



## Medical Laboratory Techniques Department male reproductive system

Dr.Duha Mahdi ----Msc.Sarah Kamil

- The purpose of the organs of the male reproductive system is to perform the following

functions:

- To produce, maintain, and transport sperm (the male reproductive cells) and protective fluid (semen)
- To discharge sperm within the female reproductive tract during sex
- To produce and secrete male sex hormones responsible for maintaining the male reproductive system



- the male reproductive system is located outside of the body. These external structures include the penis, scrotum, and testicles, Epididymis, • Vas deferens, Urethra.

**Penis:** This is the male organ used in sexual intercourse. It has three parts: **the root**, which attaches to the wall of the abdomen; **the body, or shaft**; and the glans, which is the cone-shaped part at the end of the penis. **The glans**, also called the head of the penis, is covered with a loose layer of skin called **foreskin**.

- **The body of the penis** is cylindrical in shape and consists of three circular shaped chambers. These chambers are made up of special, sponge-like tissue. This tissue contains thousands of large spaces that fill with blood when the man is sexually aroused. As the penis fills with blood

**Semen**, which contains sperm (reproductive cells), is expelled (ejaculated) through the end of the penis when the man reaches sexual climax (orgasm). When the penis is erect, the flow of urine is blocked from the urethra, allowing only semen to be ejaculated at orgasm.

**Scrotum:** This is the loose pouch-like sac of skin that hangs behind and below the penis. It contains the testicles (also called testes), as well as many nerves and blood vessels. The scrotum acts as a "climate control system" for the testes. For normal sperm development, the testes must be at a temperature slightly cooler than body temperature.

- **Testicles (testes):** These are oval organs about the size of large olives that lie in the scrotum, secured at either end by a structure called the spermatic cord. Most men have two testes. The testes are responsible for making testosterone, the primary male sex hormone, and for generating sperm. Within the testes are coiled masses of tubes called seminiferous tubules. These tubes are responsible for producing sperm cells.

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**Epididymis:** The epididymis is a long, coiled tube that rests on the backside of each testicle. **It transports and stores sperm cells that are produced in the testes.** It also is the job of the epididymis to bring the sperm to maturity, since the sperm that emerge from the testes are immature and incapable of fertilization. During sexual arousal, contractions force the sperm into the vas deferens

- **Vas deferens:** The vas deferens is a long, muscular tube that travels from the epididymis into the pelvic cavity, to just behind the bladder. **The vas deferens transports mature sperm to the urethra, the tube that carries urine or sperm to outside of the body, in preparation for ejaculation.**

**Urethra:** The urethra is the tube that carries urine from the bladder to outside of the body. In males, it has the additional function of ejaculating semen when the man reaches orgasm. When the penis is erect during sex, the flow of urine is blocked from the urethra, allowing only semen to be ejaculated at orgasm.

**Seminal vesicles:** The seminal vesicles are sac-like pouches that attach to the vas deferens near the base of the bladder. **The seminal vesicles produce a sugar-rich fluid (fructose) that provides sperm with a source of energy to help them move.** The fluid of the seminal vesicles makes up most of the volume of a man's ejaculatory fluid.

**Prostate gland:** The prostate gland is a walnut-sized structure that is located below the urinary bladder in front of the rectum. The prostate gland contributes additional fluid to the ejaculate. Prostate fluids also help to nourish the sperm.

**Bulbourethral glands:** Also called **Cowper's glands**, these are 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. This fluid serves to lubricate the urethra and to neutralize any acidity that may be present due to residual drops of urine in the urethra.**

### **How Does the Male Reproductive System Function?**

The entire male reproductive system is dependent on hormones, **Follicle-stimulating hormone** is necessary for sperm production (spermatogenesis), and **luteinizing hormone** stimulates the production of testosterone, which is also needed to make sperm. **Testosterone** is responsible for the development of male characteristics, including muscle mass and strength, fat distribution, bone mass facial hair growth, voice change, and sex drive.