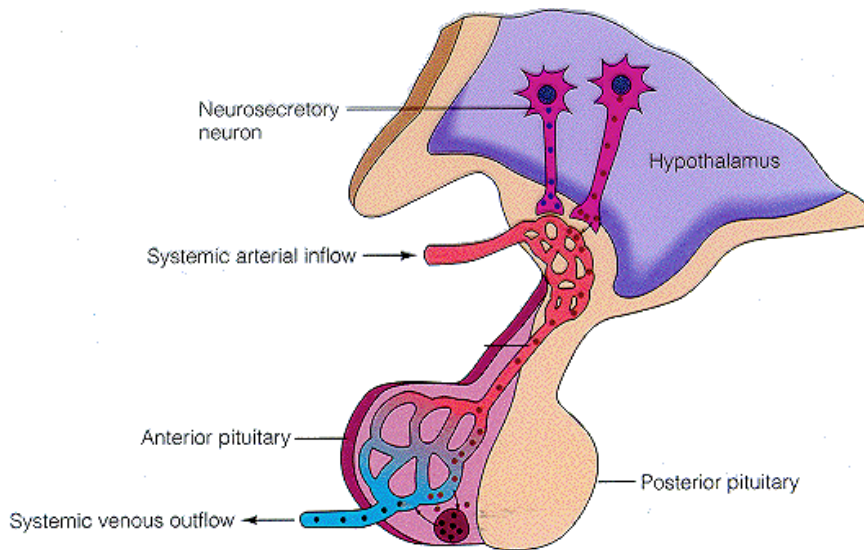


Reproduction II

Regulation of Male Hormones

There are two **GONADOTROPIC HORMONES** released by the **ANTERIOR PITUITARY** gland. They are **FOLLICLE STIMULATING HORMONE (FSH)** and **LEUTEINIZING HORMONE (LH)**. Both are named for their function in females, but exist in both sexes stimulating the appropriated gonads in each.

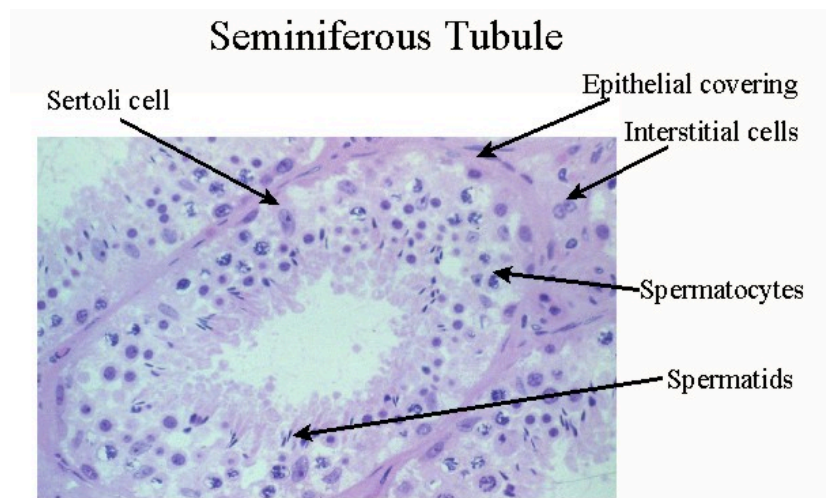
The **HYPOTHALAMUS** controls the secretions of the gonadotropic hormones and therefore controls the testes' sexual function. The hypothalamus secretes **GONADOTROPIC-RELEASING HORMONE (GnRH)** which stimulates the **ANTERIOR PITUITARY** to produce and release **LH** and **FSH**.



The gonadotropic hormones have the following functions:

1. **Follicle Stimulating Hormone (FSH)** ☺ stimulates sperm production in the seminiferous tubules.
2. **Leuteinizing Hormone (LH)** ☺ stimulates testosterone production in the **INTERSTITIAL CELLS.**

** Interstitial cells are located between the seminiferous tubules in the testes.



Reproduction II

Negative Feedback:

Levels of testosterone are maintained at relatively constant levels by negative feedback.

⊕ High levels of testosterone inhibit the secretion of GnRH by the hypothalamus which stops the release of LH by the anterior pituitary.

⊕ The hormone **INHIBIN** is produced along with sperm in the seminiferous tubules. Inhibin blocks FSH secretion.

Functions of Testosterone:

1. Development and function of the primary sex organs.
2. Production of sperm. FSH causes the sperm-producing cells to take up testosterone. The testosterone stimulates their activity to make sperm.

At puberty, testosterone plays a number of important roles in males:

3. Maturation and growth of the testes and penis.
4. Development of **SECONDARY SEXUAL CHARACTERISTICS**. These include the growth of facial, underarm and pubic hair; growth of larynx and vocal cords (voice change), growth of muscles and greater muscular strength and secretions of oil and sweat glands (leads to body odor and acne).
5. Sex drive.

