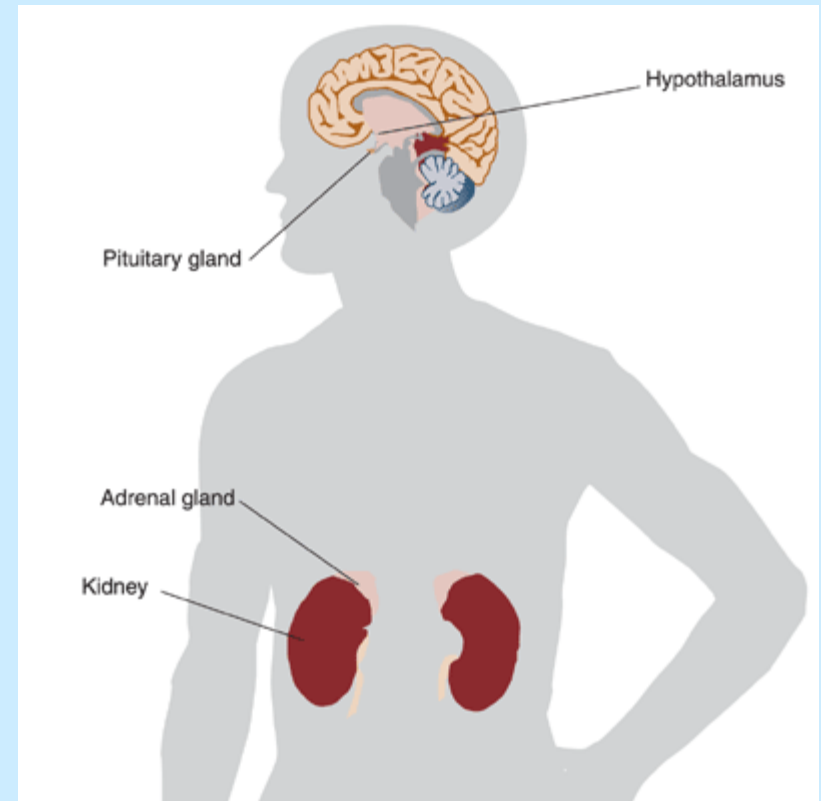
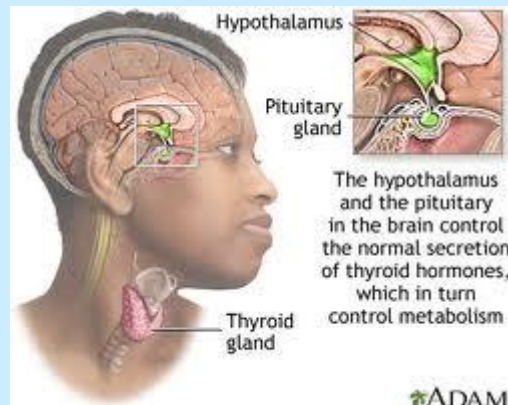
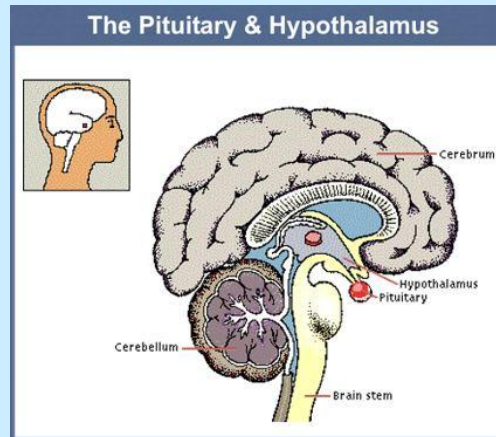


Animal Hormones

Glands are responsible for producing hormones

The most important glands are

- Hypothalamus
- Pituitary Gland
- Thyroid gland
- Stomach
- Small intestine
- Adrenal gland
- Pancreas
- Gonads



Endocrine System

- A system of glands which secrete hormones into the blood stream to regulate the body. Hormones in the blood stream are transported to specific target cells. Function is to work with nervous system to ensure the internal environment of an organism is regulated (Homeostasis)
- Important endocrine glands are: pituitary, thyroid, parathyroid, adrenal, pancreas, ovaries and testes.

Exocrine System

- Exocrine System are glands which get rid of products such as sweat, oil and saliva from body. They are not involved in maintaining homeostasis.
- Include: mucous secreting glands, sweat glands, oil glands, salivary glands, bile from liver, pancreas(synthesizes digestive enzymes), pyloric glands in stomach.

Hormones

Hormones are compounds (a specific group of proteins) produced by plants/animals that bring about a specific response in certain tissues.

What are some animal (human) hormones that you produce?

Animal Hormones

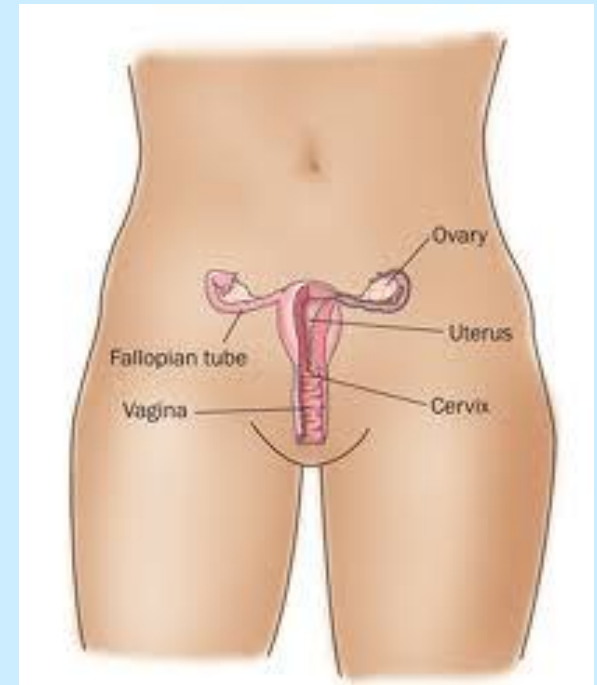
- Oestrogen
- Testosterone
- FSH (follicle stimulating hormone)
- Insulin
- Adrenaline
- ADH (anti-diuretic hormone)

Oestrogen

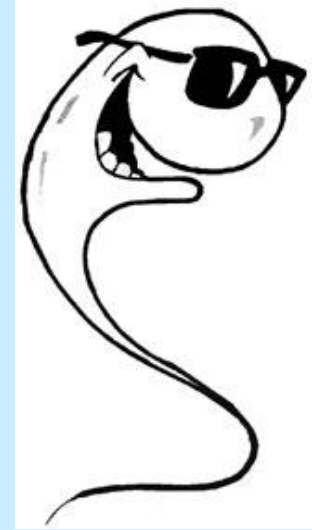
Produced in the follicles of the ovaries

Has several functions:

1. *Causes tissue growth in specific areas in the body, thereby promoting the development and maintenance of female reproductive structures. This also includes fat distribution on the hips, breasts, abdomen, thighs, buttocks.*



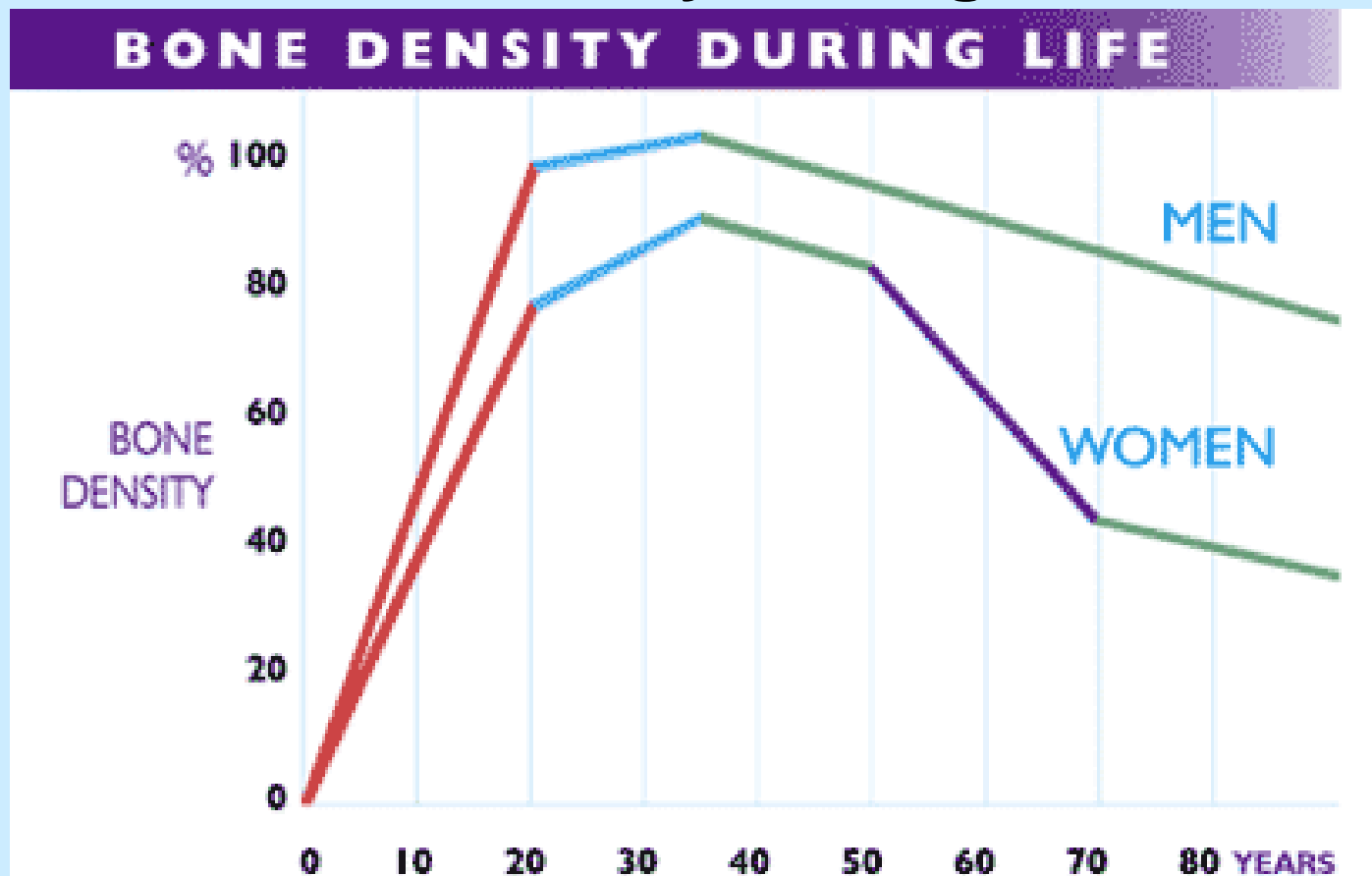
2. *Prepares the reproductive organs for fertility, making them more sperm friendly.*



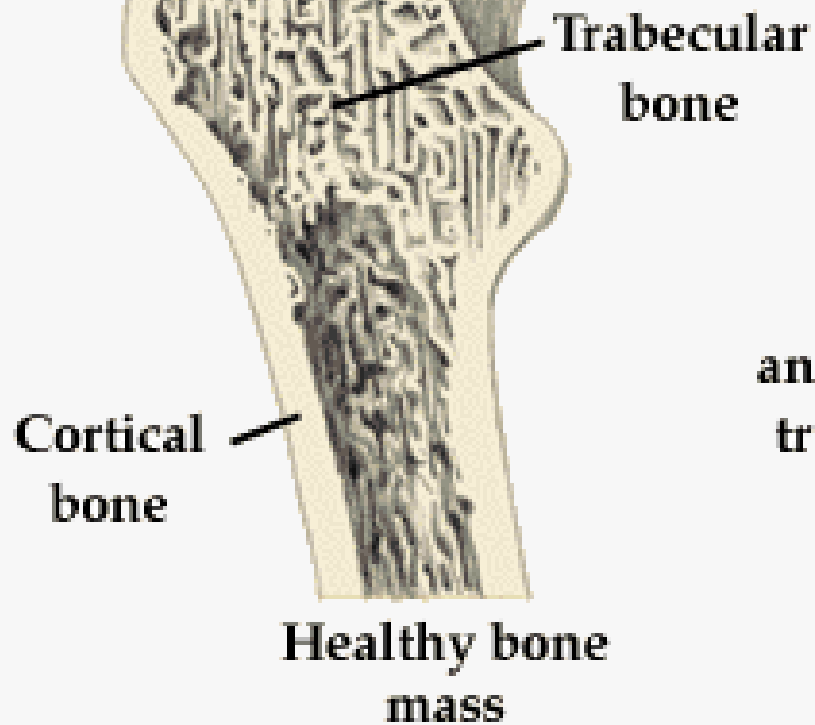
3. *Prepares the follicle for the release of an egg.*

4. *Helps maintain our bone density by increasing osteoblasts - which are bone forming cells.*

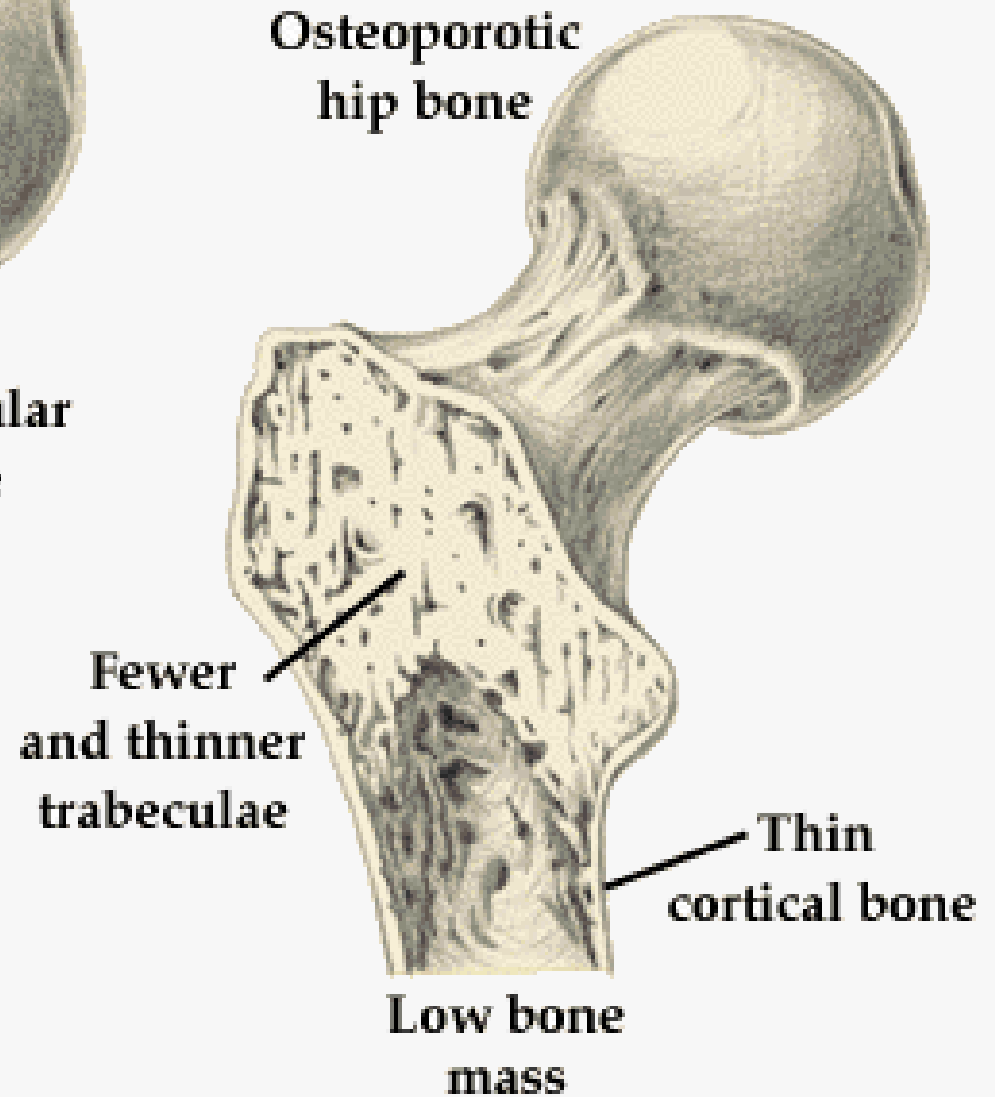
Bone Density and Age

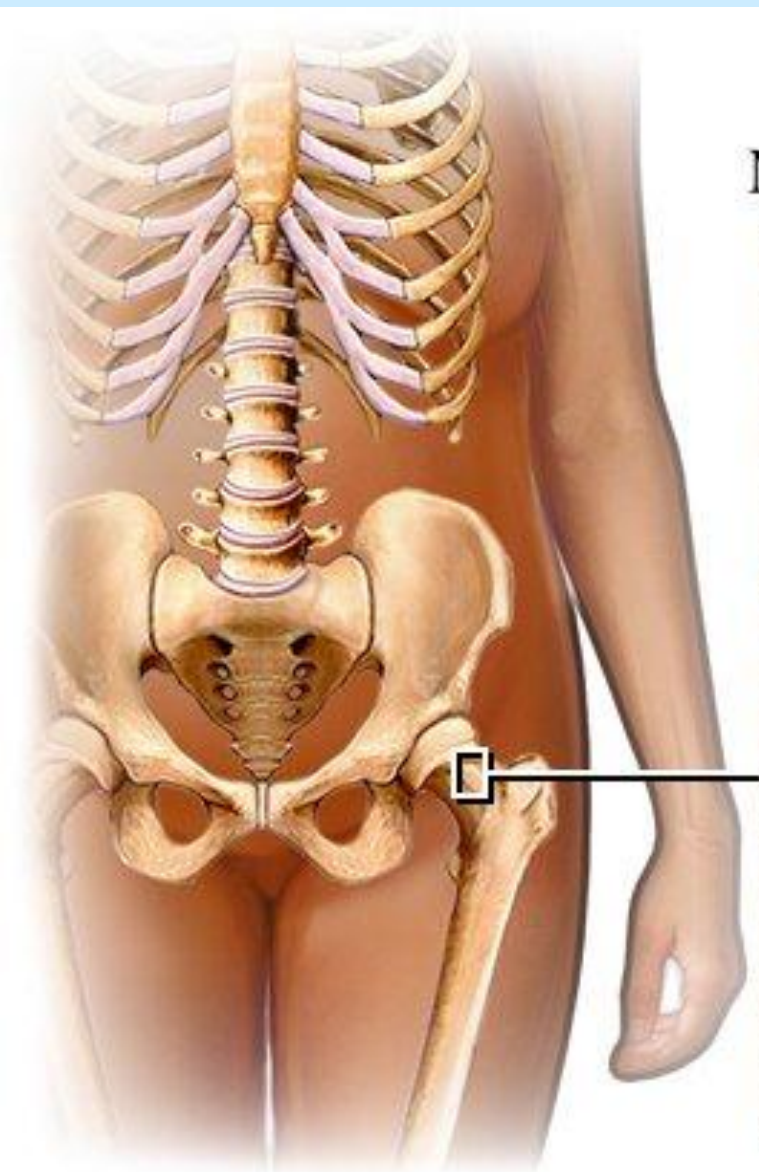


**Normal
hip bone**

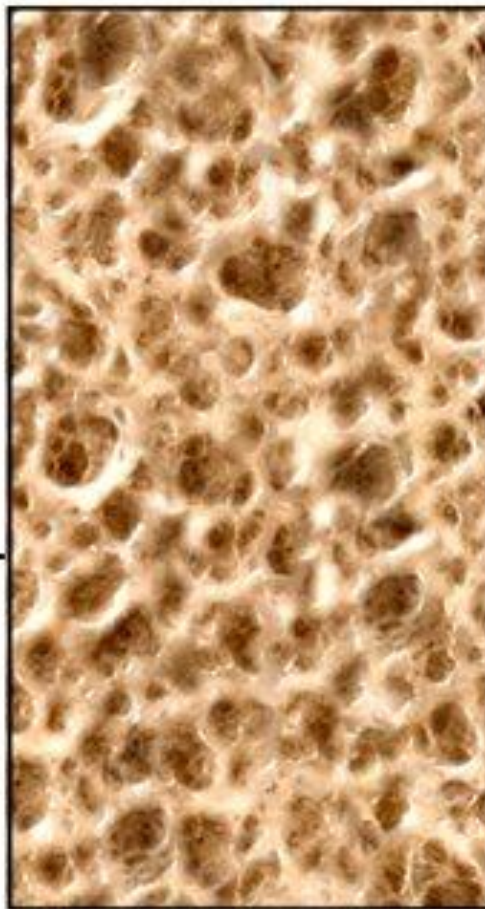


**Osteoporotic
hip bone**

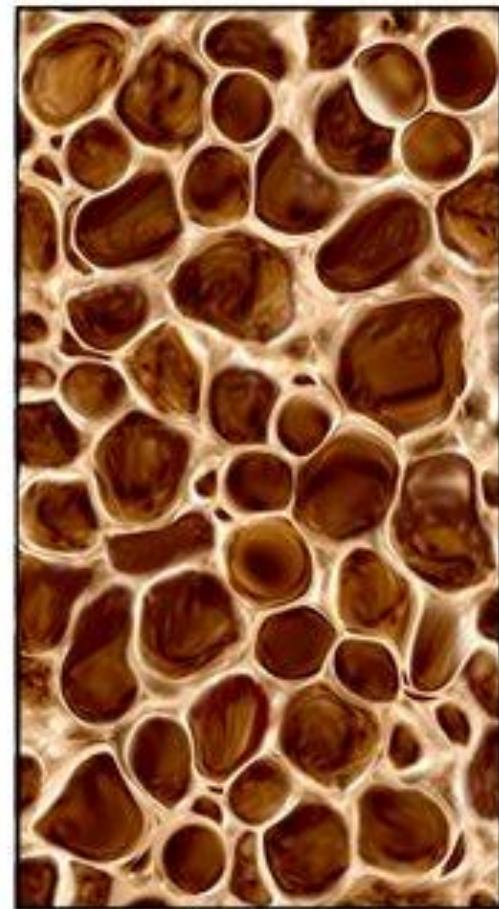




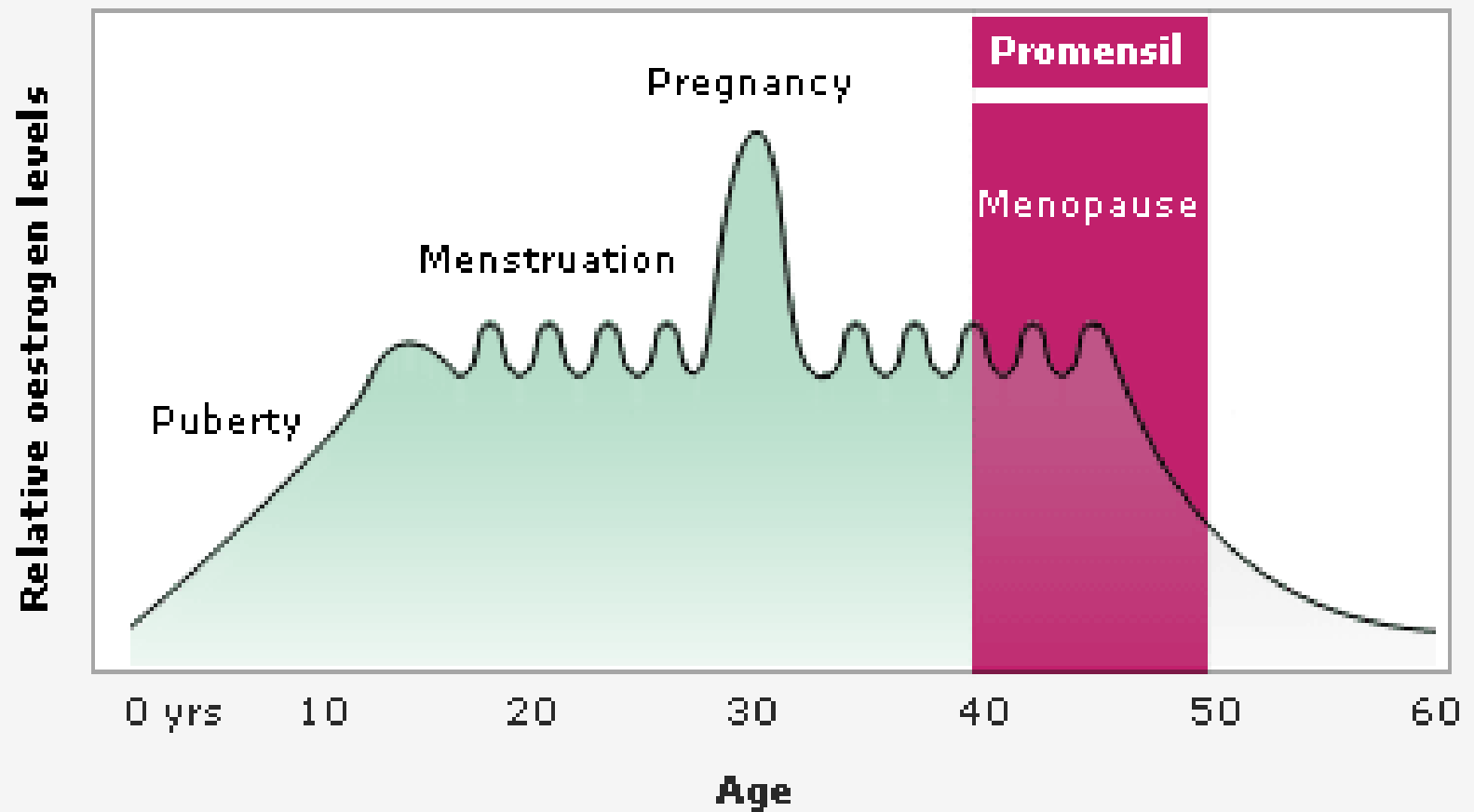
Normal bone matrix

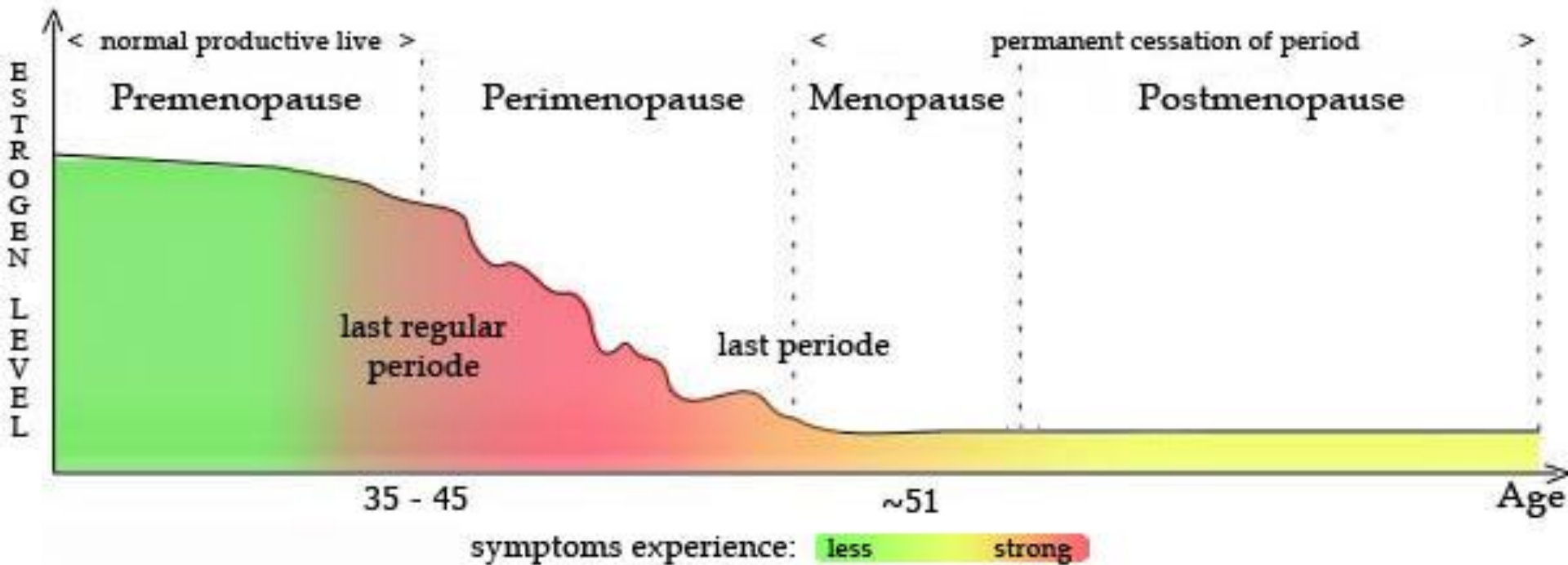


Osteoporosis



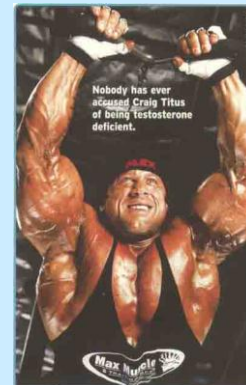
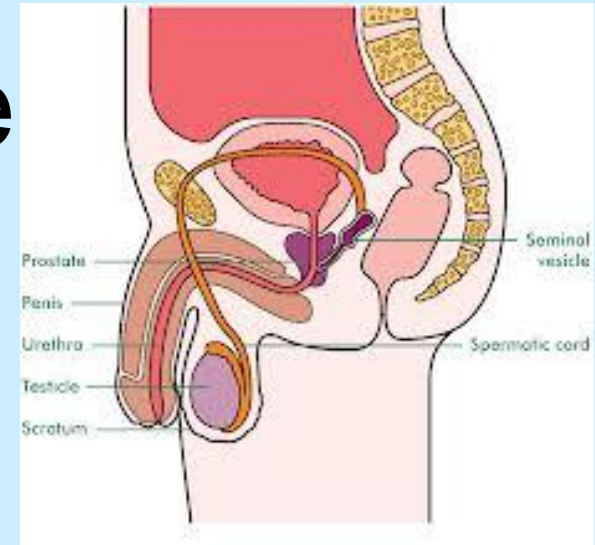
OESTROGEN LEVELS FROM PUBERTY TO POST-MENOPAUSE





Testosterone

- Secreted by testes of males (but also by ovaries in females). Small amounts also secreted by adrenal glands.
- Development of reproductive tissue in males and promotes male secondary sexual characteristics including muscle, bone mass growth of body hair.
- Also required for health and well being and in prevention of osteoporosis.

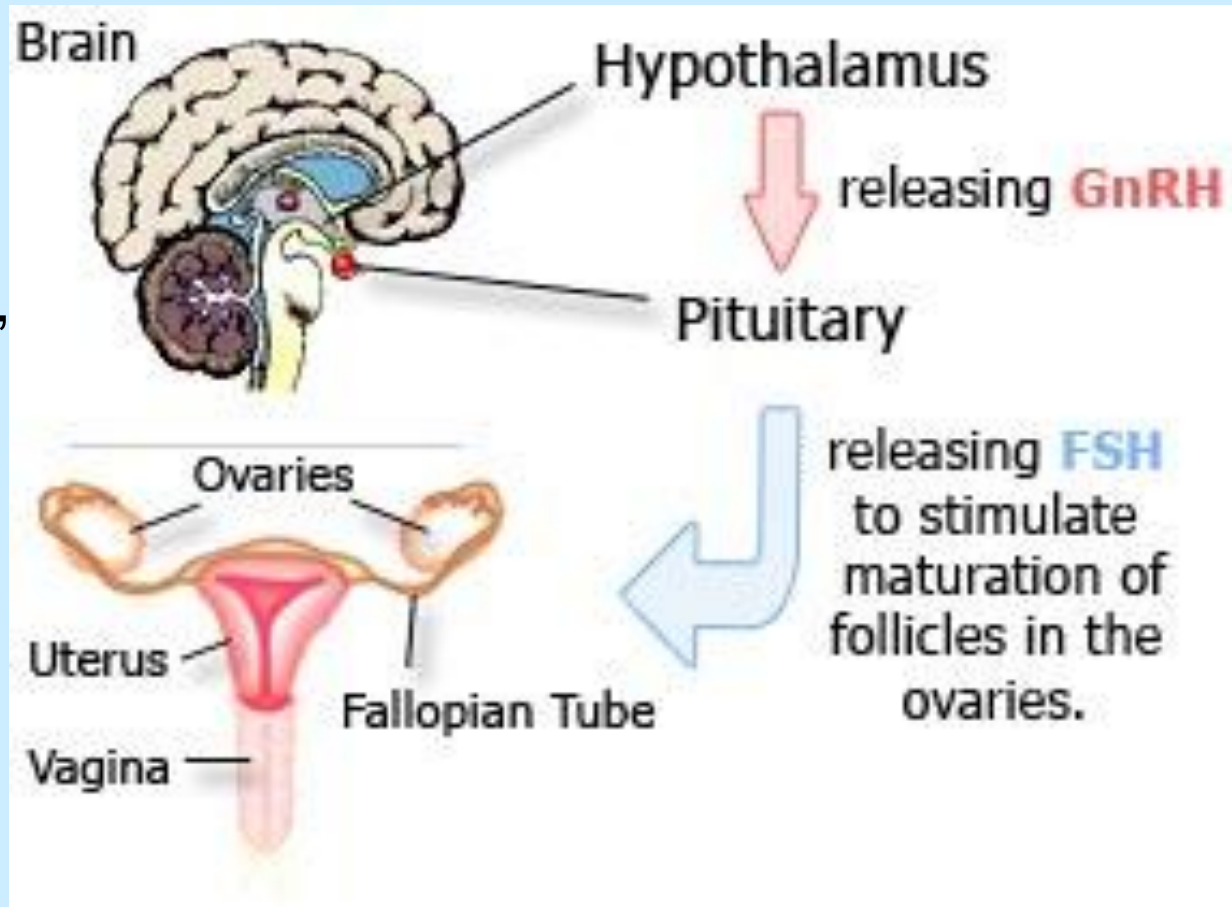


Follicle Stimulating Hormone

Secreted by pituitary gland.

Regulates development of growth, pubertal maturation and reproductive processes.

Works along with luteinizing hormone (GnRH Gonadotropin Releasing Hormone) in stimulating gonads.



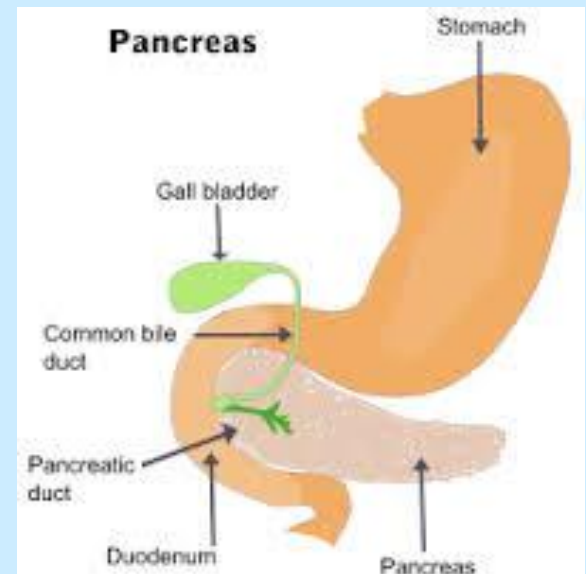
Insulin

Synthesized in the pancreas

Helps regulates sugar levels in the blood.

Causes liver, muscle and fat tissue to take up glucose from blood storing it as glycogen

When control of insulin levels fails diabetes results.

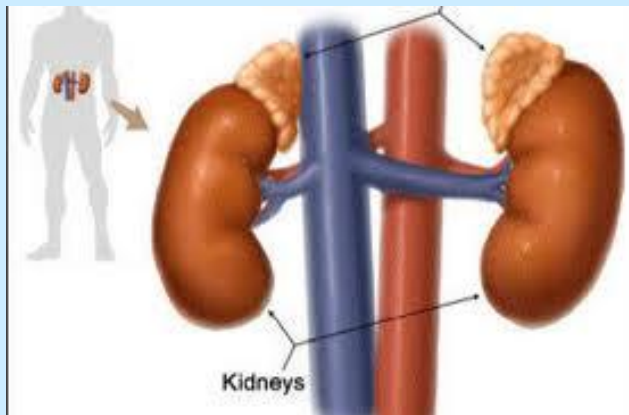


Adrenaline

Produced by adrenal glands.

Fight or Flight Hormone

Stimulates heart rate and dilates blood vessels and air passages.



Anti-diuretic hormone

- Synthesized in hypothalamus.
- Also known as ADH
- Also known as vasopressin
- Controls reabsorption of molecules in the kidney
- Constricts blood vessels.
- Controls regulation of water, glucose and salts from the blood.

