The Male Reproductive Organ

The male reproductive organs are divided into 3 parts based on their function in the system. One of the division is the **ducts** which refers to the tubes and tubules that will be the passageway of sperm from the site of its production to the outside. **Glands** are group of endocrine glands that provides for products to support and protect the sperm cells. Last is the **gonad** that is the site for the production of sperm cells called spermatogenesis.

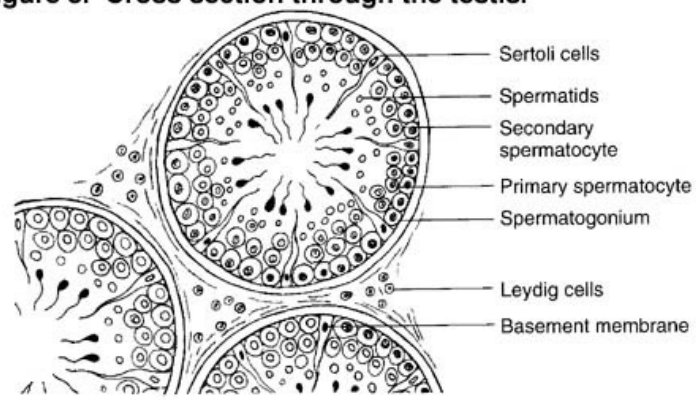
Male Gonad and the Process of Sperm Production

The male gonad is referred to as the testes. The testes are two spherical bodies that is found outside the pelvic cavity of humans. During fetal development of male fetus, the testes is

Sperm Production Process

The production of sperm cells happens in the seminiferous tubules in the lobules of the testes. The cross section of the seminiferous tubule reveals the sperm cells in different levels of development called the spermatogenic cells. On the walls of the tubule are the spermatogonia which are the mother cells of the sperm cells. One spermatogonia will undergo mitosis to give rise to two primary spermatocytes. One primary spermatocyte will replace the spermatogonia while the other will proceed to become the secondary spermatocyte. Finally, the secondary spermatocyte will develop into spermatids. As the sperm cells develop they move from the walls to the lumen or the space in the middle of The tube. Why do you think so?

Figure 3. Cross section through the testis.



The development of the spermatogonium to become spermatid is controlled indirectly by the hormones, follicle stimulating hormone and luteinizing hormone; and directly by testosterone.

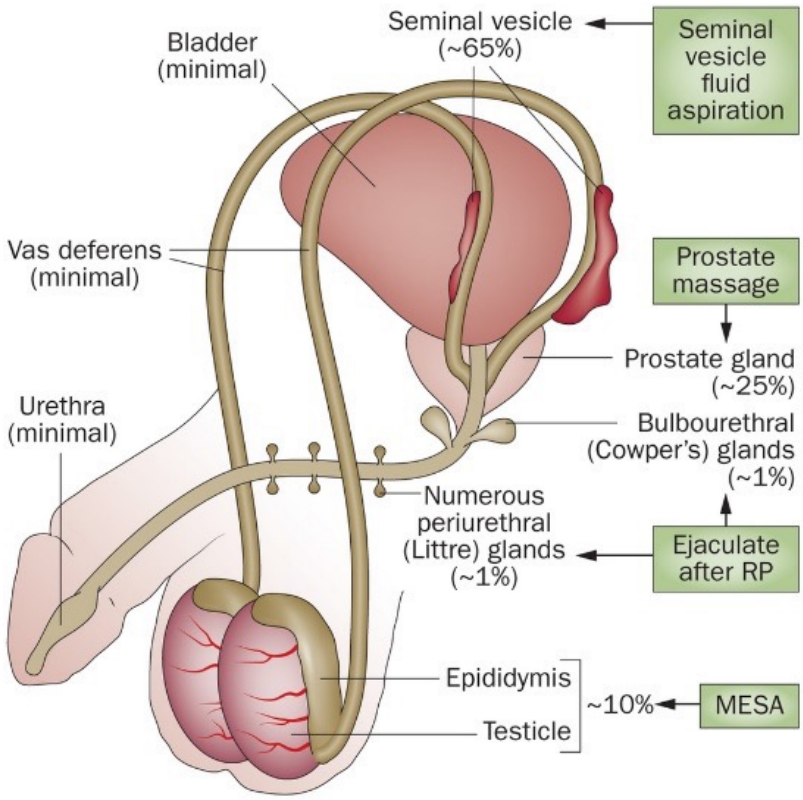
FSH and LH are secreted by the anterior pituitary gland which targets the testicular cells specifically the interstitial cells of Leydig. The Leydig cells will synthesize, as reaction to the increase levels of FSH and LH, testosterone. Increased testosterone level will affect the development of the spermatids in the seminiferous tubules. In the development of the spermatogenic cells, the Sertoli cells that is located in between the spermatids protects and nourishes the developing sperm.

Male Reproductive Glands

The glands referred to as the male reproductive glands consist of glands that contributes to the semen with a primary role of supporting and protecting the sperm cells as they travel toward the egg cell.

a. **Prostate Gland**. This is a small gland found below the urinary bladder which secretes slightly acidic fluid. The prostatic fluid constitutes 15-30% of the semen. The fluid

contains fibrolysin, citric acid, acid phosphatase, ions and other compounds.



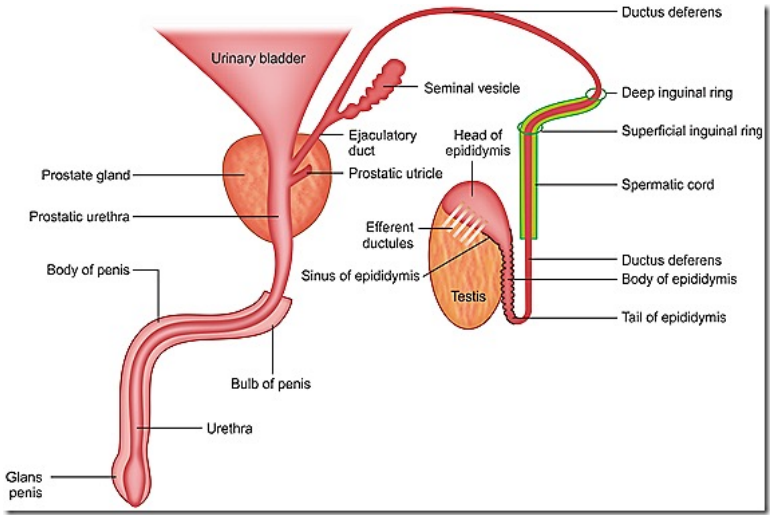
b. **Seminal vesicle.** This is a saclike gland found after the

towards the egg through changes in the cervix, uterus and fallopian tube.

c. **Cowper's gland or Bulbourethral gland.** This is made up of 2

Male Ducts

Ducts are made up of tubules or tubes that serve as a passageway of semen out of the male reproductive system. Tubes and tubules are hose-like structure that has two parts, the tube wall and lumen. Lumen is the space inside the tube. Tube wall is made up of a tissue that makes the boundary of the tube.



In the male reproductive system, the first portion of the long tube is the **seminiferous tubule** where spermatogenesis happens. This is followed by the **straight tube** which is the terminal part of the seminiferous tubule. The straight tube will form the rete testes that will converge and make up the **efferent ductile** which will continue to become the **ductus epididymis**. In the ductus epididymis, spermatids will undergo maturation from 7 to 14 days in a process called **spermiogenesis**. Because the next

The urethra is the passageway of urine and semen. It is divided into 3 parts: **prostatic urethra, membranous urethra** and **spongy or penile urethra.** The prostatic urethra is the part located immediately below the urinary bladder and also the location where the prostate gland is located. The membranous urethra is the part within the urethral sphincter. The longest is the spongy or penile urethra since it traverses the length of the penis perforating the corpora spongiusum. The average length of the urethra in males is 18-20 cm long (7-8 inches).

Accessory Sex Organ

Males has penis as their accessory sex organ. The major function of the penis in reproduction is to introduce the sperm cells near the external os of the cervix. It needs to be stiff to be able to penetrate the vaginal canal. The process of ejecting semen is called ejaculation while the stiffness needed by the penis during copulation is termed erection. How does the penis erect?

blood vessels. During sexual arousal the nervous system triggers the nerve endings of the neurons found in the blood vessels leading to the penis a gaseous neurotransmitter, nitrous oxide (NO). This will stimulate the production of cGMP which cause dilation of the blood vessels in the penis. This increases the volume of blood that flows into the penis, and the increase diameter puts pressure to the penile veins closing it off. The blood will not be able to exit because of the physiologic

substances will constrict the arteries of the penis which will decrease the pressure on the vein and open them. The opened veins drain the blood from the penis and this will end the erection of the penis.