

# Hormones

## What are hormones?

- Chemical messengers
- Carry signals throughout the body
- Circulate in the bloodstream
- Every cell is influenced by hormones



## Hormones:

- **Insulin**- tells liver to stop releasing glucose
- **Pancreas (where insulin is made)**- glucose too high, sends out more glucose
  - **Pancreas**- glucose too low, sends out less insulin, liver sends more glucose
  - **Glucagon and Insulin**- controls and maintains blood sugar/glucose levels
- **Adrenal Glands**- gets us ready for action, emergencies, on top of the kidneys, body's response to stress, how body uses carbohydrates, proteins, fats, minerals
- **Pituitary Gland**- size of a marble, middle of the brain behind nose (master gland)
  - **Growth hormone** - growth, cell activity
  - TSH stimulates thyroid
  - **ADH**- kidneys to cut urine production
  - LH and FSH stimulate ovaries
- **Brain**- enkephalins, endorphins reduce pain
- **Thyroid**- raises cell activity, size of a marble, front of throat below voice box -calcitonin controls calcium level in the blood
- **Ovaries**- estrogen, progesterone control female menstrual cycle, less is produced during and after menopause, sexual development, reproduction, fertility
- **Testes**- testosterone affects male sex organs, sexual development, reproduction, facial hair, deep voice

