Cognitive Domain
1. Spell and define key terms
2. Identify abnormal conditions of the thyroid, pancreas, adrenal, and pituitary glands
3. Describe the tests commonly used to diagnose disorders of these endocrine system glands
4. Explain your role in working with patients with endocrine system disorders
5. Identify common pathologies related to each body system
6. Describe implications for treatment related to pathology

Psychomotor Domain
1. Manage a patient with a diabetic emergency (Procedure 36-1)
2. Assist physician with patient care
3. Prepare a patient for procedures and/or treatments
4. Practice standard precautions
5. Document patient care
6. Document patient education
7. Practice within the standard of care for a medical assistant

Affective Domain
1. Apply critical thinking skills in performing patient assessment and care
2. Use language/verbal skills that enable patients’ understanding
3. Demonstrate empathy in communicating with patients, family, and staff
4. Use appropriate body language and other nonverbal skills in communicating with patients, family, and staff
5. Demonstrate awareness of the territorial boundaries of the person with whom you are communicating
6. Demonstrate sensitivity appropriate to the message being delivered
7. Demonstrate recognition of the patient’s level of understanding in communications
8. Recognize and protect personal boundaries in communicating with others
9. Demonstrate respect for individual diversity, incorporating awareness of one’s own biases in areas including gender, race, religion, age, and economic status
10. Apply active listening skills
11. Apply local, state, and federal health care legislation and regulation appropriate to the medical assisting practice setting

ABHES Competencies
1. Assist the physician with the regimen of diagnostic and treatment modalities as they relate to each body system
2. Comply with federal, state, and local health laws and regulations
3. Communicate on the recipient’s level of comprehension
4. Serve as a liaison between the physician and others
5. Show empathy and impartiality when dealing with patients
6. Document accurately
MULTIPLE CHOICE

Circle the letter preceding the correct answer:

1. A patient with hypothyroidism must take hormone replacements:
   a. for as many years as he has had the disease.
   b. until the conclusion of puberty.
   c. for his entire life.
   d. until middle age.
   e. for 10 years.

2. Diabetics may need supplemental insulin to:
   a. test blood glucose levels.
   b. reverse vascular changes.
   c. reduce the presence of ketones.
   d. restore pancreatic function.
   e. control blood glucose levels.

3. One symptom of ketoacidosis is:
   a. shallow respirations.
   b. low blood glucose levels.
   c. overhydration.
   d. abdominal pain.
   e. pale, moist skin.

4. Diabetes mellitus affects metabolism of which type of molecule?
   a. Neurotransmitters
   b. Carbohydrates
   c. Hormones
   d. Vitamins
   e. Lipids

5. One symptom of type 1 diabetes mellitus is:
   a. polyuria.
   b. exophthalmia.
   c. anorexia.
   d. weight gain.
   e. a goiter.

6. Hyperpigmentation of the skin might be an indication of:
   a. Cushing syndrome.
   b. Hashimoto thyroiditis.
   c. Graves disease.
   d. Addison disease.
   e. diabetes insipidus.

7. To control gestational diabetes, a blood glucose specimen should be taken from a pregnant woman between:
   a. 28 and 32 weeks of gestation.
   b. 24 and 28 weeks of gestation.
   c. 20 and 24 weeks of gestation.
   d. 16 and 20 weeks of gestation.
   e. 12 and 16 weeks of gestation.

8. Cushing syndrome sufferers may experience accelerated:
   a. Addison disease.
   b. endocarditis.
   c. osteoporosis.
   d. arthritis.
   e. dementia.

9. Acromegaly results primarily in:
   a. an increase in bone width.
   b. muscular atrophy.
   c. an increase in bone length.
   d. muscular hypertrophy.
   e. an increase in bone density.
10. Growth can be stimulated for children with dwarfism by:
   a. repairs in the pituitary gland.
   b. administration of growth hormone.
   c. psychotherapy.
   d. increased physical activity.
   e. a high-protein diet.

11. Diabetes insipidus results from a deficiency of:
   a. adrenocorticotropic hormone.
   b. anterior pituitary hormones.
   c. human growth hormone.
   d. antidiuretic hormone.
   e. thyroid hormones.

12. Insulin shock is a result of:
   a. Cushing syndrome.
   b. Addison disease.
   c. Graves disease.
   d. hyperglycemia.
   e. hypoglycemia.

13. Diabetes mellitus patients need to care for their feet because:
   a. they regularly develop ingrown toenails.
   b. their peripheral circulation may be poor.
   c. they suffer severe joint pain.
   d. they have weak calves.
   e. foot pain occurs.

14. Exophthalmia is a protrusion of the:
   a. thyroid gland.
   b. pancreas.
   c. gall bladder.
   d. eyes.
   e. liver.

15. Patients taking corticosteroids may be at risk for:
   a. Cushing disease.
   b. Addison disease.
   c. type 2 diabetes mellitus.
   d. Graves disease.
   e. Hashimoto thyroiditis.

16. The A1C test determines how well blood glucose has been controlled during the previous:
   a. 2 to 3 hours.
   b. 2 to 3 days.
   c. 2 to 3 weeks.
   d. 2 to 3 months.
   e. 2 to 3 years.

17. Gigantism is a disorder of the:
   a. adrenal glands.
   b. pancreas.
   c. liver.
   d. thyroid.
   e. pituitary gland.

18. A thyroid scan relies on a radioactive isotope of what element?
   a. Iodine
   b. Barium
   c. Indium
   d. Bismuth
   e. Iridium

19. Addison disease is a disorder of the:
   a. pituitary gland.
   b. pancreas.
   c. thyroid.
   d. adrenal gland.
   e. salivary glands.

20. Both Graves disease and goiters are examples of:
   a. hypothyroidism.
   b. hypoglycemia.
   c. hyperthyroidism.
   d. hyperglycemia.
   e. hypertension.
<table>
<thead>
<tr>
<th>Key Terms</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>21. ___ acromegaly</td>
<td>a. an enlargement of the thyroid gland</td>
</tr>
<tr>
<td>22. ___ Addison disease</td>
<td>b. a substance that is produced by an endocrine gland and travels through the blood to a distant organ or gland where it acts to modify the structure or function of that gland or organ</td>
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<tr>
<td>23. ___ Cushing syndrome</td>
<td>c. an adrenal gland disorder that results in an increased production of ACTH from the pituitary glands</td>
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<tr>
<td>24. ___ diabetes insipidus</td>
<td>d. excess quantities of thyroid hormone in tissues</td>
</tr>
<tr>
<td>25. ___ dwarfism</td>
<td>e. excessive proliferation of normal cells in the normal tissue arrangement of an organism</td>
</tr>
<tr>
<td>26. ___ endocrinologist</td>
<td>f. the end products of fat metabolism</td>
</tr>
<tr>
<td>27. ___ exophthalmia</td>
<td>g. itching</td>
</tr>
<tr>
<td>28. ___ gigantism</td>
<td>h. pronounced hyperthyroidism with signs of enlarged thyroid and exophthalmos</td>
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<tr>
<td>29. ___ glycosuria</td>
<td>i. a type of diabetes in which patients do not require insulin to control blood sugar</td>
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<tr>
<td>30. ___ goiter</td>
<td>j. a deficiency in insulin production that leads to an inability to metabolize carbohydrates</td>
</tr>
<tr>
<td>31. ___ Graves disease</td>
<td>k. partial or complete failure of the adrenal cortex functions, causing general physical deterioration</td>
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<tr>
<td>32. ___ Hashimoto thyroiditis</td>
<td>l. the presence of glucose in the urine</td>
</tr>
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<td>33. ___ hormones</td>
<td>m. a disease of the immune system in which the tissue of the thyroid gland is replaced with fibrous tissue</td>
</tr>
<tr>
<td>34. ___ hyperglycemia</td>
<td>n. excessive thirst</td>
</tr>
<tr>
<td>35. ___ hyperplasia</td>
<td>o. abnormal underdevelopment of the body with extreme shortness but normal proportion; achondroplastic dwarfism is an inherited growth disorder characterized by shortened limbs and a large head but almost normal trunk proportions</td>
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<td>36. ___ hypoglycemia</td>
<td>p. acidosis accompanied by an accumulation of ketones in the body</td>
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<td>37. ___ insulin-dependent diabetes mellitus</td>
<td>q. excessive size and stature caused most frequently by hypersecretion of the human growth hormone</td>
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<tr>
<td>38. ___ ketoacidosis</td>
<td>r. deficiency of sugar in the blood</td>
</tr>
<tr>
<td>39. ___ ketones</td>
<td>s. an unusual protrusion of the eyeballs as a result of a thyroid disorder</td>
</tr>
<tr>
<td>40. ___ non–insulin-dependent diabetes mellitus</td>
<td>t. a disorder of metabolism characterized by polyuria and polydipsia; caused by a deficiency in ADH or an inability of the kidneys to respond to ADH</td>
</tr>
<tr>
<td>41. ___ polydipsia</td>
<td>u. excessive excretion and elimination of urine</td>
</tr>
<tr>
<td>42. ___ polyphagia</td>
<td>v. hyperfunction of the anterior pituitary gland near the end of puberty that results in increased bone width.</td>
</tr>
</tbody>
</table>
43. _____ polyuria  
44. _____ pruritus  
45. _____ radioimmunoassay  
46. _____ thyrotoxicosis  

w. the introduction of radioactive substances in the body to determine the concentration of a substance in the serum, usually the concentration of antigens, antibodies, or proteins  
x. a doctor who diagnoses and treats disorders of the endocrine system and its hormone-secreting glands  
y. abnormal hunger  
z. an increase in blood sugar, as in diabetes mellitus

**COG IDENTIFICATION**

Grade: ________

47. Read the following list of symptoms. Are these symptoms representative of hyperglycemia or hypoglycemia? Place the prefix “hyper” on the line preceding the symptoms for hyperglycemia and “hypo” for hypoglycemia.

a. _____________ Pale complexion  
b. _____________ Deep respirations  
c. _____________ Moist skin  
d. _____________ Shallow respirations  
e. _____________ Abdominal pain  
f. _____________ Rapid, bounding pulse  
g. _____________ Fruity breath  
h. _____________ Subnormal blood glucose levels

**COG SHORT ANSWER**

Grade: ________

48. When does ketoacidosis occur?
49. A patient is stunned to learn that she has been diagnosed with type 2 diabetes mellitus. She is 43 years old and in excellent health. As a personal trainer and nutritionist, she has always taken good care of her body. What potential cause of type 2 diabetes mellitus might she be overlooking?

50. A patient complains that, lately, his appetite has been ferocious, but he is actually losing weight. He does not understand why this is happening. What do you tell him?

51. Why is it difficult for many sufferers of endocrine disorders to comply with physicians’ orders?

52. A patient who has been diagnosed with type 2 diabetes mellitus explains that a friend told him the disease is sometimes called non-insulin-dependent diabetes mellitus. He asks if this means that he will not need to take insulin. Is he correct? Why, or why not?
53. Who might be at risk for gestational diabetes mellitus?

54. What is the cause of hypoglycemia?

55. How is Addison disease treated?

56. A patient is diagnosed with dwarfism, and the patient’s mother is extremely distressed, wondering if certain body parts will grow normally while others will not. She also wonders if her daughter could ever grow normally. What could you tell the mother?

57. What do the fasting glucose test and glucose tolerance test for diabetes mellitus have in common?
58. What is the purpose of the A1C blood test?

59. Cushing syndrome and Addison disease are both disorders of which gland?

60. Why is it important that patients with diseases of the endocrine system wear a medical alert bracelet or necklace?

TRUE OR FALSE?

Indicate whether the statements are true or false by placing the letter T (true) or F (false) on the line preceding the statement.

61. _____ Endocrine glands are unlike other glands in the body because they are ductless.

62. _____ Hashimoto thyroiditis is a disease of the endocrine system.

63. _____ Type 1 diabetes mellitus occurs only in children and young adults.

64. _____ Addison disease has no effect on the pituitary gland.
CASE STUDIES FOR CRITICAL THINKING

1. A patient is worried that a thyroid function test requires the use of radioactive material. Explain, to the best of your ability, how the test works and why there is no need to be concerned about radiation. If necessary, do additional research on thyroid function tests to prepare your answer.

2. After an examination, a pregnant patient asks why the physician performed a test on her blood glucose level. She says she does not have diabetes. Explain why the physician chose to do the test.

3. Young children are sometimes afflicted with diabetes mellitus. This can be difficult for both the child and the family. What is your perspective of the medical assistant’s role in this situation?

4. A patient with hyperthyroidism says she would prefer not to be treated because she has few negative symptoms, and the increased metabolic rate helps keep her thin. How would you respond to this?
## Manage a Patient with a Diabetic Emergency

**Name:** __________________________  **Date:** ______  **Time:** ______  **Grade:** ______

**EQUIPMENT/SUPPLIES:** Gloves, blood glucose monitor and strips, fruit juice or oral glucose tablets

**STANDARDS:** Given the needed equipment and a place to work the student will perform this skill with _______% accuracy in a total of _______ minutes. (*Your instructor will tell you what the percentage and time limits will be before you begin.)*

**KEY:**
- 4 = Satisfactory
- 0 = Unsatisfactory
- NA = This step is not counted

**PROCEDURE STEPS**

<table>
<thead>
<tr>
<th>SELF</th>
<th>PARTNER</th>
<th>INSTRUCTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wash your hands.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>2. Recognize the signs and symptoms of hyperglycemia and hypoglycemia.</td>
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<td>3. Identify the patient and escort him or her into the examination room.</td>
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<td>4. Determine if the patient has been previously diagnosed with diabetes mellitus.</td>
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<td>5. Ask the patient if he or she has eaten today or taken any medication.</td>
<td>☐</td>
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<td>6. Notify the physician about the patient and perform a capillary stick for a blood glucose as directed.</td>
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<tr>
<td>7. Notify the physician with the results of the blood glucose and treat the patient as ordered by the physician.</td>
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<tr>
<td>a. Administer insulin subcutaneously to a patient with hyperglycemia.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>b. Administer a quick-acting sugar, such as an oral glucose tablet or fruit juice, for a patient with hypoglycemia.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>8. <strong>AFF</strong> Explain how to respond to a patient who is developmentally challenged.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>9. Be prepared to notify EMS as directed by the physician if the symptoms do not improve or worsen.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>10. Document any observations and treatments given.</td>
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</tbody>
</table>
CALCULATION

Total Possible Points: ______
Total Points Earned: ______ Multiplied by 100 = ______ Divided by Total Possible Points = ______ %

PASS □ FAIL □ COMMENTS:

Student’s signature ___________________________ Date ______

Partner’s signature ___________________________ Date ______

Instructor’s signature ___________________________ Date ______