



**Week 5 Exam
Chapter 16**

1. Which of the following patients would MOST likely present in metabolic alkalosis?
 - A. a patient with intractable seizures for 1 hour
 - B. a patient in cardiogenic shock
 - C. a patient in late-stage diabetic ketoacidosis (DKA)
 - D. a patient with copious vomiting for 3 days
2. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.24; PCO₂, 56 mm Hg; PO₂, 75 mm Hg; HCO₃⁻, 24 mEq/L.
 - A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
3. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.24; PCO₂, 35 mm Hg; PO₂, 88 mm Hg; HCO₃⁻, 18 mEq/L.
 - A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
4. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.56; PCO₂, 42 mm Hg; PO₂, 82 mm Hg; HCO₃⁻, 36 mEq/L.
 - A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis

5. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.51; PCO₂, 24 mm Hg; PO₂, 76 mm Hg; HCO₃⁻, 24 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
6. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.31; PCO₂, 68 mm Hg; PO₂, 70 mm Hg; HCO₃⁻, 14 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. mixed acidosis
 - D. metabolic alkalosis
7. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.68; PCO₂, 22 mm Hg; PO₂, 91 mm Hg; HCO₃⁻, 34 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
8. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.05; PCO₂, 86 mm Hg; PO₂, 52 mm Hg; HCO₃⁻, 29 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
9. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.19; PCO₂, 41 mm Hg; PO₂, 77 mm Hg; HCO₃⁻, 16 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis

10. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.67; PCO₂, 36 mm Hg; PO₂, 89 mm Hg; HCO₃⁻, 42 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
11. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.47; PCO₂, 19 mm Hg; PO₂, 83 mm Hg; HCO₃⁻, 27 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. metabolic acidosis
 - D. metabolic alkalosis
12. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.29; PCO₂, 55 mm Hg; PO₂, 79 mm Hg; HCO₃⁻, 19 mEq/L.
- A. respiratory acidosis
 - B. respiratory alkalosis
 - C. mixed acidosis
 - D. metabolic alkalosis
13. Given the following laboratory values, indicate which pathologic condition the patient is experiencing: pH, 7.54; PCO₂, 28 mm Hg; PO₂, 91 mm Hg; HCO₃⁻, 32 mEq/L.
- A. respiratory acidosis
 - B. mixed acidosis
 - C. metabolic acidosis
 - D. mixed alkalosis

Chapter 17

14. Untreated hyperglycemia in a patient with type 1 diabetes will progress to:
- A. insulin shock.
 - B. diabetic ketoacidosis.
 - C. diabetic coma.
 - D. diabetic neuropathy.
15. What are the two hallmark signs associated with diabetic ketoacidosis (DKA)?
- A. vomiting and diarrhea
 - B. thirst and hypotension
 - C. nausea and confusion
 - D. rapid respirations and fruity breath

16. Polydipsia in DKA is caused by:
- A. diuresis.
 - B. dehydration.
 - C. the body's inefficient use of nutrients.
 - D. deep, rapid respirations.
17. Which of the following is NOT found in both DKA and hyperosmolar hyperglycemic nonketotic syndrome (HHNS)?
- A. glucose in the urine
 - B. tachycardia and hypotension
 - C. polyphagia, polydipsia, and polyuria
 - D. elevated sodium and carbon dioxide levels
18. A hemoglobin A1c lab test reveals a(n):
- A. estimation of blood glucose levels during the previous 3 to 4 months.
 - B. definitive idea about the onset of type 1 or 2 diabetes.
 - C. definitive reading of osmolarity.
 - D. extremely reliable sign of DKA.
19. Standard treatment for hypoglycemia in adults is _____ dextrose.
- A. 10%
 - B. 25%
 - C. 50%
 - D. 75%
20. Profound acidosis in DKA is usually treated by:
- A. insulin.
 - B. a sodium bicarbonate infusion.
 - C. the anion gap.
 - D. potassium replacement.
21. The pituitary gland is commonly referred to as the:
- A. master gland.
 - B. hormone gland.
 - C. neurologic gland
 - D. functioning gland.

22. One of the main differences between the anterior and the posterior pituitary lobes is that:
- A. the anterior lobe only produces two hormones.
 - B. the posterior lobe secretes hormones but does not produce them.
 - C. the posterior lobe produces hormones but does not secrete them.
 - D. None of the above.
23. A lack of _____ causes unregulated fluid losses and dehydration.
- A. vasopressin
 - B. adrenocorticotrophic hormone (ACTH)
 - C. oxytocin
 - D. thyroid-stimulating hormone (TSH)
24. All of the following may cause central diabetes insipidus EXCEPT:
- A. traumatic head injury.
 - B. neurosurgery.
 - C. genetic abnormalities.
 - D. hypovolemic shock.
25. Nonfunctioning adenomas, which account for _____ of pituitary lesions, are tumors that do not secrete hormones.
- A. 10%
 - B. 20%
 - C. 30%
 - D. 40%
26. _____ is a syndrome that results from excessive growth hormone secreted by the pituitary gland after the epiphyseal plate has closed.
- A. Gigantism
 - B. Acromegaly
 - C. Micronesia
 - D. Cushing's syndrome
27. Acromegaly and gigantism are almost always caused by a:
- A. tumor at the epiphyseal plate.
 - B. tumor at the adrenal cortex.
 - C. benign pituitary tumor.
 - D. pituitary-secreting lesion.

28. Patients presenting with acromegaly and gigantism typically present with creatinine levels:
- A. less than 0.5 mg/dL.
 - B. greater than 1.2 mg/dL.
 - C. between 3.4 and 4.6 mg/dL.
 - D. between 5 and 11 mg/dL.
29. Bromocriptine (Parlodel) is a dopaminergic agonist that is used to decrease the secretion of:
- A. TSH.
 - B. ACTH.
 - C. growth hormone.
 - D. adrenal catecholamines.
30. Which of the following physiologic conditions does NOT cause increased cortisol production?
- A. poorly controlled diabetes mellitus
 - B. surgery-associated stress
 - C. emotional stress
 - D. caloric restriction
31. Which of the following nonphysiologic conditions does NOT elevate cortisol production?
- A. alcohol withdrawal syndrome
 - B. chronic alcoholism
 - C. intense aerobic exercise
 - D. poorly controlled diabetes mellitus
32. Underproduction of _____ caused by decreased functioning of the adrenal cortex is called adrenal insufficiency (AI).
- A. dopamine and epinephrine
 - B. epinephrine and cortisol
 - C. aldosterone and dopamine
 - D. aldosterone and cortisol
33. In the patient with chronic AI, signs and symptoms of Addisonian crisis may appear suddenly as a result of all of the following EXCEPT:
- A. trauma.
 - B. increased periods of stress.
 - C. poorly controlled diabetes mellitus.
 - D. severe infection.

34. Neurologic injury associated with central pontine myelinolysis occurs when:
- A. patients with chronic hyponatremia are corrected rapidly or are inadvertently overcorrected.
 - B. heat cramps associated with autoimmune disease arise.
 - C. potassium and sodium are not replaced concurrently.
 - D. potassium and water deficiency are corrected rapidly.
35. In general, an average adult takes in about _____ of fluid throughout an average day.
- A. 500 mL
 - B. 1,000 mL
 - C. 2,000 mL
 - D. 5,000 mL
36. Human kidneys can excrete up to _____ of free water each day.
- A. 5 to 10 L
 - B. 10 to 15 L
 - C. 15 to 20 L
 - D. 25 to 30 L
37. Heat syncope manifests with all of the following signs and symptoms EXCEPT:
- A. postural hypotension.
 - B. dry, hot skin.
 - C. a syncopal episode.
 - D. volume depletion.
38. What are the two forms of heat exhaustion?
- A. primary and secondary.
 - B. water-depleted and sodium-depleted
 - C. sodium-depleted and potassium-depleted
 - D. nonexertional and exertional
39. Which of the following is NOT a symptom of heat exhaustion?
- A. altered mental status
 - B. headache
 - C. nausea
 - D. fatigue

40. Which of the following is NOT included in the transport management of a patient with heat exhaustion?
- A. Rehydrate with sports drinks if nausea is not present.
 - B. Use antipyretic medications.
 - C. Use evaporative cooling measures.
 - D. Place the patient supine with the legs elevated.
41. Rhabdomyolysis may release excess potassium from:
- A. the intravascular compartment.
 - B. the destruction of muscle tissue.
 - C. relative hypocalcemia.
 - D. relative hyponatremia.
42. Two distinct syndromes identified with heat stroke are:
- A. exertional and nonexertional.
 - B. classic and exertional.
 - C. passive and classic.
 - D. nonexertional and passive.
43. Heat stroke has a mortality rate as high as _____ in untreated patients.
- A. 50%
 - B. 60%
 - C. 70%
 - D. 80%
44. Which of the following would have the LOWEST risk of classic heat stroke during a heat wave?
- A. an 18-year-old soldier in basic training
 - B. a 70-year-old type 2 diabetic
 - C. a 4-year-old child
 - D. a 63-year-old alcoholic
45. _____ is the cardinal diagnostic sign of heat stroke.
- A. Tachycardia
 - B. An ETCO_2 less than 20 mm Hg
 - C. A markedly elevated core body temperature
 - D. Red, dry skin

46. The MOST common anesthetic trigger for malignant hyperthermia is:
- A. succinylcholine (Anectine).
 - B. propofol (Diprivan).
 - C. pancuronium (Pavulon).
 - D. vecuronium (Norcuron).
47. Rubbing alcohol and water-soaked sheets should be avoided when treating heat stroke because:
- A. the core body temperature may be lowered too quickly.
 - B. these measures can promote thermogenesis.
 - C. hypotension may ensue.
 - D. hypertension may follow heat exchange.
48. Cooling of a heat stroke patient should be continued until the rectal temperature falls below:
- A. 98°F (36.6°C).
 - B. 100°F (37.7°C).
 - C. 102°F (38.8°C).
 - D. 105°F (40.5°C).
49. The most serious complication of frostbite is seen with:
- A. excessive moisture.
 - B. dry cold.
 - C. refreezing.
 - D. field rewarming.
50. All of the following are differential diagnoses for frostbite EXCEPT:
- A. vasospasm.
 - B. cyanosis.
 - C. arterial occlusion.
 - D. pulmonary embolism.
51. When managing deep frostbite, a reasonable transport time is:
- A. less than 1 hour.
 - B. less than 1.5 hours.
 - C. less than 2 hours.
 - D. less than 2.5 hours.

52. Hypothermia may be a result of any of the following EXCEPT:

- A. impaired thermogenesis.
- B. excessive thermolysis.
- C. excessive environmental cold stress.
- D. hyperdynamic cardiac states.