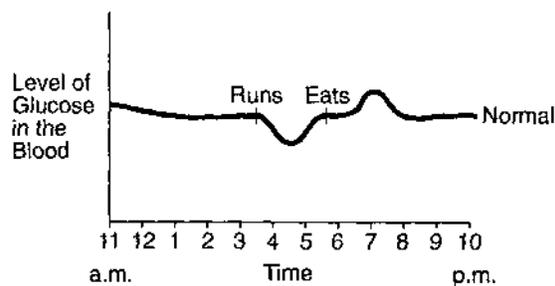


- A very high level of calcium in the blood suggests a malfunction of the
 (1) liver (2) pancreas (3) **parathyroid** (4) large intestine
- In humans, which substance is directly responsible for controlling the calcium levels of the blood?
 (1) adrenaline (2) insulin (3) **parathormone** (4) thyroxin
- The maintenance of proper blood sugar level involves the storage of excess sugar in the
 (1) salivary glands (2) stomach (3) pancreas (4) **liver**
- The hormone TSH stimulates the production of
 (1) **thyroxin** (2) insulin (3) estrogen (4) testosterone
- An example of the maintenance of homeostasis in humans is the action of glucagon and insulin in regulating the
 (1) temperature of the body (3) excretion of urine from the bladder
 (2) **concentration of blood sugar** (4) secretion of thyroxin
- Secondary sex characteristics in males are regulated by
 (1) amylase (2) acetylcholine (3) **testosterone** (4) estrogen
- The graph below represents the level of glucose in a student's blood from 11:00 a.m. until 10:00 p.m. At 3:30 p.m. the student ran in a cross-country meet, and at 5:30 p.m. the student ate dinner.



Which hormones were primarily responsible for producing some of the changes in blood sugar level between 4:30 p.m. and 8:00 p.m.?

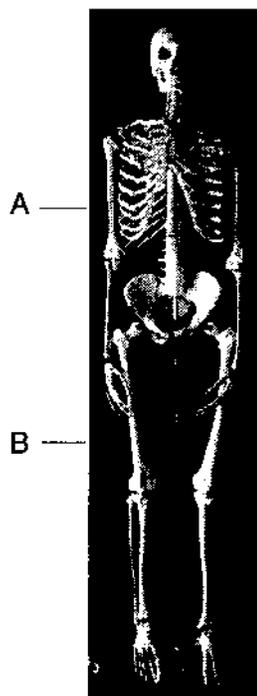
- insulin and glucagon** (3) parathormone and TSH
- estrogen and progesterone (4) adrenaline and FSH
- Pituitary growth hormone can affect cells in various parts of the human body because the hormone is secreted directly into
 (1) glandular ducts (2) muscle tissue (3) **the bloodstream** (4) the digestive tract
- The body normally responds to low concentrations of sugar in the blood by secreting
 (1) **glucagon** (2) estrogen (3) insulin (4) testosterone
- Which hormone aids directly in reducing the sugar level of the blood?
 (1) glucagon (2) adrenaline (3) **insulin** (4) estrogen
- If a person is having difficulty with calcium metabolism, which glands are most likely functioning poorly?
 (1) gonads (2) **parathyroid** (3) salivary (4) gastric

12. A physiologist removed the pancreas from several dogs in an experiment to investigate its function. He placed five normal dogs in one kennel and five dogs lacking a pancreas in another kennel. The physiologist observed that ants were attracted in large numbers to the kennel of the dogs lacking a pancreas.

Because they lacked a pancreas, what substance did these dogs have that attracted the ants?

- (1) enzymes in their saliva
- (2) **sugar in their urine**
- (3) mineral salts in their feces
- (4) oil on their fur

13. A human skeleton is shown in the photograph below.



The elongation of structures *A* and *B* was stimulated by a hormone produced by the

- (1) islets of Langerhans
- (2) liver
- (3) **pituitary gland**
- (4) striated muscles

14. the list below. Select the endocrine gland that is best described by each phrase.

Endocrine Glands

- (1) Thyroid
- (2) Adrenal
- (3) Islets of Langerhans
- (4) Parathyroid

Requires a supply of iodine to synthesize its hormone

- (1) **1**
- (2) 2
- (3) 3
- (4) 4

15. Gland *A* releases a hormone that causes gland *B* to release estrogen. Gland *A* is most likely the

- (1) testis
- (2) **pituitary**
- (3) thyroid
- (4) ovary

16. Homeostasis is illustrated in the human body by the effects of insulin and glucagon on the amount of

- (1) fats digested into glycerol
- (2) amino acids absorbed by villi
- (3) oxygen transported to the lungs
- (4) **glucose in the blood**