

## Endocrine System

- Intercellular communication
  - Talks to each other using chemicals (Hormones!)
- Hormones Maintain Homeostasis
  - Changes types, quantities, or activities of important enzymes
  - Made from amino acids or lipids
  - Function for only 2 min-1 hr
  - Usually Negative Feedback

## Examples of Hormones:

- Antidiuretic (water regulation)
- Oxytocin (contraction of breast and uterus)
- Testosterone/estrogen (male/female characteristics)
- Melatonin (sleep cycles)
- Insulin (glucose utilization)
- Erythropoietin (formation of blood cells)
- Triiodothyronine (metabolism)
- Growth hormone (ummm.....haha)
- Thyroid stimulating hormone (two guesses)
- Prolactin (milk production)
- Releasing hormones (group that control other hormones)

## Homeostasis Disruptions

- **Diabetes:** inadequate/abnormal insulin (Type 1) OR production/abnormal receptors (Type 2) ; blood glucose concentrations are high enough to overwhelm the kidneys

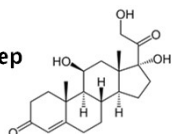
## Goiter

- Iodine deficiency
- Thyroid cannot make it's hormones
- Negative feedback: brain sends TSH (thyroid stimulating) that causes thyroid to enlarge
- Vicious cycle



## Cortisol

- Affects glucose metabolism
- Anti-inflammatory
- Can bind to receptors in brain
- Influences fat and protein metabolism
- Increased under negative stress
  - Injury
  - Disease
  - Cold
  - Lack of sleep



## Pheromones

- Most animals chose a mate based on smell
- Found in urine, sweat, and tears



"Since you started doing pheromone research you've become hideously ugly, yet I still find you irresistible."



## Medical Professions

- **Endocrinologist**
  - internal medicine experts
  - specific diagnoses and appropriate treatment
- **Endocrine surgeons**
  - conduct invasive and noninvasive procedures; gland removal
- **Endocrine nurses**
  - provide direct care for patients

## Questions? Comments?



**Endocrine System**

• “Answers” on the website 😊

The diagram shows a human silhouette with various glands and organs labeled. The labels include: Pituitary, Hypothalamus, Pineal, Adipose, Thyroid, Parathyroid, Adrenal, Pancreas, Ovaries, Testes, and Adipose. The diagram is enclosed in a dashed border.