

1. Which of the following accurately describes glucocorticoids?
- Include the steroid hormone aldosterone
 - Are produced in response to stimulation by ACTH
 - Are produced primarily by the zone glomerulosa
 - Typically enhance the immune response
 - Include the steroid hormone dehydroepiandrosterone (DHEA)

2. Pregnant women who have begun labor but in whom this process is no longer progressing are often given an IV injection of Pitocin to stimulate uterine contractions and facilitate parturition. Pitocin is a trade name of a hormone produced in what endocrine tissue?
- Pars distalis
 - Ovarian follicles
 - Pars nervosa
 - Placenta
 - Pars tuberalis

3. What hormone is produced in response to decreased blood calcium levels?
- Pancreatic polypeptide
 - β -endorphin
 - Somatostatin
 - Calcitonin
 - Parathyroid hormone

4. Addison disease (or adrenal cortex insufficiency) is a disorder, usually autoimmune in origin, which can cause degeneration and cell loss in the adrenal glands. Fludrocortisone is a mineralocorticoid used to treat Addison patients. Response to this drug indicates that which region of the adrenal glands was involved in the disease?
- Medulla
 - Zona glomerulosa
 - Zona reticularis
 - Macula densa
 - Zona fasciculata

5. A glucagonoma is a malignant tumor consisting of what cells?

- a. A or α cells
- b. B or β cells
- c. Chromophils
- d. D or δ cells
- e. Mucous cells

6. Secretion, chemical modification and storage, reuptake, and digestion of a protein occur in epithelial cells of what endocrine tissue?

- a. Neurohypophysis
- b. Adrenal medulla
- c. Adenohypophysis
- d. Thyroid gland
- e. Neuroendocrine cells in the duodenum

7. Secretion in what neuroendocrine cell is controlled directly by neural activity and involves a hormone that generally slows metabolic activity at night?

- a. Pituicyte
- b. Melanocyte
- c. Herring body of the neurohypophysis
- d. Chromaffin cell
- e. Pinealocyte

8. Some mammalian endocrine tissues or cells can be experimentally transplanted to other well-vascularized sites (such as the oral mucosa) in genetically similar hosts and the tissue's function continues normally and with proper regulation. The pars distalis is not a good candidate for such transplantation studies for which one of the following reasons?

- a. More severe rejection of neurally-related tissue occurs compared with other endocrine organs.
- b. Its hormonal source is unavailable after its axonal connections to the hypothalamus are disrupted.
- c. Its cells stop functioning when separated from the hypothalamohypophyseal portal system.
- d. Neogenesis of blood vessels into this tissue will not occur at the transplant site.
- e. The vascular wall of the superior hypophyseal arteries is unique

9. A 45-year-old corporate executive presents with the primary complaint of “always being tired.” She comments that she has been tired for 4 months even though she is sleeping more. She complains of being unable to finish chores at home and “dragging at work.” She indicates that she is often constipated and is intolerant of cold. She is continuously turning the thermostats in the house and office to higher temperatures, to the dismay of family and coworkers. She also complains that her skin is very dry; use of lotions and creams have not helped the dryness. A biopsy of her thyroid gland shows dense lymphocytic infiltration with germinal centers throughout the parenchyma and a battery of further tests is carried out, which also suggest thyroiditis. Which of the following results of blood tests would be most likely in this patient?

- a. Elevated TSH levels
- b. Elevated T3 and T4 levels
- c. Autoantibodies to the thyroid hormone receptor
- d. Elevated calcitonin levels
- e. Elevated glucocorticoid levels

10. A 9-year-old girl, the youngest of four daughters, is taken to the pediatrician by her mother, who indicates that for at least 4 months the child has seemed “hyperactive,” unable to sleep soundly because “she says her room is too hot,” and no longer able to concentrate in school. Upon questioning, the mother also remembers that her daughter’s periods also began within the past few months. Blood tests indicate high levels of estrogen-related hormones and cortisol. Which of the following tentative diagnoses is consistent with all of these symptoms?

- a. Graves disease, caused by antibodies stimulating the TSH receptor
- b. A defect in the paraventricular nucleus
- c. Excessively active cells of the adrenal cortex zona glomerulosa
- d. A benign tumor involving cells in the adenohypophysis
- e. A disabling mutation in the gene for thyrolobulin