Histology of male reproductive system

Lecture 7

Male Reproductive System

- **It consists of:**

  Testis

  Genital ducts

  Accessory glands

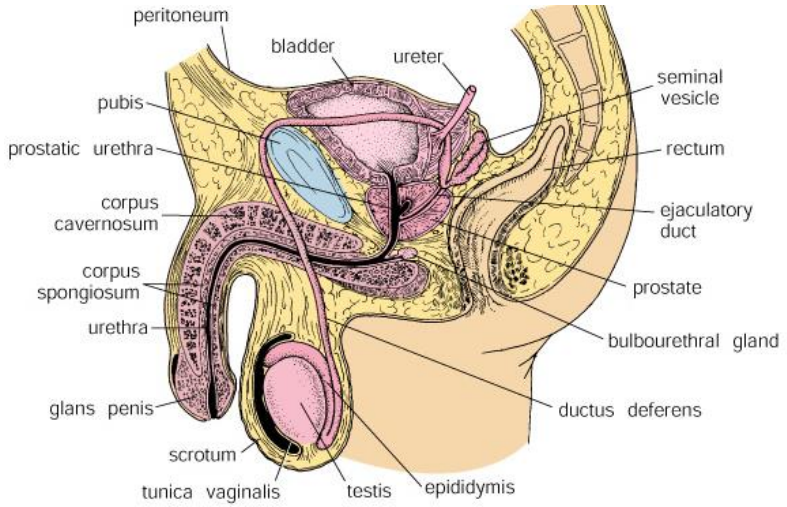
  Penis

- **Function**

  Production of spermatozoa

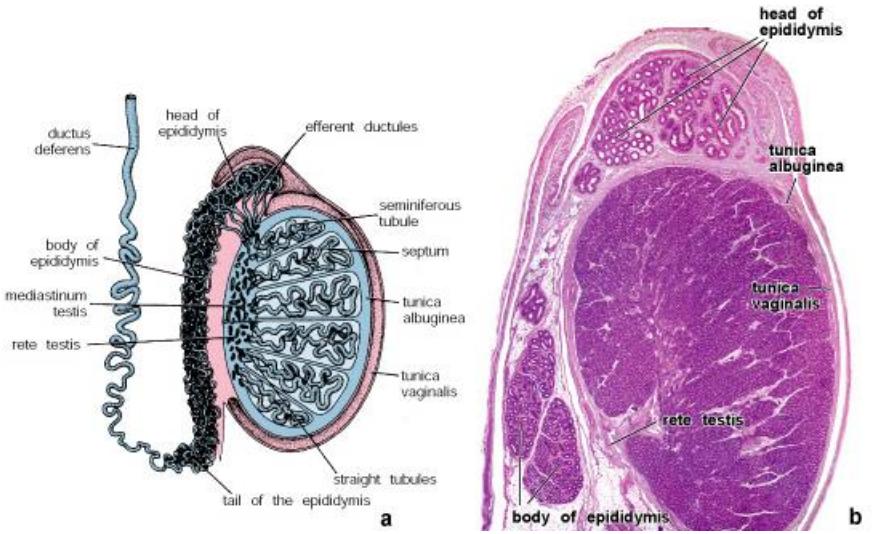
  Production of hormones

  Production of secretion



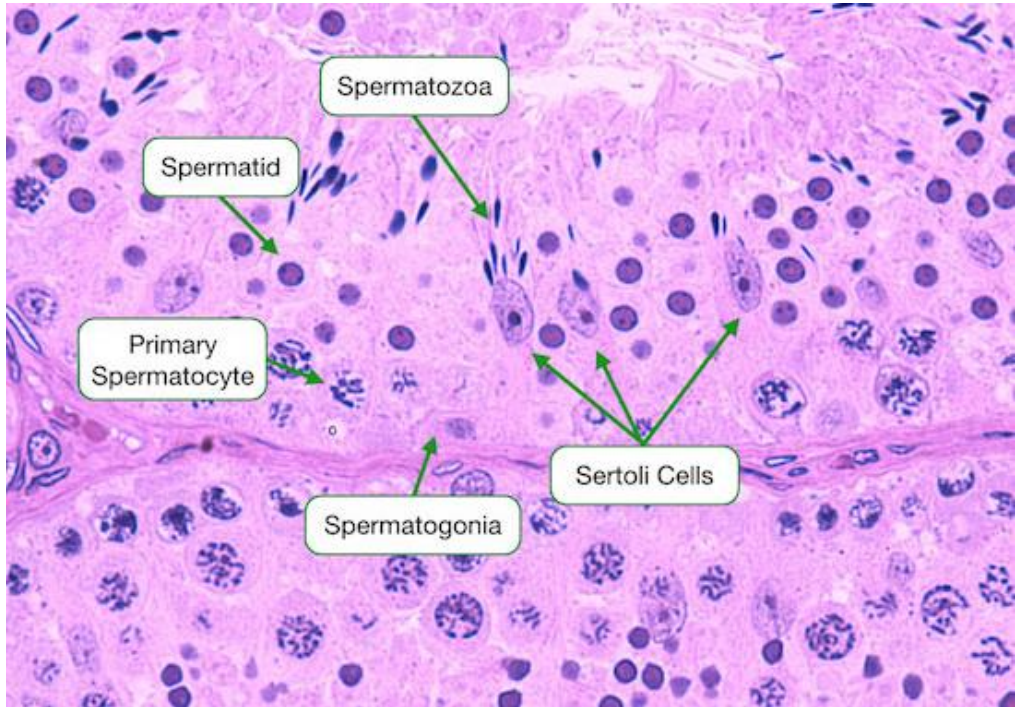
Testis

- Covered by tunica albuginea thickened posteriorly as medistinum testis
- Fibrous septa divides testis into testicular lobules
- Each one contains 1-4 seminifirous tubules
- Seminifirous tubules embedded in a loose CT rich in blood and lymphatic vessels, nerves and interstitial cells
- Tunica vaginalis



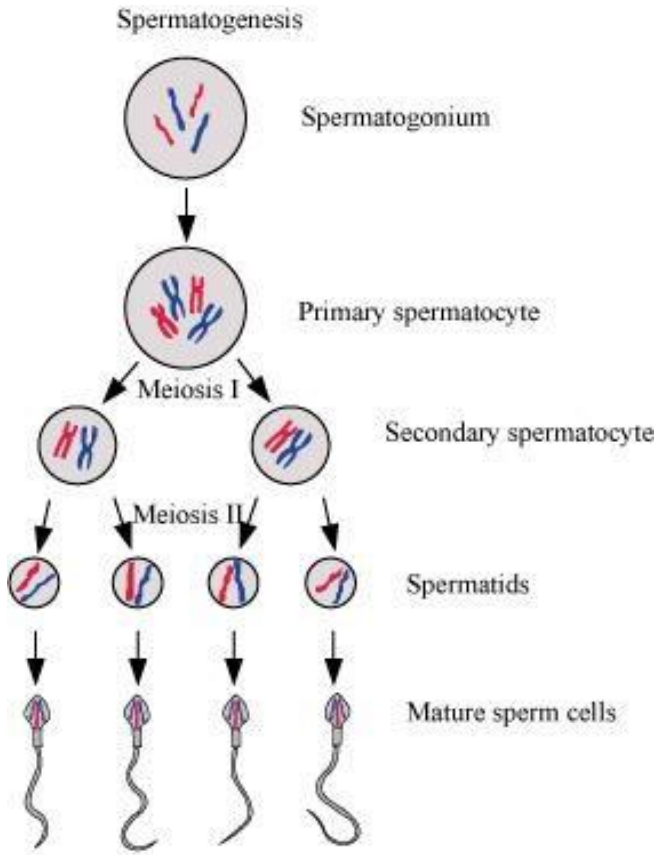
Seminifirous tubule

- Is lined with a complex stratified epithelium called seminifirous epithelium or germinal epithelium
- Surrounded by several layers of fibrous tissue
- Innermost layer composed of myoid cells
- Spermatogonia
- Primary spermatocyte
- Secondary sprmatocyte
- Spermatid
- Sperm



Spermatogenesis

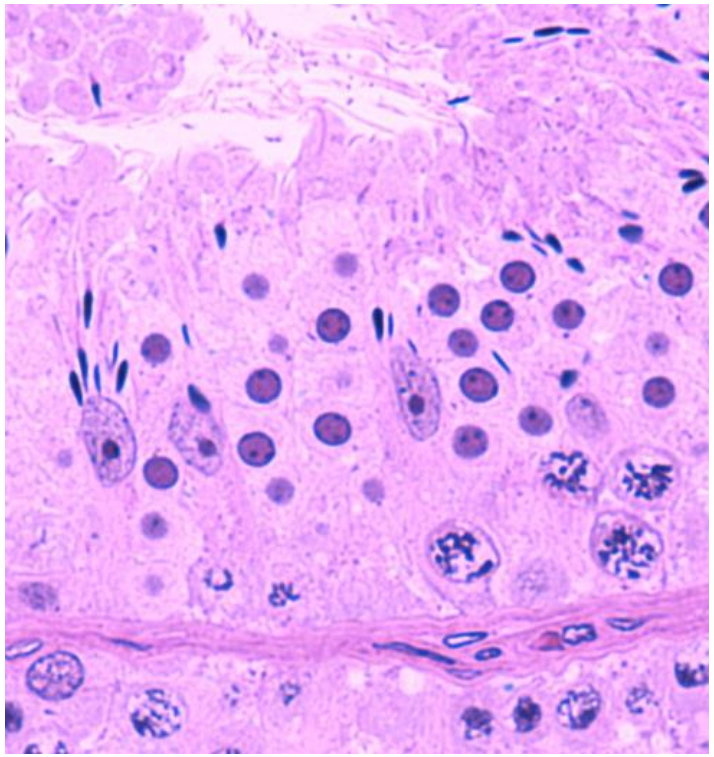
- **Production of sperms from spermatogonium**
- **Spermatocytogenesis**
- **Spermiogenesis**



Process of spermatogenesis

Sertoli Cells

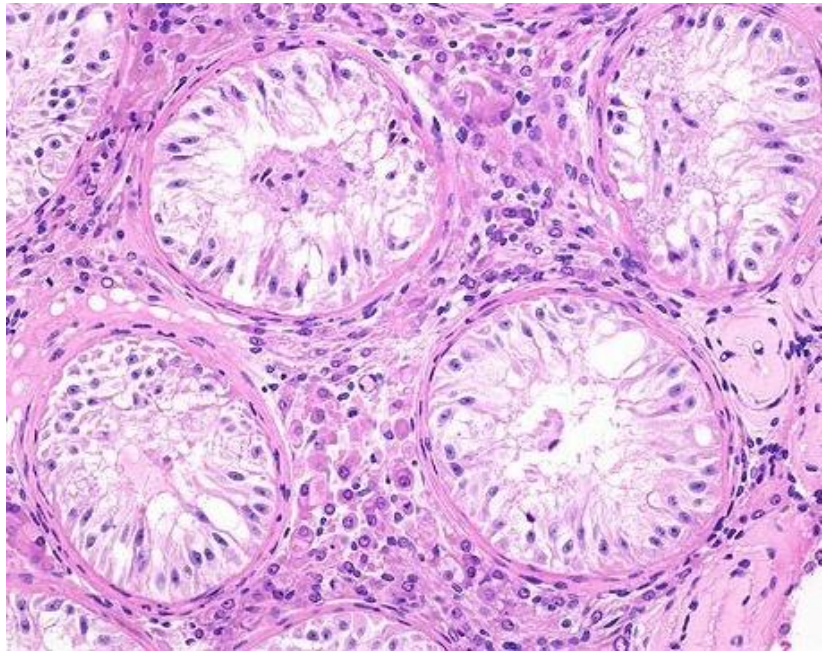
- Pyramidal cells occupy the whole width of seminiferous tubules
- Partially envelope cells of spermatogenic lineage
- The base is on the basal lamina while the apex at the lumen of the tubule
- Borders are ill defined



- Nucleus is pyramidal with prominent nucleolus
- Occluding junction at the basolateral part of the cell forming the blood-testis barrier
- Gap junctions provides ionic and chemical coupling of the cells.

Functions Sertoli Cells

- Support, nutrition, and protection of developing spermatozoa
- Phagocytosis
- Secretion of androgen binding protein
- Production of Anti-Müllerian hormone
- Blood testis barrier
- Production of inhibin B



Interstitial Tissue

- The space found between seminifirous tubules
- Filled with loose connective tissue
- It contains fibroblasts, mast cells , macrophages, and undifferentiated connective tissue cells.
- At puberty, additional cell type, the Leydig cell is found
- It has the characteristics of steroid secreting cell
- It synthesizes and secretes testosterone

Genital Ducts

- At the end of simenifirous tubule, the spermatogenic lineage disappear except for Sertoli cells
- Tubuli recti

  Start where Sertoli cells disappear

  Lined with simple cuboidal epithelium

  supported by dense connective tissue
- Rete testis

  Found in the medistinum testis

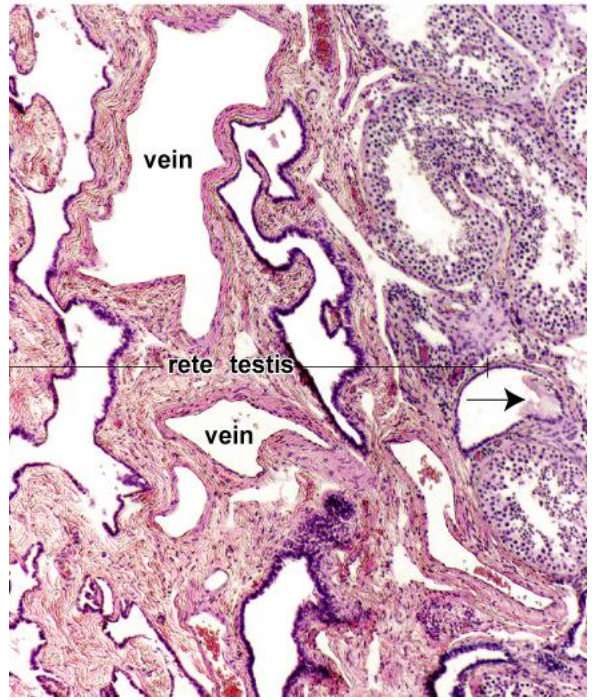
  Lined with simple cuboidal epithelium
- Ductuli efferentes

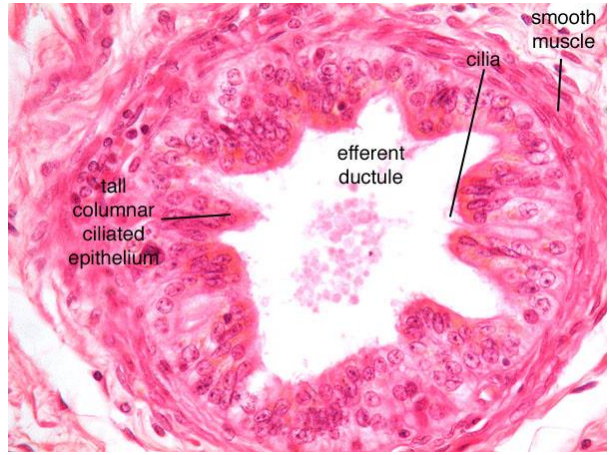
  10-20 in number

  Lined with ciliated and non

  ciliated cuboidal epithelium

  They end in epididymis





Genital Ducts Cont.

- **Ductus epididymis:**

  Highly coiled tube and is 4-6 m in length

  Lined with pseudostratified ciliatedd columnar Sits on a basal lamina and supported

  by smooth muscle fibers

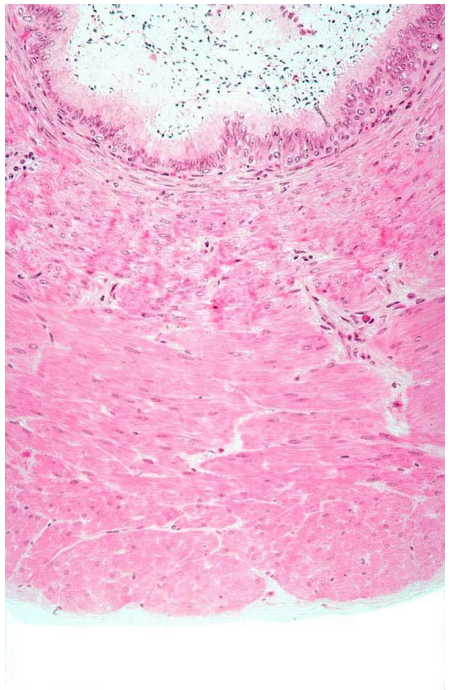
- **Vas deferens:**

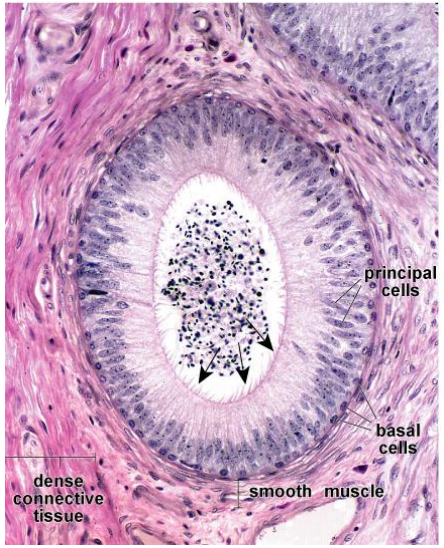
  Thick muscle wall

  Narrow lumen

  Peudostratified ciliated

  epithelium



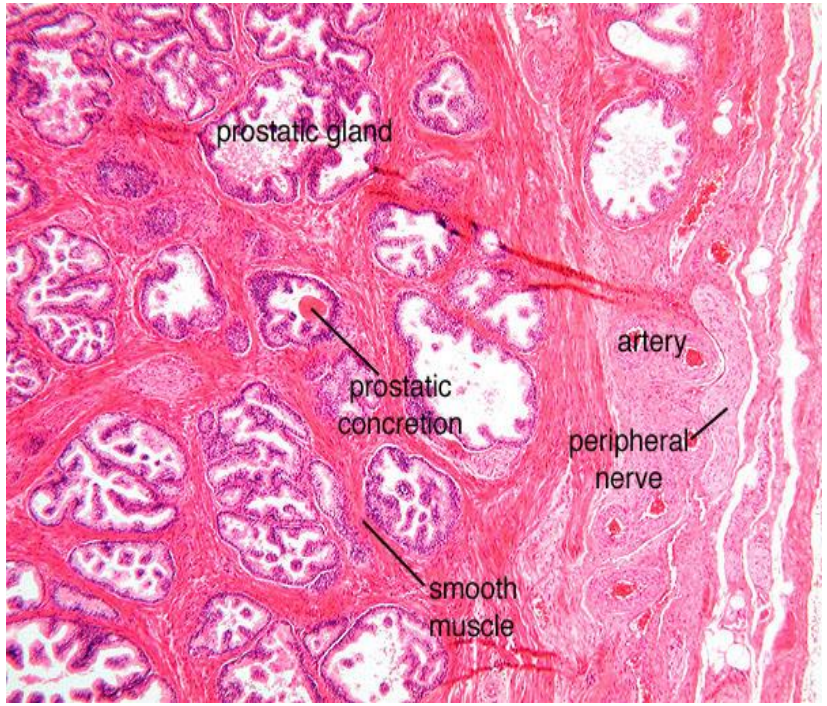


Prostate Gland

- Surrounded by fibroelastic capsule
- Consists of 30-50 branched tubuloalveolar glands

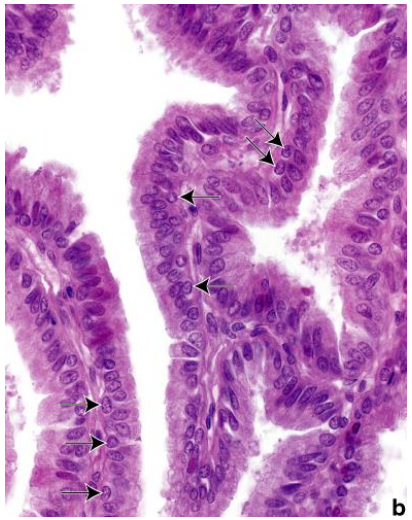
  Lined with cuboidal to pseudostrtified columnar epithelium
- Rich fibromuscular stroma
- It secretes prostatic fluid
- Prostatic concretions
- Prostatic hyperplasia and

  prostatic malignancy



Seminal Vesicle

- Consists of tortuous tube with folded mucosa lined with cuboidal to pseudostratified columnar epithelium
- It secrete viscid yellowish secretion containing sperm activating substances mainly fructose
- Structure and function is androgen dependent



Mucus Glands

- **Bulbourethral glands**

  3-5 mm in diameter

  Tubuloalveolar glands

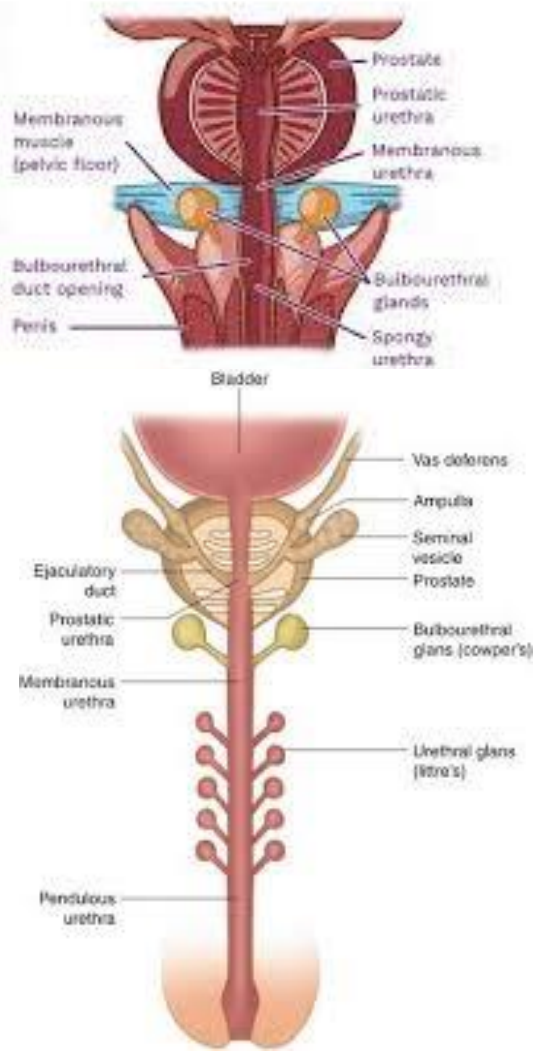
  It secretes mucus

- **Littre glands**

  Small glands

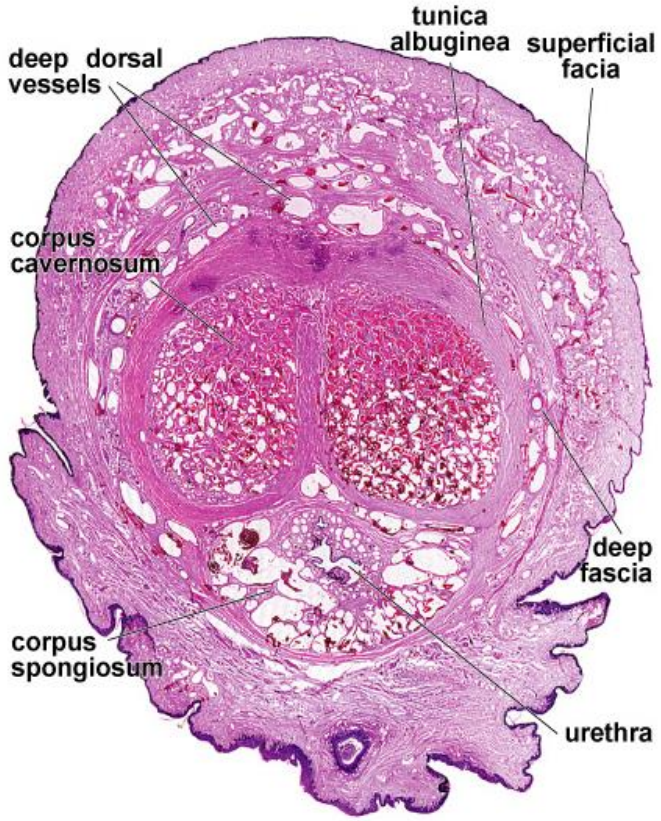
  along penile urethra

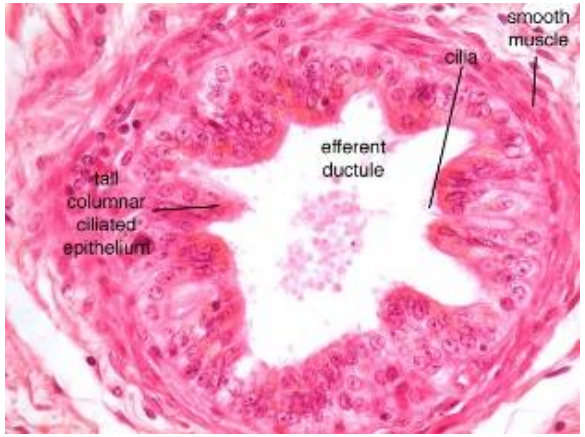
  They secrete mucus

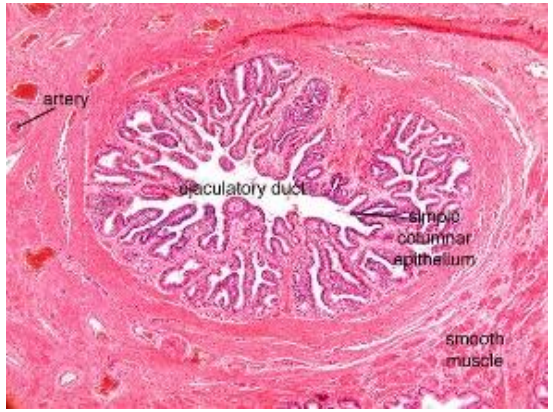


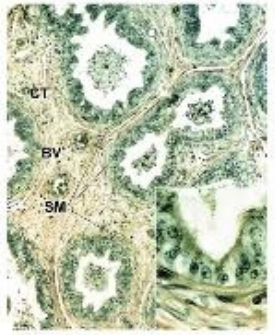
Penis

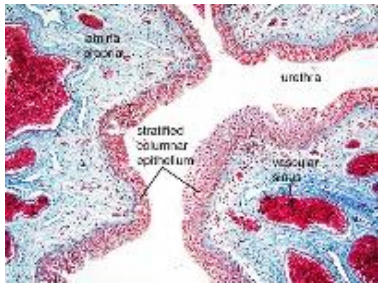
- **Consists of:**
  - Erectile tissue
    - Corpus spongiosum (Glans Penis)
    - Corpora cavernosa
  - Urethra
  - Blood supply
    - Dorsal a
    - Deep artery
      - Nutritional a
      - Helicine a

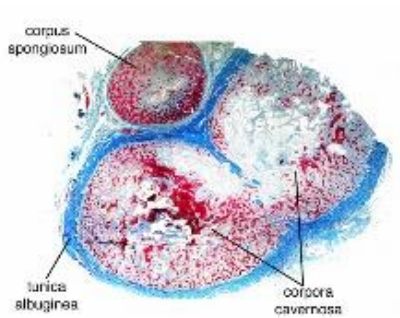



smooth muscle
cilia
efferent ductule
tall columnar ciliated epithelium

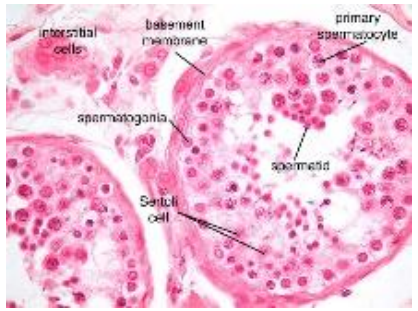

artery
ejaculatory duct
simple columnar epithelium
smooth muscle

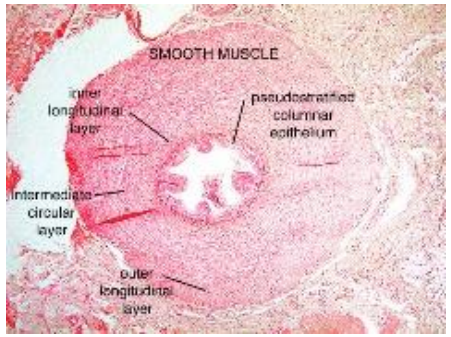

CT
BV
SM

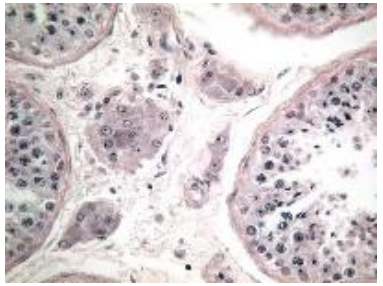

urethra
stratified columnar epithelium
vascular area

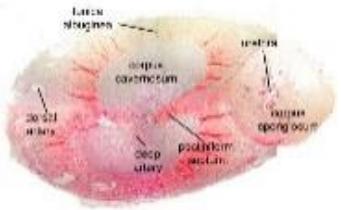

corpus spongiosum
tunica albuginea
corpora cavernosa


smooth muscle
efferent ducts


interstitial cells
basement membrane
primary spermatocyte
spermatogonia
spermatid
Sertoli cell


SMOOTH MUSCLE
outer longitudinal layer
pseudostratified columnar epithelium
intermediate circular layer
outer longitudinal layer

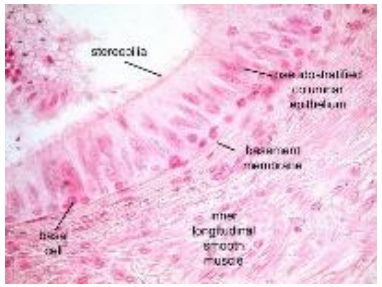



tunica albuginea
urethra
corpus cavernosum
corpus spongiosum
deep artery
pudendal vein


SM


BV


primary spermatocyte
spermatid


stereocilia
basement membrane
basal cell
inner longitudinal smooth muscle