

1 . The nurse is reviewing serum laboratory results for four female clients. Place an X on the client requiring the most immediate assessment.

Client	Lab Test	Result	Normal Ranges
A	Thyroid-stimulating hormone (TSH) level	5.2 mIU/L	0.4–4.2 mIU/L
	Free thyroxine (T4)	0.8 ng/dL	0.8–2.7 ng/dL
B	Growth hormone (GH)	23 µg/L	8–18 µg/L
	Insulin-like growth factor I (IGF-I)	490 ng/mL	105–441 ng/mL
C	Free thyroxine (T4)	7.0 ng/dL	0.8–2.7 ng/dL
	Thyroid-stimulating hormone (TSH) level	0.1 mIU/L	0.4–4.2 mIU/L
D	Fasting glucose	140 mg/dL	70–110 mg/dL
	Hgb A _{1c}	6.9%	Less than 6%

MoC ANSWER:

B	Growth hormone (GH)	23 µg/L	8–18 µg/L
☒	Insulin-like growth factor I (IGF-I)	490 ng/mL	105–441 ng/mL

Client B has an elevated T4 and decreased TSH, indicating an excess of thyroid hormone. This client has life-threatening results that can produce severe hypertension and tachycardia. The client should be assessed for impending thyroid storm.

Client A has an elevated TSH level indicating hypothyroidism. TSH is needed to ensure proper synthesis and secretion of the thyroid hormones, which are essential for life. Although it should be addressed, this client is not in need of immediate assessment because an elevated TSH and normal T4 indicate mild hypothyroidism.

Client C has elevated growth hormone (GH) and insulin-like growth factor 1(IGF-1), which are associated with acromegaly. Bone and soft tissue deformities and enlarged viscera can occur. The HCP should be aware of this level, but the client does not need immediate assessment.

Client D has elevated glucose and Hgb A^{1c}. levels, which are associated with DM. These levels are not life-threatening requiring immediate assessment or intervention.

2. The nurse is interviewing four clients. Which client is at the greatest risk for developing type 2 DM?

- A. 56-year-old Hispanic female
- B. 40-year—old Asian American female
- C. 25-year-old obese Caucasian male
- D. 38-year-old Native American male

ANSWER: D

- A. Although the incidence of DM is higher among Hispanics than Caucasians, Native Americans have the highest risk.
- B. The incidence of DM is low among Asian Americans.
- C. The young client who is obese does have an increased risk and should be explored for UM, but the Native American client is at greatest risk. The incidence of DM is higher among Native Americans than Caucasians, and the Native American client is older.
- D. The nurse should further explore whether the Native American male client has developed DM. Research has shown that the highest incidence of DM is among Native Americans.

3. The nurse obtains a fingerstick blood glucose reading of 48 mg/dL for the client with type 1 DM. The client is to receive 6 units of regular and 10 units of NPH insulin now. Which is the nurse's best immediate intervention?

- A. Administer the insulin that is due now.
- B. Call the lab for a STAT serum glucose level.
- C. Have the client choose foods for a meal now.
- D. Provide juice with 15 grams of carbohydrates.

ANSWER: D

- A. Administering insulin when hypoglycemia is already present could cause unconsciousness and death.
- B. Calling the lab to obtain a STAT serum glucose level will delay the client's treatment for hypoglycemia.
- C. Having the client choose foods for a meal will delay the client's treatment for hypoglycemia.
- D. Normal blood glucose level is 70—110 mg/dL. Hypoglycemia is treated with 15 to 20 g of a simple (fast-acting) carbohydrate, such as 4 to 6 oz of fruit juice or 8 oz of low-fat milk.

4. The clinic nurse is evaluating the client with type 1 DM who intends to enroll in a tennis class. Which statement made by the client indicates that the client understands the effects of exercise on insulin demand?

- A. "I will carry a high-fat, high-calorie food, such as a cookie."
- B. "I Will administer 1 unit of lispro insulin prior to playing tennis."
- C. "I will eat a 15-grarn carbohydrate snack before playing tennis."
- D. "I Will need to rest for a While during tennis if I feel sweaty or shaky."

ANSWER: C

- A. The food should be a simple sugar food because the fat content of a high-fat food will delay the absorption of the glucose in the food.

- B. Taking insulin prior to activity will lower the blood glucose level such that hypoglycemia can occur.
- C. Excessive exercise without sufficient carbohydrates can result in unexpected hypoglycemia.
- D. Feeling sweaty or shaky during exercise indicates hypoglycemia; a complex carbohydrate should be consumed, and the client should rest.

5. The nurse is caring for multiple clients with DM. It is most important for the nurse to initiate a referral to a diabetes educator for which client?

- A. The client who states diabetes is well controlled with diet and exercise; Hgb Alc is 11%.
- B. The client requesting diabetes information; fingerstick glucose is 132 mg/dL, Hgb Alc is 5.6%.
- C. The client who states perfect compliance with diet, exercise, and meds; Hgb A1c is 7%.
- D. The client with short-term memory loss; fingerstick glucose is 110 mg/dL, Hgb A1C is 4.5%.

ANSWER: A

- A. It is most important for the nurse to initiate a referral for clients who falsely think their diabetes is well controlled. The client's Hgb Ale, which measures average blood glucose over the previous 3 months, is 11%, indicating that the diabetes is not well controlled. The Hgb A1c goal is less than 7%.
- B. The client who wants more information about DM does not need a referral because the client's Hgb Ale is less than 7%. The nurse can provide resources for additional information.
- C. Although this client states perfect compliance, the client could benefit from a referral due to Hgb A" of 7%. However, this client's DM is better controlled than that of the client in option 1.
- D. This client does not need a referral for a diabetes educator because the fingerstick glucose and the Hgb A1c are both within normal ranges. A referral to a neurologist may be indicated.

6. Two hours after taking a regular morning dose of regular insulin, the client presents to a clinic with diaphoresis, tremors, palpitations, and tachycardia. Which nursing action is most appropriate?

- A. Check pulse oximetry; if 94% or less, start oxygen at 2 L per nasal cannula.
- B. Give a baby aspirin and one nitroglycerin tablet; obtain an electrocardiogram.
- C. Check blood glucose level; provide carbohydrates if less than 70 mg/dL (3.8 mmol/L).
- D. Check heart rate; if the HR is above 120 beats per minute, give atenolol 125 mg orally.

ANSWER: C

- A. The symptoms do not suggest a respiratory problem; giving oxygen when saturations are 94% is unnecessary.
- B. Although diaphoresis, palpitations, and tachycardia are symptoms of both hypoglycemia and cardiac problems, the client had taken insulin 2 hours earlier. Treating the low blood sugar first rather than giving aspirin and nitroglycerin will likely resolve the client's symptoms.
- C. Regular insulin (Humulin R) peaks in 2 to 4 hours after administration. The client's symptoms suggest hypoglycemia, so a blood glucose level should be checked and carbohydrates given if low.
- D. Atenolol (Tenormin) should never be given without also knowing the BP.

7. The nurse is planning to complete noon assessments for four assigned clients with type 1 DM. All of the clients received subcutaneous insulin aspart at 0800 hours. Place the clients in the order of priority for the nurse's assessment.

- A. The 60-year-old client who is nauseated and has just vomited for the second time
- B. The 45-year-old client who is dyspneic and has chest pressure and new-onset atrial fibrillation
- C. The 75-year-old client with a fingerstick blood glucose level of 300 mg/dL
- D. The 50-year-old client with a fingerstick blood glucose level of 70 mg/dL

ANSWER: B, A, C, D

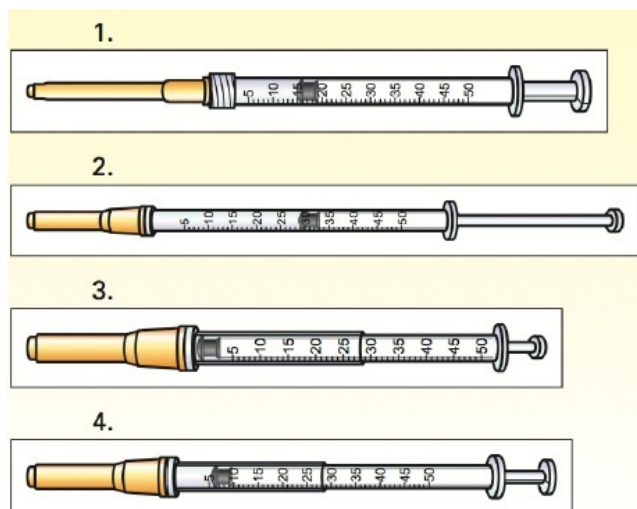
B. The 45-year-old client who is dyspneic and has chest pressure and new-onset atrial fibrillation should be assessed first. Diabetes increases the risk of CAD and MI.

A. The 60-year-old client who is nauseated and has just vomited for the second time should be next. If breakfast was undigested, the client's blood glucose level could be low.

C. The 75-year-old client with a fingerstick blood glucose level of 300 mg/dL should be assessed third. This blood glucose level is not immediately life-threatening but needs to be lowered as soon as possible.

D. The 50-year-old client with a fingerstick blood glucose level of 70 mg/dL can be assessed last because this is a normal blood glucose level.

8. The client ate 45 g of carbohydrate (carb) with the dinner meal. The client is to receive 2 units of aspart insulin subcutaneously for each carb choice (CHO) eaten (1 carb choice = 15 g). Which syringe shows the correct amount of insulin that the nurse should administer?



ANSWER: D

- A. Illustration 1 shows 16 units of insulin, which is too much.
- B. Illustration 2 shows 29 units of insulin, which is too much.
- C. Illustration 3 shows 1 unit of insulin, which is too little.
- D. The client should receive 6 units of insulin (illustration 4). Eating 45 g of carbohydrates equals 3 CHOs. If the client is to receive 2 units of insulin for each CHO, the total amount of aspart insulin is 3 CHO times 2 units per CHO = 6 units.

9. The nurse is reviewing information for the client with type 1 DM. The nurse concludes that the client may be experiencing the Somogyi phenomenon, as evidenced by which finding?

- A. 02.00 blood glucose between 80—110 mg/dL and morning levels between 80—100 mg/dL
- B. 0200 blood glucose between 50—60 mg/dL and morning levels between 48—62 mg/dL
- C. 0200 blood glucose between 130—140 mg/dL and morning levels between 180—200 mg/dL
- D. 0200 blood glucose between 45—62 mg/dL and morning levels between 200—305 mg/dL

ANSWER: D

- A. Both the middle-of-the-night and morning blood glucose readings are within normal ranges.
- B. A middle-of-the-night blood glucose between 50 and 60 mg/dL and a morning level of 48 and 62 mg/dL both indicate hypoglycemia-
- C. The above-normal blood glucose in the middle of the night and morning hyperglycemia are signs of Dawn phenomenon.

- D. The nurse should conclude that the low blood glucose in the middle of the night (45–62 mg/dL) and a rebound morning hyperglycemia (200–305 mg/dL) are signs of Somogyi phenomenon, also known as Somogyi effect.

10. The client taking NPH insulin at 0800 reports feeling anxious and shaky in the midafternoon. Which intervention is best for the nurse to initiate?

- A. Have the client rate the level of anxiety.
- B. Give the client's prn dose of lorazepam.
- C. Check the client's fingerstick blood glucose level.
- D. Advise the client to sit in a recliner to relax.

ANSWER: C

- A. Having the client rate the level of anxiety will delay obtaining a fingerstick blood glucose; the problem may not be anxiety but hypoglycemia.
- B. The problem may not be anxiety but hypoglycemia; administering lorazepam (Ativan) should not be considered until hypoglycemia is ruled out.
- C. The best intervention is to check a fingerstick blood glucose level because anxiety and shakiness in the midafternoon when taking NPH insulin (Humulin N) could indicate hypoglycemia; NPH insulin peaks in 6–8 hours after administration.
- D. The problem may not be anxiety but hypoglycemia; having the client sit in a recliner to relax should not be considered until hypoglycemia is ruled out.

11 . The nurse administers 15 units of glargine insulin at 2100 hours to the client when the client's fingerstick blood glucose reading is 110 mg/dL. At 2300, an NA reports that an evening snack was not given because the client was sleeping. Which instruction by the nurse is most appropriate?

- A. "You will need to wake the client to check the blood glucose and then give a snack. All diabetics get a snack at bedtime."
- B. "It is not necessary for this client to have a snack; glargine insulin is absorbed over 24 hours and doesn't have a peak."
- C. "The next time the client wakes up, check a blood glucose level and then give a 15-gram carbohydrate snack."
- D. "I will notify the HCP; a snack at this time will affect the next blood glucose level and dose of glargine insulin."

ANSWER: B

- A. Waking the client to check the blood glucose and then giving a snack is unnecessary. All diabetics do not need a bedtime snack.
- B. The onset of glargine (Lantus) is 1 hour; it has no peak action, and it lasts for 24 hours. Glargine lowers the blood glucose by increasing transport into cells and promoting the conversion of glucose to glycogen. Because it has no peak action, a bedtime snack is unnecessary.

- C. Checking the blood glucose level and then giving a snack the next time the client wakes up is unnecessary.
- D. Glargine is administered once daily, the same time each day, to maintain relatively constant concentrations over 24 hours. It is unnecessary to notify the HCP.

12. The client with DM is to receive insulin IV at 1.5 units per hour. The insulin bag contains 10 units of insulin in 100 mL of NS. The nurse should set the infusion pump to deliver how many milliliters per hour?

_____ mL/hr (Record your answer rounded to the nearest tenth.)

ANSWER: 1.5

10 units : 100 mL :: 1.5 units : X mL; $10X = 150$; $X = 1.5$

13. The client with type 1 DM is scheduled for major surgery in the morning. The nurse on the night shift observes that the client's daily insulin dose remains the same as previously given. Which nursing action is most appropriate?

- A. Notify the prescribing HCP about the client's surgery and ask about any insulin changes.
- B. Write an order to decrease the morning insulin dose by one-half of the prescribed dose.
- C. Do nothing; the HCP would want the client to receive the usual insulin dose prior to surgery.
- D. Have the day shift nurse check a morning glucose level and, if normal, hold the insulin dose.

ANSWER: A

- A. Because the client will be NPO for surgery, the nurse should verify the insulin type and dose to be administered to prevent a hypoglycemic reaction.
- B. An RN is unable to prescribe medications. The nurse could write the order based on protocol or standing orders, but this is not noted in the option.
- C. Doing nothing could cause a hypoglycemic reaction because the client will be NPO for surgery.
- D. Holding the morning dose of insulin can cause hyperglycemia, leading to DKA. Even without food, glucose levels increase from hepatic glucose production. Clients with type 1 DM require insulin 24 hours a day.

14. The nurse administers a usual morning dose of 4 units of regular insulin and 8 units of NPH insulin at 7:30 am. to the client with a blood glucose level of 110 mg/dL. Which statements regarding the client's insulin are correct?

- A. The onset of the regular insulin will be at 7:45 am. and the peak at 1:00 pm.
- B. The onset of the regular insulin will be at 8:00 am. and the peak at 10:00 am.
- C. The onset of the NPH insulin will be at 8:00 am. and the peak at 10:00 am.
- D. 6. The onset of the NPH insulin will be at 12:30 pm. and the peak at 11:30 pm.

ANSWER: B

- A. The onset of regular insulin (short acting) is one-half to 1 hour, not 15 minutes; its peak is 2 to 3 hours, not 5.5 hours.
- B. The onset of regular insulin (short acting) is one-half to 1 hour, and the peak is 2 to 3 hours. The onset of NPH insulin (intermediate acting) is 2 to 4 hours, and the peak is 4 to 12 hours.
- C. The onset of NPH insulin (intermediate acting) is 2 to 4 hours, not 30 minutes; its peak is 4 to 12 hours, not 25 hours-
- D. The onset of NPH insulin (intermediate acting) is 2 to 4 hours, not 5 hours; the peak is 4 hours, which is within the normal peak time Of '4 to '12 hours.

15. The nurse is planning to address diabetic meal planning with the client recently diagnosed with type 1 DM. Which action should the nurse take first?

- A. Encourage use of non-nutritive sweeteners that contain no calories.
- B. Emphasize the importance of keeping regular mealtimes every day.
- C. Teach the client how to count the carbohydrates in meals and snacks.
- D. Ask the client to identify favorite foods and the client's usual mealtimes.

ANSWER: D

- A. Addressing nutritive and non-nutritive sweeteners with the client is important because nutritive sweeteners contain calories and non-nutritive sweeteners are calorie free; however, this is an intervention; assessment is first.
- B. If the client is taking insulin, keeping regular mealtimes will help to cover the peak times of insulin. This is important to address but is an intervention; assessment is first.
- C. One method for closing insulin is based on the number of carbohydrates consumed. This is important to address but is an intervention; assessment is first.
- D. Asking about favorite foods and usual mealtimes is an assessment question used in obtaining a thorough diet history; the nurse should take this action first prior to beginning teaching.

16. A friend brings the older adult homeless client to a free health screening clinic. The friend is unable to continue administering the client's morning and evening insulin dose for treating type 1 DM. When advocating for this client, which action by the nurse is most appropriate?

- A. Notify Adult Protective Services about the client's condition and living situation.
- B. Ask where the client lives and whether someone else could administer the insulin.
- C. Arrange with a local homeless shelter to have someone give the insulin injections.
- D. Have the client return to the screening clinic morning and evening to receive the injections.

ANSWER: C

- A. Adult Protective Services is an agency that investigates actual or potential abuse.
- B. Option 2 is data gathering and not advocacy.
- C. The nurse advocates by ensuring that the client has access to health care services. The nurse should contact a social worker whose role it is to make placement arrangements.
- D. A screening clinic is not a permanent clinic where health care services are provided.

17. The nurse reviews the HCP's orders for the newly admitted client diagnosed with DKA. Which order should the nurse question?

- A. Administer D5W intravenously (IV) at 125 mL per hour
- B. Administer KCL 10 mEq in 100 mL NaCl IV now
- C. Give sodium bicarbonate IV per pharmacy dosing if arterial pH is less than 7.0
- D. Start regular insulin infusion per protocol; titrate based on hourly glucose level

ANSWER: A

- A. In DKA, the blood glucose level is above 300 mg/dL. Additional glucose will increase the glucose level further. Initially 0.45% or 0.9% sodium chloride (NaCl) is administered for fluid resuscitation. Glucose may be added when blood glucose levels approach 250 mg/dL.
- B. Insulin will drive potassium into the cells, so potassium chloride (KCL) is administered to prevent life-threatening hypokalemia.
- C. Normal arterial pH is 7.35 to 7.45. Sodium bicarbonate will reverse the severe acidosis-
- D. IV insulin will correct the hyperglycemia and hyperketonemia. Tight glucose control can be maintained by hourly glucose checks and adjusting the insulin infusion dose.

18. The nurse evaluates the client who is being treated for DKA. Which finding indicates that the client is responding to the treatment plan?

- A. Eyes sunken and skin flushed
- B. Skin moist with rapid elastic recoil
- C. Serum potassium level is 3.3 mEq/L
- D. ABG results are pH 7.25. Paco₂ 30. HCO₃⁻ 17

ANSWER: B

- A. Sunken eyes and flushing are signs of dehydration-
- B. Moist skin and good skin turgor indicate that dehydration secondary to hyperglycemia is resolving.
- C. Normal serum potassium levels are 3.5 to 5.0 mEq/L; a level of 3.3 mEq/L is low.
- D. The abnormal ABGs indicate compensating metabolic acidosis; the pH, Paco₂, and HCO₃⁻ are all low.

19. The client with type 2 DM is scheduled for cardiac rehabilitation exercises (cardiac rehab). The nurse notes that the client's blood glucose level is 300 mg/dL and that the urine is positive for ketones. How should the nurse proceed?

- A. Send the client to cardiac rehab; exercise will lower the client's glucose level.
- B. Give insulin; send the client for exercises with a 15-gram carbohydrate snack.
- C. Delay cardiac rehab; blood glucose levels will decrease too much with exercise.
- D. Cancel cardiac rehab; blood glucose levels will increase further with exercise.

ANSWER: D

- A. Exercise in the presence of hyperglycemia does not lower the blood glucose level.
- B. Administering insulin may be an option, but the blood glucose level should be known before sending the client to cardiac rehab-
- C. Exercise, even if delayed, will not lower the blood glucose level in the presence of hyperglycemia-
- D. Exercising with blood glucose levels exceeding 250 mg/dL and ketonuria increases the secretion of glucagon, growth hormone, and catecholamines, causing the liver to release more glucose.

20. The client residing in a long-term care facility has type 2 DM and is sick with the stomach flu. The client's blood glucose is 245 mg/dL. Which action should the nurse take next?

- A. Have the client void and check the urine for ketones.
- B. Keep the client NPO until blood glucose levels decline.
- C. Immediately contact the client's health care provider.
- D. Continue to monitor blood glucose levels every 6 hours.

ANSWER: A

- A. The nurse should check the client's urine for ketones whenever the blood glucose level is greater than 240 mg/dL.
- B. The client should continue to eat meals as tolerated and not be placed on NPO. If a regular diabetic diet is not tolerated, easily digested foods and regular soda can be substituted.
- C. The ketone should be known before contacting the HCP; some agencies have protocols in place for treating elevated glucose levels when the client with diabetes is ill.
- D. Sick-day management of the client with diabetes includes more frequent monitoring of blood glucose levels to at least every 2—4 hours, not every 6 hours.

21 . The nurse is teaching the client newly diagnosed with type 2 DM. Which information should the nurse emphasize in the session?

- A. Use the arm when self-administering insulin.
- B. Exercise for 30 minutes daily, preferably after a meal.
- C. Consume 30% of the daily calorie intake from protein foods.
- D. Eat a 30-gram carbohydrate snack prior to strenuous activity.

ANSWER: B

- A. Usually type 2 DM is controlled with oral hypoglycemic agents. If insulin is needed, sites should be rotated.
- B. Exercise increases insulin receptor sites in the tissue and can have a direct effect on lowering blood glucose levels. Exercise contributes to weight loss, which also decreases insulin resistance.
- C. For those with DM, protein should contribute less than 10% of the total energy consumed.
- D. Strenuous activity can be perceived by the body as a stressor, causing a release of counter-regulatory hormones that subsequently increase blood glucose. Hyperglycemia can result from the combination of strenuous activity and extra carbohydrates.

22. The nurse is assessing the client who has type 2 DM. Which findings indicate to the nurse that the client is experiencing HHNS? Select all that apply.

- A. Serum osmolality 364 mOsm/kg
- B. Blood glucose level 160 mg/dL
- C. Very dry mucous membranes
- D. Blood pressure of 90/42 mm Hg
- E. Urine output 500 mL past 8 hours

ANSWER: A, C, D

- A. A serum osmolality of 364 mOsm/kg is elevated (normal 275 - 295 mOsm/kg); the extremely high blood glucose levels in HHNS increase serum osmolality.
- B. Although a blood glucose level of 160 mg/dL is elevated, the blood glucose levels in HHNS are extremely elevated, usually 600 to 1200 mg/dL.
- C. Very dry mucous membranes indicate dehydration. Persistent hyperglycemia in HHNS causes osmotic diuresis, a loss of water and electrolytes, and extreme dehydration.
- D. A BP of 90/42 indicates hypotension from loss of water and electrolytes in HHNS.
- E. Urine output of 500 mL in 8 hours is normal; in HHNS polyuria occurs from the high glucose levels and osmotic diuresis.

23. The nurse determined that the client's fluid volume deficit from HHNS has resolved. Which serum laboratory finding led to the nurse's conclusion?

- A. Decreased glucose
- B. Decreased sodium
- C. Decreased osmolality
- D. Decreased potassium

ANSWER: C

- A. A decrease in serum glucose indicates that the hyperglycemia is resolving, but not the fluid volume deficit.
- B. Serum sodium values should increase, not decrease, with treatment.
- C. Extreme hyperglycemia produces severe osmotic diuresis; loss of sodium, potassium, and phosphorus; and profound dehydration. Consequently, hyperosmolality occurs. A normalizing of the serum osmolality indicates that the fluid volume deficit is resolving.
- D. Potassium values should increase, not decrease, with treatment.

24. The home health nurse is completing the first home visit for the elderly Hispanic client newly diagnosed with type 2 DM. The client has been instructed on self-administering NPH and regular insulin in the morning and at suppertime. What information should the nurse reinforce when teaching the client? Select all that apply.

- A. Inspect the feet and between the toes daily.
- B. Use magnifying devices to read small print.
- C. Perform a hemoglobin A1c test once a week.
- D. Eat a 15-gram carbohydrate snack at bedtime.
- E. Inject 1 unit of NPH insulin after eating a snack

ANSWER: A, B, D

- A. Diabetes, diabetic complications, and increased mortality have been reported to occur at a higher rate in Hispanics compared with non-Hispanic whites of

the same age. Therefore, careful daily skin assessment is necessary. Neuropathy, PVD, and immunocompromise can result in diabetic foot ulcer and complications.

- B. Magnifying devices are available if the client is unable to read small print to prevent dosing errors.
- C. Blood is drawn in the laboratory to check the A1c.
- D. Regular insulin peaks in 2 to 3 hours, and NPH insulin peaks in 4 to 12 hours after administration. A bedtime snack will cover the insulin peak to prevent hypoglycemia.
- E. Only short-acting (regular) or rapid-acting insulin (aspart or lispro), not NPH insulin, would be administered to cover for additional carbohydrates if the client were on a carbohydrate-counting regimen with insulin coverage. This would be prescribed by the HCP.

25. The nurse is caring for the client with type 2 DM. Which instructions should the nurse provide to the client regarding diabetes management during stress or illness? Select all that apply.

- A. Notify the health care provider if unable to keep fluids or foods down.
- B. Test fingerstick glucose levels and urine ketones daily and keep a record.
- C. Continue to take oral hypoglycemic medications and/or insulin as prescribed.
- D. Supplement food intake with carbohydrate-containing fluids, such as juices or soups.
- E. When on an oral agent, administer insulin in addition to the oral agent during the illness.
- F. A minor illness, such as the flu, usually does not affect the blood glucose and insulin needs.

ANSWER: A, C

- A. If the client is unable to eat due to nausea and vomiting, dehydration can occur from hyperglycemia and the lack of fluid intake. The HCP should be notified.
- B. Blood glucose should be checked every 4 hours when ill (not daily) and the ketones tested every 3 to 4 hours if the glucose is greater than 240 mg/dL.
- C. An acute or minor illness can evoke a counter-regulatory hormone response, resulting in hyperglycemia; thus the client should continue medications as prescribed.
- D. The client should supplement the diet with carbohydrate-containing fluids only if eating less than normal due to the illness.
- E. Insulin may or may not be necessary; it is based on the client's blood glucose level.
- F. An acute or minor illness can evoke a counter-regulatory hormone response, resulting in hyperglycemia.

26. The nurse is caring for the client with elevated growth hormone (GH) levels. Which problem should the nurse exclude from the plan of care?

- A. Fluid volume deficit due to polyuria
- B. Insomnia due to soft tissue swelling
- C. Impaired communication due to speech difficulties
- D. Altered body image due to undersized hands, feet, and jaw

ANSWER: D

- A. GH excess antagonizes the action of insulin, causing hyperglycemia. Thus manifestations of DM occur: polyuria, polydipsia, and polyphagia.
- B. Sleep apnea occurs from upper airway narrowing and obstruction from increased amounts of pharyngeal tissue.
- C. Enlargement of pharyngeal tissue and the tongue may result in speech difficulties.
- D. GH excess causes overgrowth (not undersizing) of the bones and soft tissues, resulting in a disturbance in body image.

27. The nurse is caring for the client diagnosed with DI. Which nursing actions are most appropriate? Select all that apply.

- A. Monitoring hourly urine output and daily weights
- B. Checking urine osmolality and urine ketones
- C. Giving desmopressin acetate (DDAVP) as prescribed
- D. Checking glucose levels before meals and at bedtime
- E. Monitoring for signs or symptoms of hyperkalemia

ANSWER: A, C

- A. A decreased production of ADH results in increased urine output and increased plasma osmolality. Thus, urine output should be monitored hourly. Daily weights should be monitored because weight loss is associated with D1, and weight gain is associated with receiving DDAVP.
- B. Urine osmolality may be monitored, but checking urine ketones is unnecessary-
- C. DDAVP, administered orally, by IV, or nasally, is an analog of ADH for ADH replacement. The client should be monitored for weight gain, hyponatremia, and water intoxication when taking DDAVP.
- D. Elevated blood glucose levels are associated with DM, not D1.
- E. Hypernatremia, not hyperkalemia, is associated with DI.

28. The client develops SIADH secondary to a pituitary tumor. The client's assessment findings include thirst, weight gain, fatigue, and a serum sodium of 127 mEq/L. Which intervention, if prescribed, should the nurse implement to treat SIADH?

- A. Elevate the head of the bed 30 degrees
- B. Administer vasopressin intravenously (IV)

- C. Restrict fluids to 800 to 1000 mL per day
- D. Give 0.3% sodium chloride IV infusion

ANSWER: C

- A. The bed should be positioned flat or with no more than 10 degrees of elevation to enhance venous return to the heart and increase left atrial filling pressure, reducing ADH release.
- B. Vasopressin is an ADH; thus, it will aggravate the client's problem.
- C. If symptoms are mild and serum sodium is greater than 125 mEq/L (125 mmol/L), treatment includes fluid restriction to 800 to 1000 mL per day and discontinuation of medications that stimulate the release of ADH. The fluid restriction should result in a progressive rise in serum sodium concentration and osmolality and symptomatic improvement.
- D. Hypertonic saline (3% to 5%) should be administered if hyponatremia is severe (less than 120 mEq/L; normal serum sodium levels are 136–146 mEq/L). Hypertonic solutions cause fluid to be drawn into the vascular system.

29. The nurse is collecting information about the client who underwent a transsphenoidal removal of a pituitary tumor. Which findings should indicate to the nurse that the client is experiencing DI? Select all that apply.

- A. Serum osmolality 310 mOsm/kg
- B. Weight increased 2 kg in 24 hours
- C. Experiencing an extreme thirst
- D. Urine output 4200 mL in 24 hours
- E. BP averaging 164/92 mm Hg or higher

ANSWER: A, C, D

- A. The serum osmolality of 310 mOsm/kg is elevated; this finding should indicate to the nurse that the client is experiencing DI because fluid loss with DI increases serum osmolality.
- B. The client's weight has increased; a decreased weight occurs in DI due to excessive diuresis.
- C. Excessive thirst occurs with DI due to excessive diuresis; this finding should indicate to the nurse that the client is experiencing DI.
- D. Urine output of 4200 mL in 24 hours is excessive and occurs in DI from a deficiency of ADH, resulting in an inadequate reabsorption of water by the kidney tubules; this finding should indicate to the nurse that the client is experiencing DI.
- E. A BP averaging 164/92 or higher indicates hypertension; DI produces hypotension from fluid loss by the kidneys.

30. The nurse observes a colleague caring for the client who had a hypophysectomy via the transsphenoidal approach 12 hours ago. Which action would require the observing nurse to intervene?

- A. Elevates the head of the client's bed to 30 degrees
- B. Gathers supplies to replace the bloody nasal packing
- C. Moisturizes the client's oral mucous membranes
- D. Places a cold washcloth over the client's swollen eyes

ANSWER: B

- A. Elevating the head of the client's bed to 30 degrees is an appropriate action because it will promote cerebral venous drainage and prevent pressure on the sella turcica.
- B. The nurse should intervene when observing the nurse prepare to replace the nasal packing. The nasal packing and "mustache dressing" under the nose to collect drips are left in place for 3 to 4 days; these are not changed without an HCP order.
- C. Moisturize oral mucous membrane is an appropriate action because the nasal packing produces the need for mouth-breathing.
- D. Placing a cold washcloth over the client's swollen eyes is an appropriate action because cold will help to reduce swelling and provide comfort.

31 . The nurse is caring for the client with SIADH. Which interventions should the nurse plan to implement? Select all that apply.

- A. Obtain the weight near the same time each morning.
- B. Place the client on a fluid-restricted diet as prescribed.
- C. Prepare to give a 500-mL NaCl intravenous fluid bolus.
- D. Administer furosemide intravenously as prescribed.
- E. Monitor for hyperactive reflexes and heightened alertness.

ANSWER: A, B, D

- A. Weight gain occurs because of fluid retention in SIADH. The nurse should weigh the client at the same time each day and using the same scale to evaluate treatment effectiveness.
- B. Manifestations of SIADH include hyponatremia (sodium <134 mEq/L). The nurse should place the client on fluid restrictions.
- C. Fluid volume overload occurs in SIADH, and fluids are restricted. A 3% NaCl IV solution may be administered to treat hyponatremia.
- D. The nurse should administer furosemide (Lasix) as prescribed to treat fluid retention.
- E. The nurse should monitor for hypoactive (not hyperactive) reflexes and lethargy (not heightened alertness), which are symptoms of cerebral edema from fluid overload.

32. The client taking thyroid replacement hormone is hospitalized, and a thyroid replacement hormone is not prescribed. A week after being hospitalized, the nurse assesses that the client is becoming increasingly lethargic and has a decreased blood pressure, respiratory rate, temperature, and pulse. Which actions should be taken by the nurse? Place each nursing action in the order of priority.

- A. Warm the client
- B. Administer intravenous fluids
- C. Assist in ventilatory support
- D. Administer thyroxine as prescribed

ANSWER: C , B , A , D

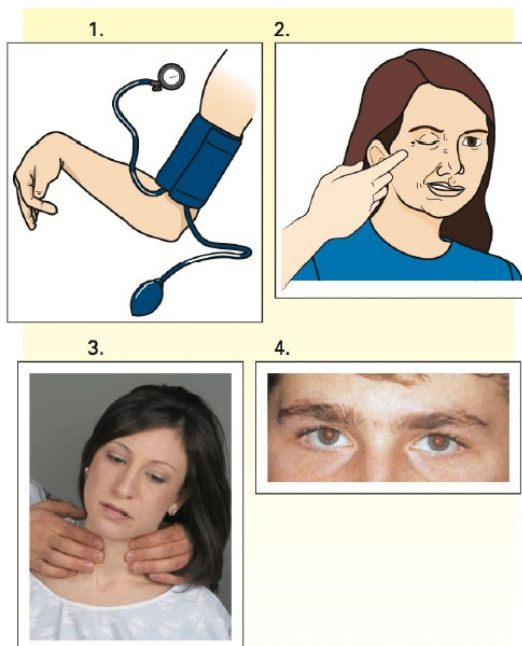
C. Assist in ventilatory support first because the respiratory rate is decreased and the client is lethargic.

B. Administer intravenous fluids next because of hypotension.

A. Warm the client to prevent an increase in metabolic demand.

D. Administer thyroxine as prescribed. It should be administered cautiously because the decreased metabolic rate and atherosclerosis of myxedema may result in angina.

33. The nurse assesses the client following a total thyroidectomy. Which finding indicates that the client has a positive Trousseau's sign?



ANSWER: A

- A. Trousseau's sign (illustration 1) is carpal spasm as a result of hypocalcemia. During thyroid surgery, the parathyroid glands can be injured or removed, affecting calcium metabolism and resulting in hypocalcemia, nerve hyperirritability, and spasms.
- B. Chvostek's sign (illustration 2) is muscle twitching of the client's cheek when the facial nerve in front of the ear is tapped.
- C. Illustration 3 shows the method to palpate the thyroid gland using the posterior approach.
- D. Illustration 4 shows the red reflex over the pupil when performing an ophthalmic examination.

34. The client newly diagnosed with hyperthyroidism has a fever of 101.3°F (38.5°C). Which additional assessment findings should the nurse identify as those associated with thyroid storm? Select all that apply.

- A. Hypoventilation
- B. Heart rate 140 bpm
- C. Diarrhea last 4 days
- D. Periorbital edema
- E. Recent tooth extraction

ANSWER: B, C, E

- A. Hypoventilation occurs with hypothyroidism and myxedema coma, not thyroid storm.
- B. The nurse should identify tachycardia as a symptom associated with thyroid storm. Tachycardia results from excessive secretion of thyroid hormone and the increased response to circulating catecholamines (epinephrine and norepinephrine).
- C. Thyroid storm can produce exaggerated symptoms of hyperthyroidism in major body systems including the GI system. The diarrhea could also be caused from an illness that can be a precipitating factor of thyroid storm.
- D. Periorbital edema occurs with hypothyroidism and myxedema coma, not thyroid storm.
- E. The stress of a recent tooth extraction can be a precipitating event to thyroid storm.

35. The agitated client is hospitalized with tachycardia, dyspnea, and intermittent chest palpitations. The client's BP is 170/110 mm Hg, and HR is 130 bpm. The client's health history reveals thinning hair, recent 10-lb weight loss, increased appetite, fine hand and tongue tremors, hyperreflexic tendon reflexes, and smooth, moist skin. Which prescribed intervention should be the nurse's priority?

- A. 12-lead electrocardiogram (ECG) and cardiac enzyme levels.

- B. Obtain thyroid-stimulating hormone (TSH) and free T4 levels.
- C. Propranolol 2 mg IV q15 min or until symptoms are controlled.
- D. Propylthiouracil 600-mg oral loading dose; then 200 mg orally q4h.

ANSWER: C

- A. An ECG and cardiac enzymes will aid in the diagnosis, but are not the priority. Dysrhythmias can occur from beta-adrenergic receptor stimulation caused by excess thyroid hormone or following an ACS. Cardiac enzymes, if elevated, confirm ACS.
- B. These aid in diagnosis but do not immediately treat the client. Decreased TSH and elevated free T4 confirm the diagnosis of hyperthyroidism.
- C. Treatment of the client should be first. Propranolol (Inderal) is a beta-adrenergic blocker for symptomatic relief of thyrotoxicosis and decreasing peripheral conversion of T4 to T3. It controls cardiac and psychomotor manifestations within minutes. A beta blocker is also a first-line treatment for the client with ACS.
- D. Propylthiouracil (PTU) will inhibit the synthesis of thyroid hormone. Clinical effects may be seen as soon as 1 hour after administration, thus is not the priority.

36. A clinic nurse is teaching the client newly diagnosed with hypothyroidism. Which instructions should the nurse provide about taking levothyroxine sodium? Select all that apply.

- A. Take the medication 1 hour before or 2 hours after breakfast.
- B. Call the clinic if the pulse before taking the medication is greater than 100 beats per minute.
- C. Report adverse drug effects, including weight gain, cold intolerance, and alopecia.
- D. Take this drug as prescribed; it replaces thyroid hormone that is diminished or absent.
- E. Have frequent laboratory monitoring to be sure your levels of T3 and T4 decrease.

ANSWER: A, B, D

- A. Taking the medication on an empty stomach promotes regular absorption. It should be taken in the morning to mimic normal hormone release and prevent insomnia.
- B. During initial dosage adjustment, tachycardia could indicate a dose that is too high; the clinic should be notified if the HR is high.
- C. Weight gain and cold intolerance could indicate that the dose is too low; these do not indicate adverse effects.
- D. The drug should be taken as prescribed; it is a replacement hormone used in primary or secondary atrophy of the gland, after thyroidectomy, after

excessive thyroid radiation, after the administration of antithyroid medications, or in congenital thyroid defects.

- E. Alopecia may indicate that the dose is too high. T3 and T4 should rise, not decrease, with treatment.

37. The nurse is caring for the client who had a thyroidectomy 2 days ago. Based on the findings of the client's serum laboratory report, which medication should the nurse plan to administer first?

Serum Lab Test	Client's Value	Normal
BUN	24 mg/dL	5–25 mg/dL
Creatinine	1.2 mg/dL	0.5–1.5 mg/dL
Na	138 mEq/L	135–145 mEq/L
K	3.4 mEq/L	3.5–5.3 mEq/L
Calcium	6 mg/dL	9–11 mg/dL
Hgb	10.0 g/dL	13.5–17 g/dL
Hct	38%	40%–54%

- A. Potassium chloride 20 mEq oral bid
- B. Calcium gluconate 4.5 mEq IV once
- C. Dolasetron 12.5 mg IV as needed
- D. Levothyroxine 50 mcg oral daily

ANSWER: B

- A. Although the serum potassium is low, it is not as critically low as the serum calcium level.
- B. The nurse should administer calcium gluconate first. The serum calcium is critically low. Damage or removal of the parathyroid glands during surgery leads to hypocalcemia and tetany.
- C. Dolasetron (Anzemet) is an antiemetic. There is no indication from the lab analysis that the medication is needed at this time.
- D. Giving levothyroxine (Synthroid), a thyroid hormone, is usually avoided immediately after surgery because the remaining thyroid tissue hypertrophies, recovering the capacity to produce sufficient hormone.

Exogenous hormone inhibits pituitary production of TSH and delays or prevents the restoration of thyroid tissue regeneration and function.

38. The clinic nurse is assessing the client. The nurse evaluates that the client's levothyroxine dose is too low when which findings are noted on assessment? Select all that apply.

- A. Increased appetite
- B. Decreased sweating
- C. Apathy and fatigue
- D. Paresthesias
- E. Finger and tongue tremors
- F. Slowed mental processes

ANSWER: B, C, D, F

- A. Increased appetite is a sign of hyperthyroidism and can indicate the dose is too high.
- B. Symptoms of hypothyroidism appear if the dose is too low and include decreased sweating.
- C. Symptoms of hypothyroidism appear if the dose is too low and include apathy and fatigue.
- D. Symptoms of hypothyroidism appear if the dose is too low and include paresthesias.
- E. Tremors are a sign of hyperthyroidism and can indicate the dose is too high.
- F. Symptoms of hypothyroidism appear if the dose is too low and include slowed mental processes.

39. The nurse is caring for the client newly diagnosed with hypothyroidism. Which problem should the nurse include in the plan of care?

- A. Diarrhea due to gastrointestinal (GI) hypermotility
- B. Imbalanced nutrition due to insufficient calorie intake
- C. Activity intolerance due to increased metabolic rate
- D. Anxiety due to forgetfulness and slowed speech

ANSWER: D

- A. Diarrhea and GI hypermotility are associated with hyperthyroidism.
- B. Imbalance in nutrition from insufficient calories is associated with hyperthyroidism.
- C. Activity intolerance and increased metabolic rate are associated with hyperthyroidism.
- D. Forgetfulness and slowed speech that occur with hypothyroidism can cause the client to be anxious.

40. The female client is to be treated with radioactive iodine (RAI) therapy for an enlarged thyroid gland. The client asks if there are any precautions that are needed. during RAI therapy. Which is the nurse's best response?

- A. "No precautions are necessary. The radiation in the form of an oral capsule will target and destroy thyroid tissue only."
- B. "Use contraceptives or abstain from sexual intercourse to avoid conceiving during and for 6 months after treatment."
- C. "Discontinue taking the antithyroid medication and propranolol; results are seen immediately with RAI therapy."
- D. "Some people need a thyroid hormone replacement, but it is not necessary when the thyroid gland is enlarged."

ANSWER: B

- A. Precautions about avoiding pregnancy should be advised.
- B. Pregnancy should be postponed for at least 6 months after treatment because RAI crosses the placenta. Approximately 5% of individuals require more than one dose to destroy overactive thyroid cells.
- C. Effects of RAI therapy are not immediate. Symptoms of hyperthyroidism may subside in 3 to 4 weeks, but the maximum effects may not be seen for 3 to 4 months. Some individuals require a second treatment. Clients should continue (not discontinue) taking the antithyroid medication and propranolol.
- D. Almost 80% of individuals experience post treatment hypothyroidism and require thyroid hormone replacement after therapy is completed.

41 . The nurse is teaching the client who lacks parathyroid hormone (PTH) about foods to consume. Which items should be included on a list of appropriate foods for the client?

- A. Dark green vegetables, soybeans, and tofu
- B. Spinach, strawberries, and yogurt
- C. Whole grain bread, milk, and liver
- D. Rhubarb, yellow vegetables, and fish

ANSWER: A

- A. Appropriate foods on the list should be those high in calcium because hypoparathyroidism from lack of PTH produces chronic hypocalcemia. High-calcium foods include dark green vegetables, soybeans, and tofu.
- B. Foods containing oxalic acid (spinach) reduce calcium absorption.
- C. Foods containing phytic acid (whole grain bread) reduce calcium absorption.
- D. Foods containing oxalic acid (rhubarb) reduce calcium absorption.

42. The client is hospitalized with a tentative diagnosis of Cushing's syndrome. Which laboratory findings should the nurse expect if the diagnosis of Cushing's syndrome is confirmed? Select all that apply.

- A. Hyperglycemia

- B. Eosinophilia
- C. Hypocalcemia
- D. Hypokalemia
- E. Thrombocytopenia
- F. Elevated serum cortisol

ANSWER: A, D, F

- A. Cushing's syndrome results from excessive adrenocortical activity producing hyperglycemia.
- B. A decrease of eosinophils, rather than an increase, is associated with Cushing's syndrome.
- C. Hypercalcemia (high serum calcium levels), rather than hypocalcemia, is associated with Cushing's syndrome.
- D. Cushing's syndrome results from excessive adrenocortical activity producing hypokalemia.
- E. Thrombocytopenia (low platelets) is not associated with the disorder.
- F. Cushing's syndrome results from excessive adrenocortical activity producing elevated serum cortisol, and elevated ACTH levels.

43. The nurse assesses that the client diagnosed with Cushing's syndrome has an irregular HR, right arm ecchymosis, 4+ pitting edema in the legs, and a blood glucose of 140 mg/dL. Which action should be the nurse's priority?

- A. Weigh the client again
- B. Administer insulin as prescribed
- C. Notify the health care provider
- D. Measure the client's abdominal girth

ANSWER: C

- A. The weight of the client should be known because the client has signs of fluid retention, but notifying the HCP is priority because the HR is irregular.
- B. Although the blood glucose level is elevated and the client is to receive insulin, the nurse's priority is to notify the HCP first. It may take a while for the HCP to respond.
- C. The HCP should be notified immediately to obtain serum laboratory studies and to treat the irregular HR and hypokalemia if present. An irregular HR can occur from hypokalemia. Cushing's syndrome causes overproduction of aldosterone, retention of sodium and water, and excretion of potassium.
- D. Knowing the abdominal girth provides additional information about fluid retention but is not the priority.

44. The nurse completes teaching the client with Cushing's disease- Which statement demonstrates that the client understands measures to prevent bone resorption from corticosteroid therapy?

- A. "I will increase calcium in my diet to 3000 mg daily."
- B. "I should participate in daily weight-bearing exercises."
- C. "I should limit my dietary intake of sodium and vitamin D."
- D. "I plan to rise slowly from a bed or chair to avoid falling."

ANSWER: B

- A. A calcium intake of 3000 mg is excessive; calcium is released into the vascular system with bone resorption, and hypocalcemia can result.
- B. Daily weight-bearing exercises can help prevent bone loss and strengthen bones and muscles. This statement indicates the client understands the teaching.
- C. Vitamin D is needed for absorption of calcium and should not be limited.
- D. Rising slowly will help prevent falls, but it will not affect bone resorption.

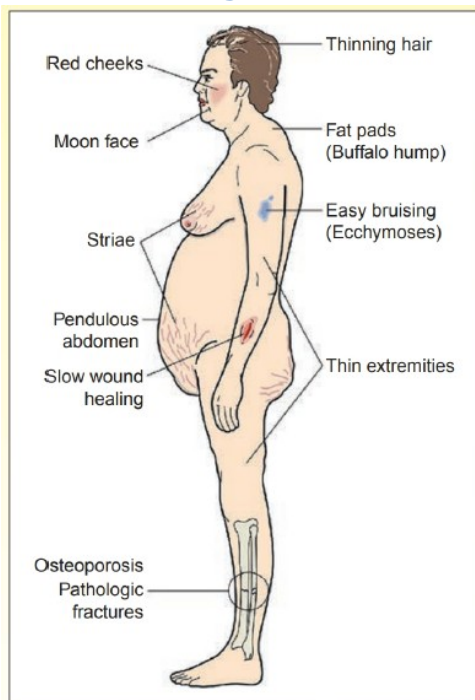
45. The client diagnosed with Cushing's syndrome is admitted with fluid volume overload. The client weighed 190 lb on admission and 179 lb after treatment. The nurse estimates that the amount of fluid the client lost was how many milliliters?

_____ mL (Record your answer as a whole number.)

ANSWER: 5000

One liter of fluid (1000 mL) weighs approximately 2.2 lb. An 11-lb weight loss equals 5000mL($11 \text{ lb} / 2.2 \text{ lb} = 5.5 \text{ L} \times 1000 \text{ mL per L} = 5000 \text{ mL}$).

46. The nurse is providing teaching to multiple clients. Which client should the nurse determine would benefit if the following illustration were utilized when teaching?



- A. The client with hyperthyroidism
- B. The client with diabetes mellitus
- C. The client with Addison's disease
- D. The client with Cushing's syndrome

ANSWER: D

- A. The classic manifestations of hyperthyroidism include tremors, weight loss, heat intolerance, tachycardia, and hypertension, none of which are present in the illustration.
- B. The classic manifestations of DM include polydipsia, polyphagia, and polyuria due to hyperglycemia, none of which are present in the illustration.
- C. The classic manifestations of Addison's disease include muscle weakness, anorexia, fatigue, emaciation, dark pigmentation, and hypotension, none of which are present in the illustration.
- D. The nurse should determine that the client with Cushing's syndrome would benefit by utilizing the illustration during a teaching session. Clinical manifestations of Cushing's syndrome include moon face, red cheeks, thinning hair, fat pads, slow wound healing, and others that are present in the illustration.

47. The nurse is preparing to care for the stable client with Addison's disease. Which skin appearance should the nurse expect when performing an assessment?

- A. Very white, dry, and scaly
- B. Bronzed and suntanned hue
- C. Diaphoretic and cyanotic
- D. Puffy and butterfly-like rash

ANSWER: B

- A. The depletion of sodium and water causes dehydration that results in dry and scaly skin, but the skin will be pigmented in Addison's disease and not white.
- B. The nurse should expect a bronzed, suntanned hue with the pigmentation changes occurring in Addison's disease; this occurs from an increase in the melanocyte-stimulating hormone.
- C. Diaphoresis and cyanosis can occur in Addisonian crisis and shock, but this client is stable.
- D. A butterfly-like rash occurs with systemic lupus erythematosus and not Addison's disease.

48. The nurse is caring for the client admitted in Addisonian crisis. Which medication, if prescribed, should the nurse plan to administer?

- A. Regular insulin
- B. Ketoconazole
- C. Sodium nitroprusside
- D. Hydrocortisone

ANSWER: D

- A. Hypoglycemia, not hyperglycemia, is associated with Addisonian crisis.
- B. Ketoconazole (Nizoral) is a systemic antifungal that has an unlabeled use in treating Cushing's syndrome as an adrenal enzyme inhibitor.
- C. Addisonian crisis produces severe hypotension; sodium nitroprusside (Nipride) is used to treat severe hypertension.
- D. Addisonian crisis results from insufficient secretion of glucocorticoids and mineralocorticoids from the adrenal cortex. Hydrocortisone (Solu Cortet) is a corticosteroid used in the absence of sufficient glucocorticoid production.

49. The nurse is reviewing the serum laboratory report for the hospitalized client who has adrenocortical insufficiency. The nurse should immediately notify the HCP about which value?

- A. WBC 11,000/mm³
- B. Glucose 138 mg/dL
- C. Sodium 148 mEq/L
- D. Potassium 6.2 mEq/L

ANSWER: D

- A. An acute infection can precipitate Addisonian crisis, but the WBC count is on the high side of normal.
- B. Hypoglycemia, not hyperglycemia, is associated with adrenocortical insufficiency. The serum glucose is slightly elevated, but not alarmingly. Normal serum glucose is 70—110 mg/dL.
- C. Hyponatremia, not hypernatremia, is associated with adrenocortical insufficiency. The serum sodium is slightly elevated, but not alarmingly. Normal serum sodium is 136—146 mEq/L.
- D. The nurse should immediately notify the HCP regarding the serum potassium of 6.2 mEq/L (normal is 3.8 to 5.0 mEq/L). Adrenocortical insufficiency causes excessive potassium reabsorption, producing hyperkalemia. Hyperkalemia can result in dysrhythmias and cardiac arrest if not treated promptly.

50. The nurse receives orders for the newly admitted client with Addison's disease. Which orders should the nurse question with the HCP? Select all that apply.

- A. Potassium 20 mEq oral now
- B. Sodium-restricted diet of 1000 mg
- C. Serum cortisol level in early am.
- D. Obtain serum glucose level now
- E. 5% dextrose in NS at 100 mL/hr

ANSWER: A, B

- A. The nurse should question administration of potassium. The client with Addison's disease presents with hyperkalemia.
- B. The nurse should question a sodium-restricted diet. The client with Addison's disease presents with hyponatremia (low serum sodium).
- C. In Addison's disease, the adrenal glands produce too little cortisol; obtaining a serum cortisol level is appropriate.
- D. In Addison's disease, the adrenal glands produce too little cortisol; obtaining a serum glucose level now is appropriate.
- E. The client with Addison's disease needs fluid replacement to treat hypotension and glucose to treat hypoglycemia. The order of 5% dextrose in 0.9% NaCl is appropriate.

51. The nurse is caring for the client with Addisonian crisis. Which clinical change should indicate to the nurse that the therapy is effective?

- A. Increase of 25 mm Hg in the client's blood pressure
- B. Decrease of 25 mm Hg in the systolic blood pressure
- C. Increase in serum potassium from 3.4 to 5.8 mEq/dL
- D. Decrease in serum sodium from 146 to 136 mEq/L

ANSWER: A

- A. An increase in BP is indicative of effective therapy. Addisonian crisis is caused by adrenocortical insufficiency with disturbances of sodium and potassium metabolism resulting in hyponatremia, hyperkalemia, dehydration, and hypotension.
- B. A decrease of 25 mm Hg in the client's systolic BP indicates therapy is not effective. In Addisonian crisis, the depletion of sodium and water causes severe dehydration and hypotension. An increase in BP would be expected.
- C. Effective therapy would lower potassium levels. A serum potassium level of 3.4 to 5.8 mEq/dL shows an increase in the level beyond the normal range.
- D. In Addisonian crisis, there is sodium depletion. The serum sodium is within the normal range before and after treatment. An increase in serum sodium would be expected.

52. The nurse is admitting the client tentatively diagnosed with possible hyperaldosteronism. What should be the nurse's priority?

- A. Prepare for a computed tomography (CT) scan
- B. Give prn prescribed analgesic to treat headache
- C. Obtain an ECG to evaluate for dysrhythmias
- D. Assess for generalized weakness and fatigue

ANSWER: C

- A. Adenomas can be localized by a CT scan, but this is not priority. Assessing for life-threatening conditions is priority.
- B. Headache occurs from hypertension and should be treated, but this is not priority.
- C. Obtaining an ECG is priority. The excessive aldosterone secretion of hyperaldosteronism causes sodium retention and potassium and hydrogen ion excretion. The potassium wasting produces hypokalemia, which can cause life-threatening dysrhythmias.
- D. Hypokalemia produces generalized muscle weakness and fatigue, which can predispose the client to falls. Assessing for these is important, but this is not priority.

53. The nurse is preparing to discharge the client following a unilateral adrenalectomy to treat hyperaldosteronism caused by an adenoma. Which instruction should be included in this client's discharge teaching?

- A. Avoid foods high in potassium
- B. Self—monitor blood pressure daily
- C. Stop drugs taken before adrenalectomy
- D. Carry epinephrine for emergency use

ANSWER: B

- A. There are no dietary potassium restrictions after adrenalectomy. Hypokalemia occurs with hyperaldosteronism and resolves after surgery.

- B. Unilateral adrenalectomy is successful in controlling hypertension in only 80% of clients with adenoma. so the client should continue to self-monitor the BP.
- C. The nurse should not inform the client to stop medications. The client may still need medications to treat hypertension and hyperaldosteronism after adrenalectomy.
- D. There is no reason for the client with hyperaldosteronism to carry epinephrine.

54. The nurse is caring for the client who is experiencing symptoms associated with pheochromocytoma. Which intervention should be included in the plan of care for this client?

- A. Offer distractions such as television or music.
- B. Encourage family and friends to visit often.
- C. Assist with ambulation at least three times a day.
- D. Administer nicardipine for hypertension.

ANSWER: D

- A. A calm environment is needed to prevent hypertensive crisis. Noise can increase sympathetic nervous system (SNS) stimulation, inducing hypertension and an anxiety attack.
- B. A calm environment is needed to prevent hypertensive crisis. Too many visitors and noise can increase SNS stimulation.
- C. Reduced activity, not ambulation three times daily or more, is needed to prevent hypertensive crisis.
- D. Until the tumor can be surgically removed, calcium channel blockers such as nicardipine (Cardene) are used to control BP and other excess catecholamine symptoms.

55. The nurse is preparing to care for four clients. In which order should the nurse plan to attend to the clients?

- A. Client following a thyroidectomy who has hoarseness and an SaO₂ of 86%
- B. Client with hyperparathyroidism with a serum calcium level of 10.1 mg/dL
- C. Client with diabetes insipidus drinking frequently and asking for more cold water
- D. Client with hyperthyroidism who has a temperature of 102.2°F (39°C) and tachycardia

ANSWER: A, D, C, B

- A. Client following a thyroidectomy who has hoarseness and an SaO₂ of 86%. This client should be attended to first because the client has a life-threatening respiratory issue. Swelling in the neck after a thyroidectomy can compromise the airway.

D. Client with hyperthyroidism who has a temperature of 102.2°F (39°C) and tachycardia. This client should be next because an elevated temperature and tachycardia could indicate thyroid storm, a life-threatening condition.

C. Client with DI drinking frequently and asking for more cold water. This client is next because large volumes of urine output with DI place the client at risk for dehydration.

B. Client with hyperparathyroidism with a serum calcium level of 10.1 mg/dL. This client can be last because a serum calcium level of 10.1 mg/dL is within normal (9.2–10.2 mg/dL), indicating that treatment is effective and this client is stabilizing.