Endocrine System

Controls the body’s functions by using chemicals that are made by the endocrine glands.

Gland – a group of cells that make special chemicals for your body

Hormone – a chemical messenger made in one cell or tissue that causes a change in another part of the body

1. Adrenal glands
2. Release the hormone epinephrine (sometimes called adrenaline) which increases your heartbeat and breathing rate
3. This response is called the “fight or flight” response and when you are frightened, angry, or excited, it prepares you to fight the danger or to run away from it
4. Pituitary gland
5. Stimulates skeletal growth and helps the thyroid gland work properly
6. Regulates the amount of water in the blood
7. Stimulates birth process in women
8. Pineal gland
9. Located in the brain
10. Big as a grain of rice
11. Makes melatonin which controls your sleeping schedule
12. Hypothalamus gland
13. Located in the brain, above the pituitary gland
14. Sends out numerous hormones
15. Controls our nervous system (sleeping, eating, body temperature)
16. Thyroid gland
17. Controls the secretion of growth hormones for normal body growth
18. Controls the development of the central nervous system
19. Controls metabolism = the sum of all the chemical processes that take place in an organism
20. Thymus gland
21. Important to your immune system in that killer T-cells grow and mature in the thymus gland.
22. T-cells help destroy or neutralize cells or substances that invade your body
23. Parathyroid glands
24. Behind the thyroid
25. Regulate calcium levels in the blood
26. Pancreas
27. Regulates blood-glucose levels
28. Ovaries (in females)
29. Produce hormones needed for reproduction
30. Testes (in males)
31. Produce hormones needed for reproduction

Controlling the Endocrine Glands - The endocrine systems has feedback mechanisms similar to those in the nervous system. For example, the pancreas makes two different hormones

1. Insulin – lowers blood-glucose levels by telling the liver to convert glucose into glycogen and to store glycogen for future use
2. Glycagon – has the opposite effect. It tells the liver to convert glycogen into glucose and to release the glucose into the blood.

Hormone Imbalances are the result of too much or too little of a hormone and can have an adverse effect on your health.