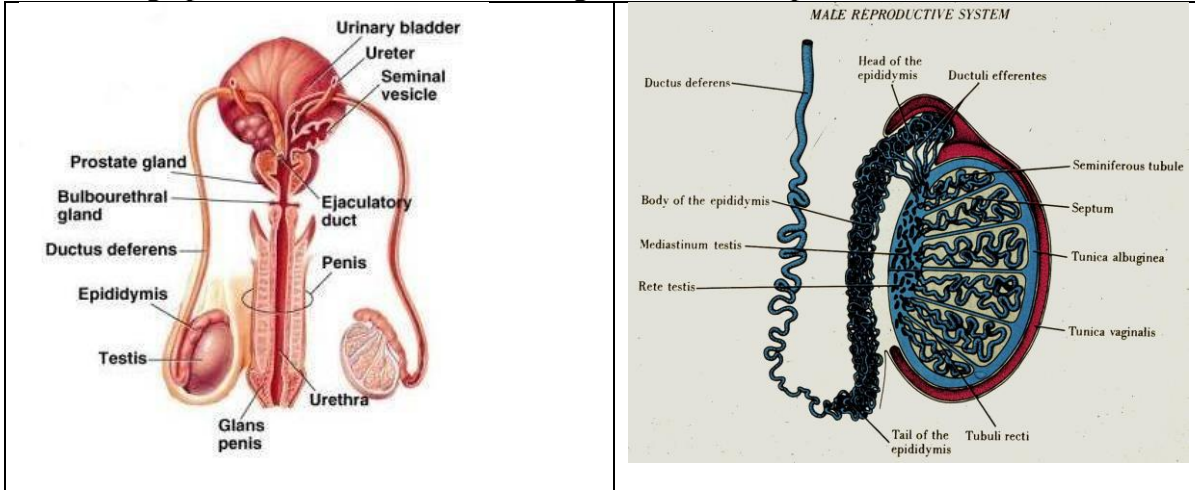


The Male Reproductive system

The male reproductive system includes the testis, genital ducts, accessory sex glands and penis

The main functions of the male reproductive system, are to produce spermatozoa, androgens (sex hormones - principally testosterone) and to facilitate fertilization, by introducing spermatozoa into the female genital tract (copulation).



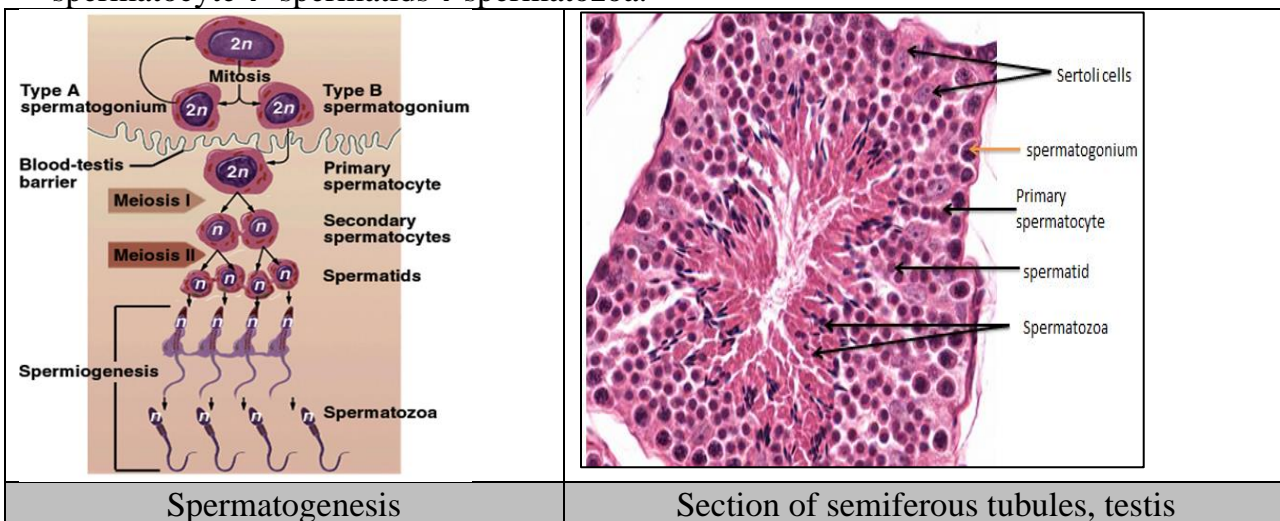
Testis

- The 2 **testes**, are the male gonads responsible for the production of sperm and testosterone.
- Each testis is found inside its own pouch on one side of the scrotum.
- The inside of the testes is divided into small lobules. Each lobule contains a section of **seminiferous tubule** lined with epithelial cells. These epithelial cells contain many stem cells that divide and form sperm cells through the process of spermatogenesis.

Seminiferous tubules

Composed of:

1. Stratified germinal epithelium
2. Surrounded by a layer CT with fibroblast and an inner basement membrane (bm).
3. **Sertoli cell**
 - Slender, elongated cells with irregular outlines that extend from the bm.
 - function for support and forming blood-testes barrier, Phagocytosis of cytoplasm spermatids
- **Leydig Cells** (Cells in between tubules): secrete testosterone
- **Spermatogenesis cell line:** Spermatogonia → Primary spermatocyte → secondary spermatocyte → spermatids → spermatozoa.



Spermatogenesis

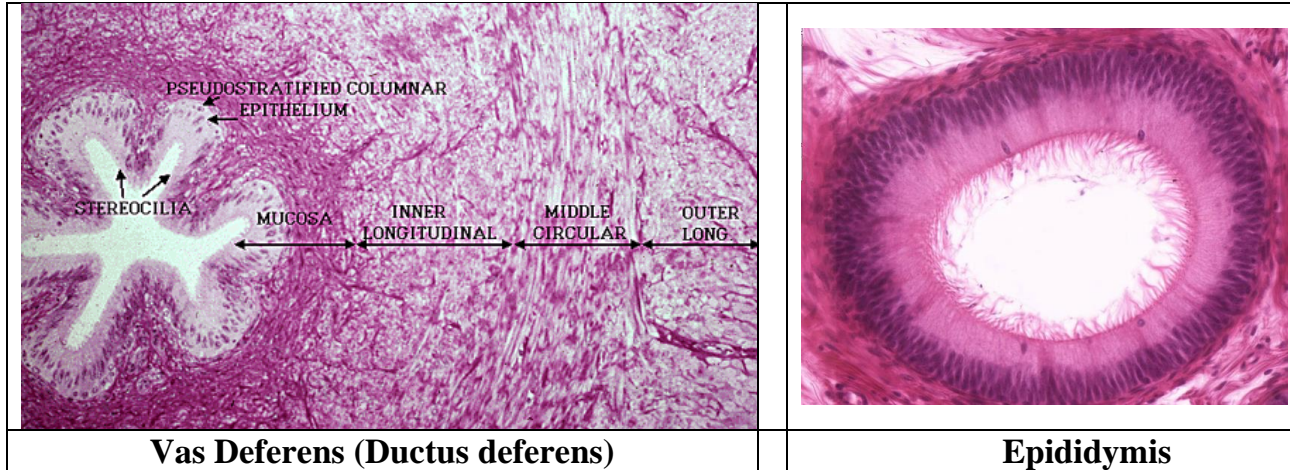
Section of semiferous tubules, testis

Spermatogenesis: Process where the spermatogenic cells in the seminiferous tubules divide, differentiate, and produce sperm.

Spermiogenesis: morphological transformation spermatids into spermatozoa.

Epididymis

- The **epididymis** is a sperm storage area (several tubules) that wraps around the superior and posterior edge of the testes.
- The epithelium lining the ducts of epididymis is pseudostratified ciliated epithelium.

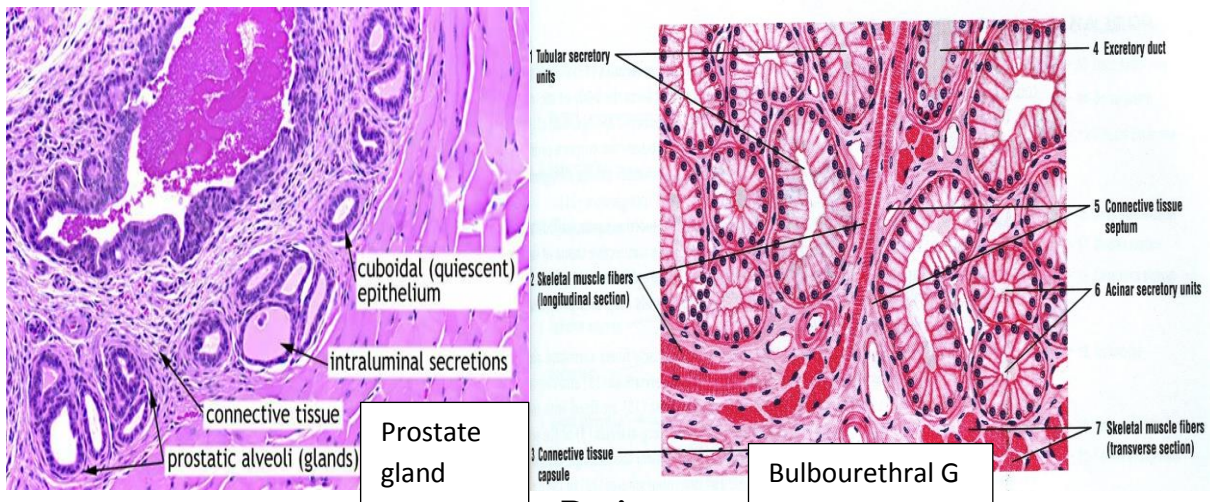
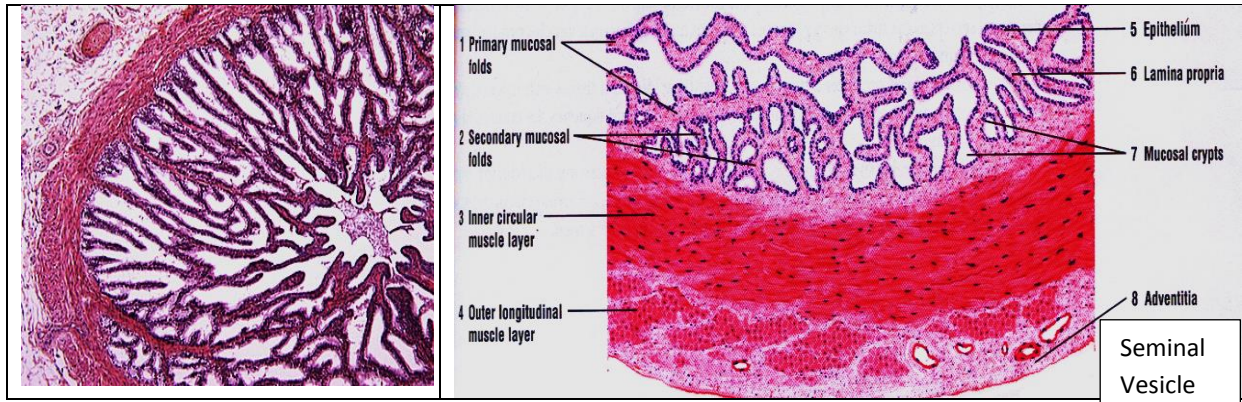


Vas Deferens (Ductus deferens)

- Is a muscular tube store mature sperms and carries them from the epididymis into the abdominal cavity to the ejaculatory duct.
- The duct is lined by a pseudostratified epithelium, with 3 layers of muscle (inner longitudinal, middle circular, outer longitudinal).

Accessory Glands

	Seminal vesicles	Prostate gland	Bulbourethral gland(Cowper gland)
Type of epithelium	simple or pseudostratified columnar epithelial cells	Simple cuboidal	The tubules and alveoli of the body are lined by tall columnar epithelium with small, flattened nuclei; those in the tail by low columnar epithelium with round basal nuclei. The central excretory ducts, lined by cuboidal epithelium
Function	The fluid produced is yellow, viscid and alkaline, and contains fructose, fibrinogen	Secrete into semen thin and milky, rich in citric acid, and hydrolytic enzymes, including fibrinolysin	Produce clear, viscid, mucus-like secretion during erotic stimulation, As lubricant for the penile urethra.
Location	Posteriorinferior to urinary bladder	Surrounds the urethra.	Near the base of the penis



Penis

The penis consists principally of three erectile tissue.

- Composed of 3 masses of erectile tissue with penile urethra.
- two dorsal masses of erectile tissue (**corpora cavernosa**)
- ventral mass of erectile tissue (**corpus spongiosum**) in which the spongy part of the **urethra** is embedded.
- A dense fibro-elastic layer, the **tunica albuginea**, binds the three together and forms a capsule around each.
- **The corpora cavernosa** contains numerous wide, irregularly shaped vascular spaces lined with vascular endothelium. These spaces are surrounded by a thin layer of smooth muscle.

