

## Male Reproductive Anatomy

What are the 6 basic components of the male reproductive tract?

- Scrotum - Testes - Excurrent duct system - Spermatic cord - Accessory sex glands - Penis

Why are the testis housed outside of the body?

In order for spermatogenesis to occur, temperature must be 4-6 degrees less than body temperature

Scrotum layers:

Layer	Definition
Scrotal Skin	Heavily populated with sweat glands
Tunica Dartos	Mesh-like smooth muscle layer just beneath the scrotal skin
Scrotal Fascia	Fatty and membranous layer
Parietal Vaginal Tunic	First peritoneum layer taken into the scrotum

What are some ways that thermoregulation occurs?

- Sweat glands and hair on the scrotal skin
- Tunica Dartos Muscle (sustained contractions) = change in testis location, change in scrotal surface area
- Cremaster Muscle (cannot sustain contractions)= Hot temp - relaxes, Cool temp – contracts
- Panpiniform Plexus = counter current heat exchange causing the cooling of arterial blood supply

Testis Layers:

Structure	Definition
Testicular Capsule	Consists of the visceral vaginal tunic and tunica albuginea
Parenchyma	Seminiferous tubules and interstitial tissue
Mediastinum	Connective tissue core
Rete Tubules	Tubules within the mediastinum that transports sperm to the efferent ducts

The Parenchyma is composed of two parts, what are they and what do they contain?

\*when comparing to the ovary the parenchyma would be the cortex and the mediastinum (central connective tissue core) would be the medulla

- Interstitial Compartment
  - Leydig Cells (testosterone), capillaries, lymphatic vessels, and connective tissues
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- Tubule Compartment
  - Seminiferous tubules (highly convoluted tubules network)
  - Sertoli Cells (provide support to developing germ cells and form blood-testes barrier)

What are the functions of the testes?

- Produce sperm (spermatogenesis)
- Transport sperm out of the testes
- Produce testosterone (leydig cells)

\*testosterone has a negative feedback on LH and FSH

Epididymis:

Structure	Function
Caput (Head)	MOVEMENT, fertilization factors added
Corpus (Body)	MORPHOLOGICAL CHANGES, decapitation factors added
Cauda (Tail)	METABOLIC ACTIVITY DECREASED, eligible for ejaculation, swimming factors added

Where is sperm stored?

Cauda

Where does sperm mature?

Caput and Corpus

Where are sperm produced in the testes?

Seminiferous Tubules

What three things make up the spermatic cord?

Ductus deferens, cremaster muscle, panpiniform plexus

What are the two parts of the penis?

- Corpus Cavernosum (blood filled spaces lined by endothelium surrounded by smooth muscle)
- Corpus Spongiosum (spongy erectile tissue surrounding penile urethra)

What are the two types of penis and what species have them?

- Fibroelastic = bulls, boars, and rams (sigmoid flexure)
- Musculovascular = stallion and human