolyte Balance

26. ANS: 1, 2, 3, 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 60
Heading: Expected Outcome
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Reduction of Risk Potential
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1.	For patients who have a fluid excess and a low sodium level, a fluid restriction is often ordered. Diuretics that rid the body of fluid but do not cause sodium loss may also be used. Intake and output are strictly monitored, and the patient is weighed daily.
2.	For patients who have a fluid excess and a low sodium level, a fluid restriction is often ordered. Diuretics that rid the body of fluid but do not cause sodium loss may also be used. Intake and output are strictly monitored, and the patient is weighed daily.
3.	For patients who have a fluid excess and a low sodium level, a fluid restriction is often ordered. Diuretics that rid the body of fluid but do not cause sodium loss may also be used. Intake and output are strictly monitored, and the patient is weighed daily.
4.	For patients who have a fluid excess and a low sodium level, a fluid restriction is often ordered. Diuretics that rid the body of fluid but do not cause sodium loss may also be used. Intake and output are strictly monitored, and the patient is weighed daily.
5.	IV saline is indicated if the patient does not have a fluid volume excess.

PTS: 1 CON: Fluid and Electrolyte Balance

27. ANS: 1, 2, 3, 4

Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 2. List the signs and symptoms of common fluid imbalances.
Page: 65
Heading: Signs and Symptoms
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1.	Acute hypercalcemia is associated with increased heart rate and blood pressure, skeletal muscle weakness, and decreased gastrointestinal (GI) motility.
2.	Acute hypercalcemia is associated with increased heart rate and blood pressure, skeletal muscle weakness, and decreased GI motility.
3.	Acute hypercalcemia is associated with increased heart rate and blood pressure, skeletal muscle weakness, and decreased GI motility.
4.	Acute hypercalcemia is associated with increased heart rate and blood pressure, skeletal muscle weakness, and decreased GI motility.
5.	Dry mucous membranes are associated with fluid volume deficit and not hypercalcemia.

PTS: 1 CON: Fluid and Electrolyte Balance

28. ANS: 1, 2, 3
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 2. List the signs and symptoms of common fluid imbalances.
Page: 63
Heading: Hypokalemia
Integrated Process: Caring
Client Need: PHYS—Physiological Adaptation
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

	Feedback
1.	Muscle cramping is a symptom of hypokalemia.
2.	Weak and thready pulse is a clinical manifestation of hypokalemia.
3.	Nausea is a clinical manifestation of hypokalemia.
4.	Diarrhea is a sign of hyperkalemia, hypocalcemia, and hyponatremia.
5.	Hyperactive DTRs are a sign of hypocalcemia.

PTS: 1 CON: Fluid and Electrolyte Balance

ORDERED RESPONSE

29. ANS:
3, 2, 1, 4
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalance
Objective: 7. Categorize common causes, signs, and symptoms, and treatments for sodium, potassium, calcium, and magnesium imbalances.
Pages: 63–68
Heading: Electrolyte Imbalance
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: SECE—Coordinated Care
Cognitive Level: Analysis (Analyzing)
Concept: Fluid and Electrolyte Balance
Difficulty: Difficult

Feedback: The nurse should first assess the patient with the very low potassium level experiencing heart palpitations, because hypokalemia can cause cardiac dysrhythmias (circulation). The second patient the nurse should assess is the patient with fluid volume excess and pitting edema (circulation). The third patient the nurse should assess is the patient reporting loose stools and nausea, followed by the patient with a normal calcium level and negative Trousseau sign.

PTS: 1 CON: Fluid and Electrolyte Balance

COMPLETION

30. ANS:
125
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 64
Heading: Osmosis
Integrated Process: Clinical Problem-Solving Process (Nursing Process)
Client Need: PHYS—Pharmacological Therapies
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

Feedback: Divide 1,000 mL by 8 hours to give a rate of 125 mL/hr.

PTS: 1 CON: Fluid and Electrolyte Balance

31. ANS:
2
Chapter: Chapter 6 Nursing Care of Patients With Fluid, Electrolytes, and Acid-Base Imbalances
Objective: 5. Describe therapeutic measures for patients with fluid and electrolyte imbalances.
Page: 64
Heading: Drug Therapy
Integrated Process: Clinical Problem-Solving Process (Nursing Process)

Client Need: PHYS—Pharmacological Therapies
Cognitive Level: Application (Applying)
Concept: Fluid and Electrolyte Balance
Difficulty: Moderate

Feedback: The nurse is to administer 40 mg, but only 20 mg/mL is available. Multiply the mL by 2, which gives you a ratio of 40 mg/2 mL.

PTS: 1 CON: Fluid and Electrolyte Balance