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## **The Male Reproductive System**

The male reproductive system is a grouping of organs that make up a man's reproductive and urinary systems. These organs do the following jobs within the body:

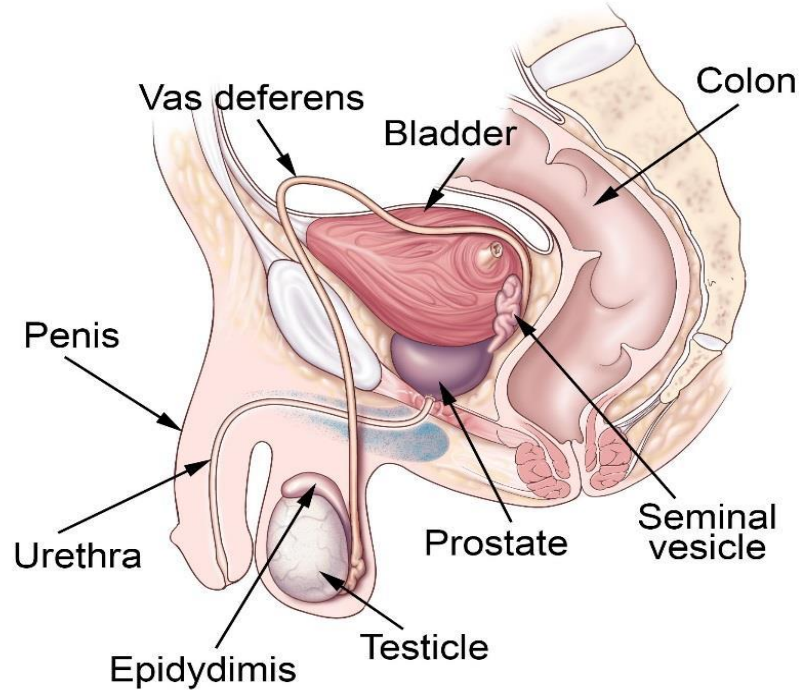
- They produce, maintain and transport sperm (the male reproductive cells) and semen (the protective fluid around the sperm).
- They discharge sperm into the female reproductive tract.
- They produce and secrete male sex hormones

The male reproductive system consists of

- The internal structures: the testes, epididymis, vas deferens, prostate
- The external structures: the scrotum and penis.

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**The penis:** is the male organ for sexual intercourse and urination. Semen and urine leave the penis through the urethra.

**The scrotum:** is a loose, pouch-like sack of skin containing the testes. The scrotum has a protective function, including the maintenance of optimal temperatures for sperm survival and function.

**The epididymis:** is located at the back of the testis and connects it to the vas deferens. Its function is to store and carry sperm.

**The testis:** is the location for testosterone production. The coiled collection tubes within the testes are the seminiferous tubules. Within these tubules, spermatogenesis takes place.



The internal organs of the male reproductive system are called accessory organs. They include the vas deferens, seminal vesicles, prostate gland, and bulbourethral (Cowper's) glands.

- **Vas deferens:** Transports mature sperm to the urethra in preparation for ejaculation.
- **Seminal vesicles:** Sac-like pouches that attach to the vas deferens near the base of the bladder. The vesicles produce molecules such as fructose that serve as energy sources for sperm. The seminal vesicle fluid makes up most of the volume of the semen.
- **Prostate gland:** A walnut-sized structure located below the urinary bladder in front of the rectum. It contributes additional fluid to the semen that serves as nourishment for sperm.
- **Bulbourethral (Cowper's) glands:** Pea-sized structures located on the sides of the urethra just below the prostate gland. These glands produce a clear, slippery fluid that empties directly into the urethra. Fluid produced by these glands lubricates the urethra and neutralizes acidity associated with residual urine.

## Histology

The testis covered by:

- ❖ **Tunica vaginalis:** the outermost covering (peritoneal covering of the testis and epididymis). The layers consists of mesothelium lining and connective tissue
- ❖ **Tunica albuginea:** Capsule of the testis.

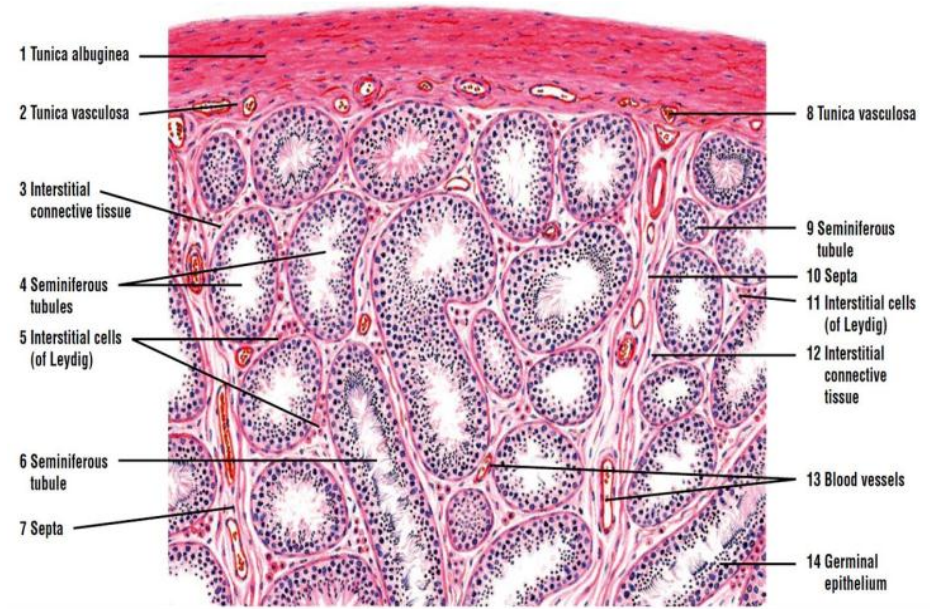
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- Consists of dense irregular connective tissue

The tunica albuginea form connective tissue trabeculae called septula testis.

- The septula testis divides the testicular parenchyma into number of testicular lobules. Each lobule contains 1-4 seminiferous tubules.



### Interstitial cells (Leydig cells)

The inter-tubular spaces of the testis contain loose C.T., blood and lymph vessels, fibrocytes, free mononuclear cells and interstitial cells called Leydig cells. These Leydig cells are

- Endocrine cells.
- Have acidophilic cytoplasm.
- Polyhedral in shape; has 1 or 2 spherical nuclei.
- Form cords or clusters.
- Produce testicular androgens (Testosterone)





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