Endocrine Organs and Their Products

- Endocrine organs make hormones.
- Hormones can regulate cellular activities.
- Hormones travel in the bloodstream to their target(s).
- Targets must have a specific receptor that responds to the hormone.
- Steroid hormones are made by the adrenal gland, the ovaries, and the testes. They include:
    - estrogen—made by the ovaries and occasionally by the adrenal gland
    - progesterone—made by the ovaries and occasionally the adrenal gland
    - testosterone—made by the testes and the adrenal gland
    - cortisol—made only by the adrenal gland
    - aldosterone—made only by the adrenal gland
- Steroid hormones are made from cholesterol.
- Most of the other hormones are made from amino acids.
- The main endocrine organs include:
    1. Pituitary Gland: releases 9 hormones
    2. Pineal Gland: releases melatonin
    3. Thyroid Gland: releases thyroxine
    4. Parathyroid Glands: releases parathyroid hormone
    5. Thymus: releases thymosine
    6. Adrenal Glands: releases aldosterone, cortisol, and testosterone
    7. Pancreas: releases insulin (and a couple others we won't discuss)
    8. Ovaries: releases estrogen and progesterone
    9. Testes: releases testosterone
    10. Placenta (during pregnancy): releases progesterone
- The Renin-Angiotensin-Aldosterone System (RAAS)
    1. Kidney releases renin
    2. Renin cleaves angiotensinogen to angiotensin I
    3. Angiotensin Converting Enzyme (ACE) converts AI to AII.
    4. AII is a potent vasoconstrictor and increases BP.