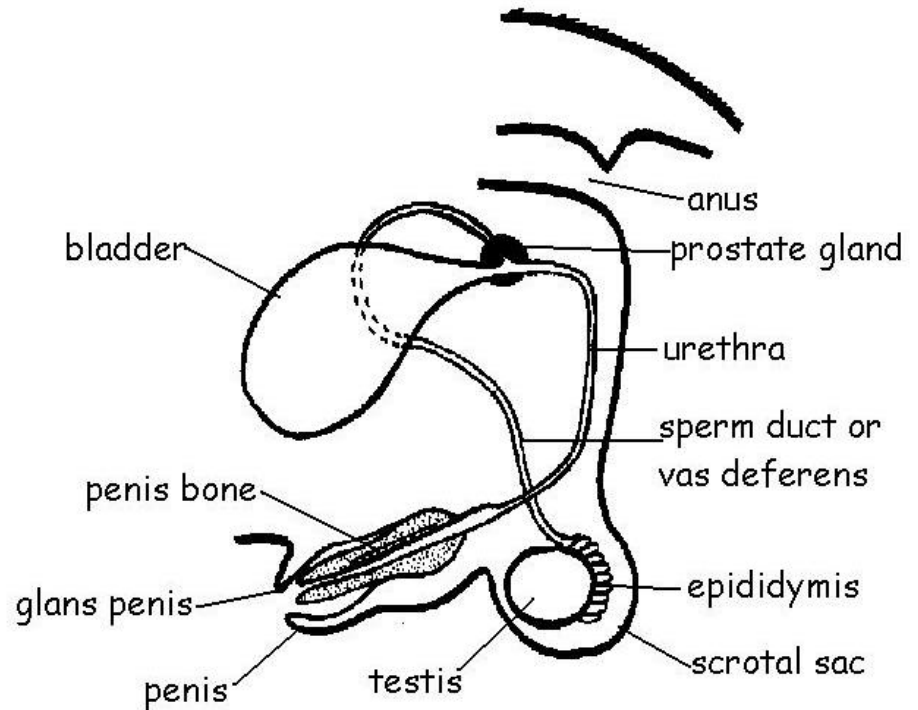


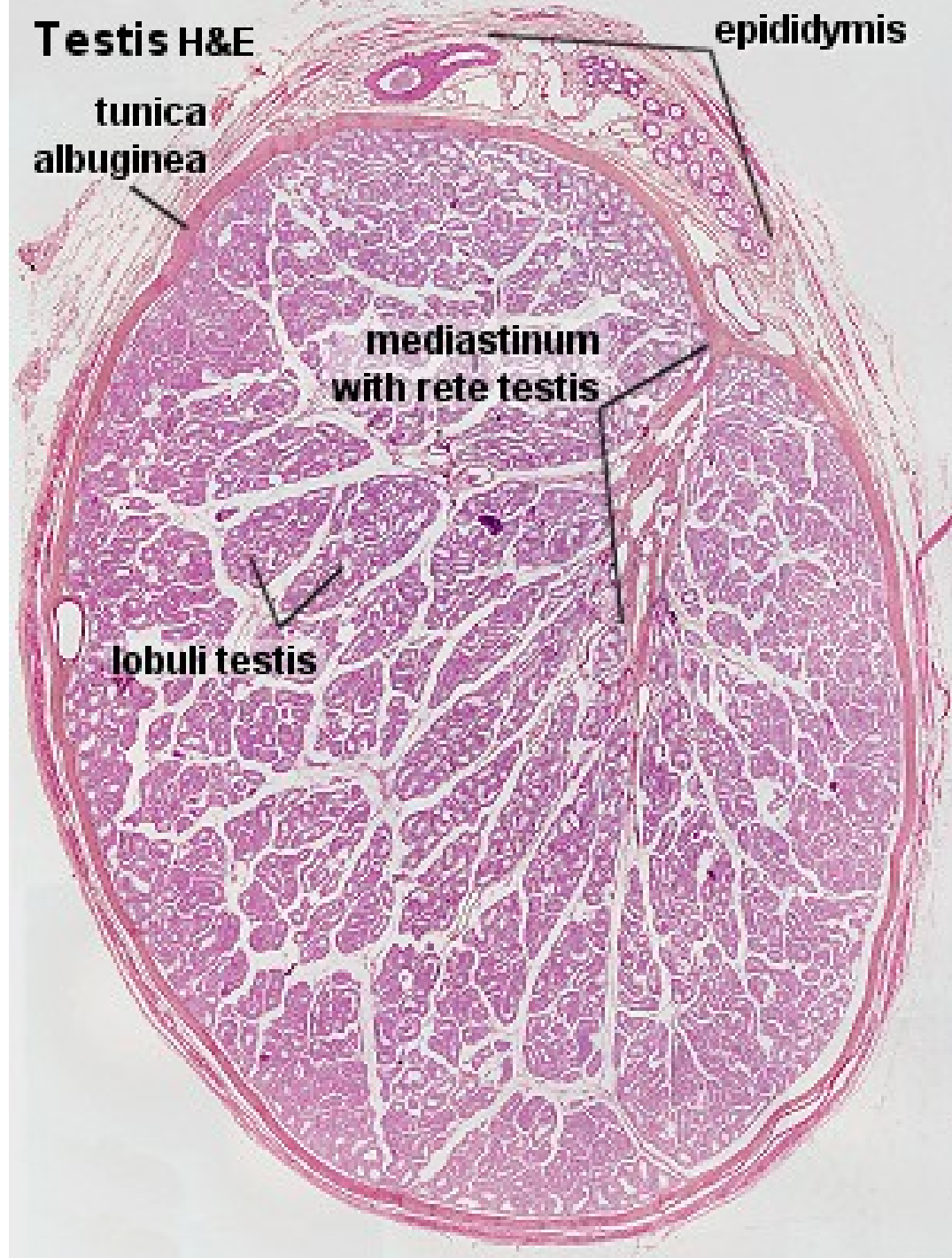
# Male Reproductive System

- The adult male reproductive system is formed of:
- Two testes which produce spermatozoa and testosterone.
- Excretory ducts: that store, conduct and nourish spermatozoa (Epididymis, ductus (vas) deferens, ejaculatory duct and urethra.
- Accessory glands (Seminal vesicle, prostate, bulbourethral of Cowper).
- Copulatory organ which is penis.



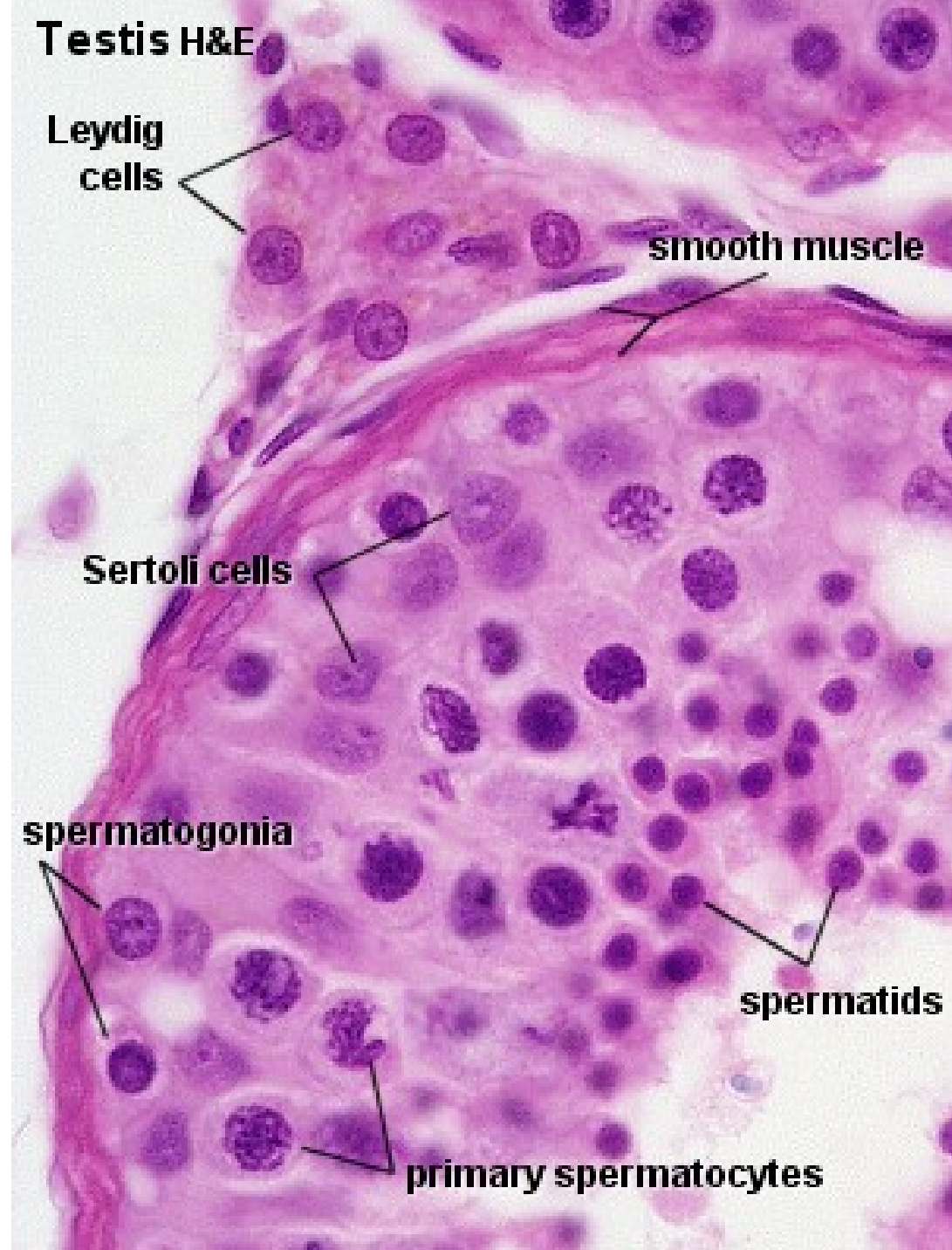
# Testis

- The testis is formed of stroma and parenchyma.
- The stroma is formed of tunica albuginea (thick CT capsule), septula testis (thin CT septa dividing testis into incomplete lobuli testis), mediastinum testis (central area of loose connective tissue that surrounds the rete testis and joins the septula testis).
- The parenchyma is formed of seminiferous tubules and interstitial cells of Leydig's.

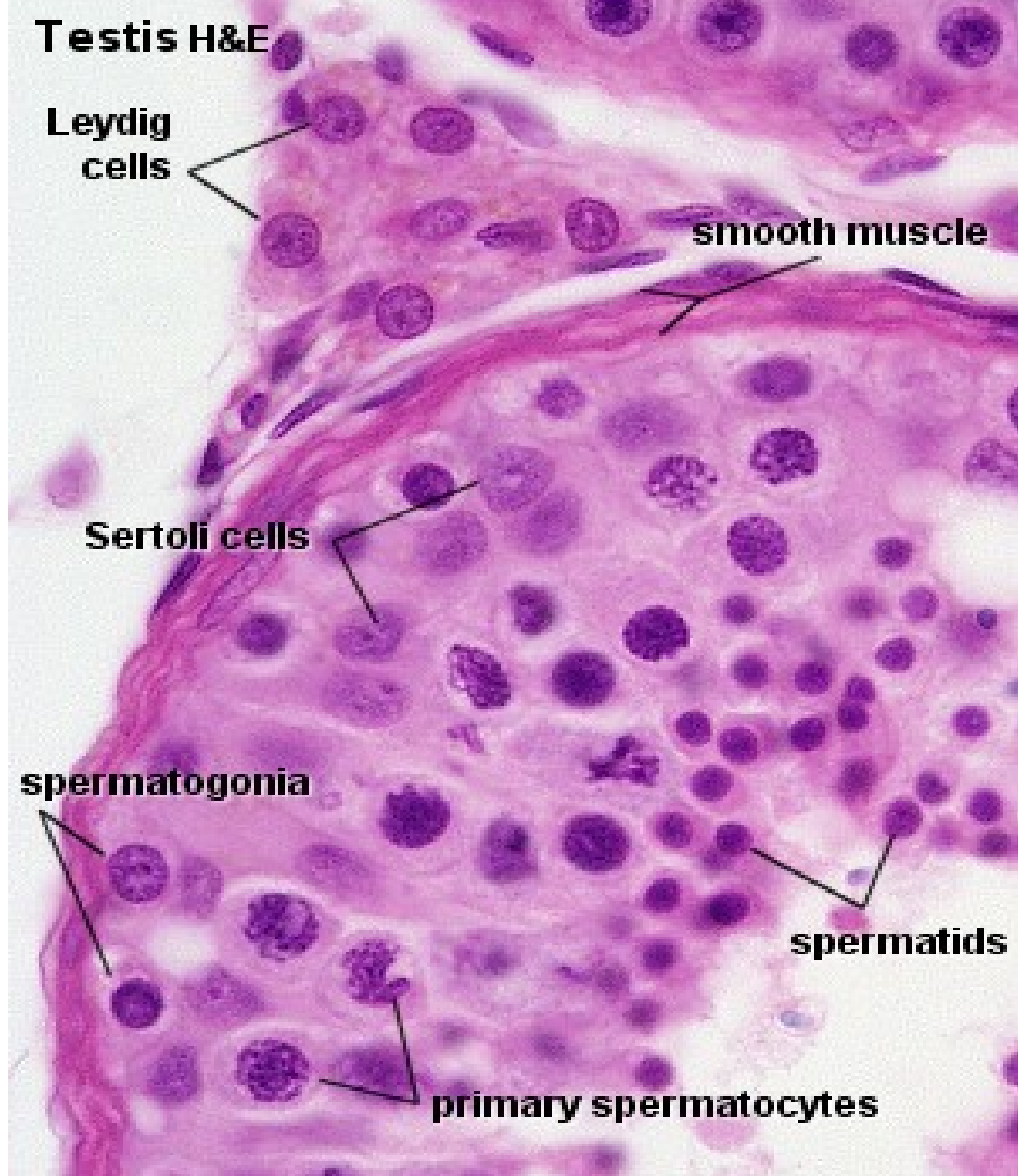


## Seminiferous tubules

- The STs are long, narrow highly convoluted tubules lined with seminiferous epithelium (SE).
- The SE is formed of spermatogenic cells, and Sertoli cells.
- The spermatogenic cells are spermatogonia, primary spermatocytes, secondary spermatocytes, spermatids, and spermatozoa.

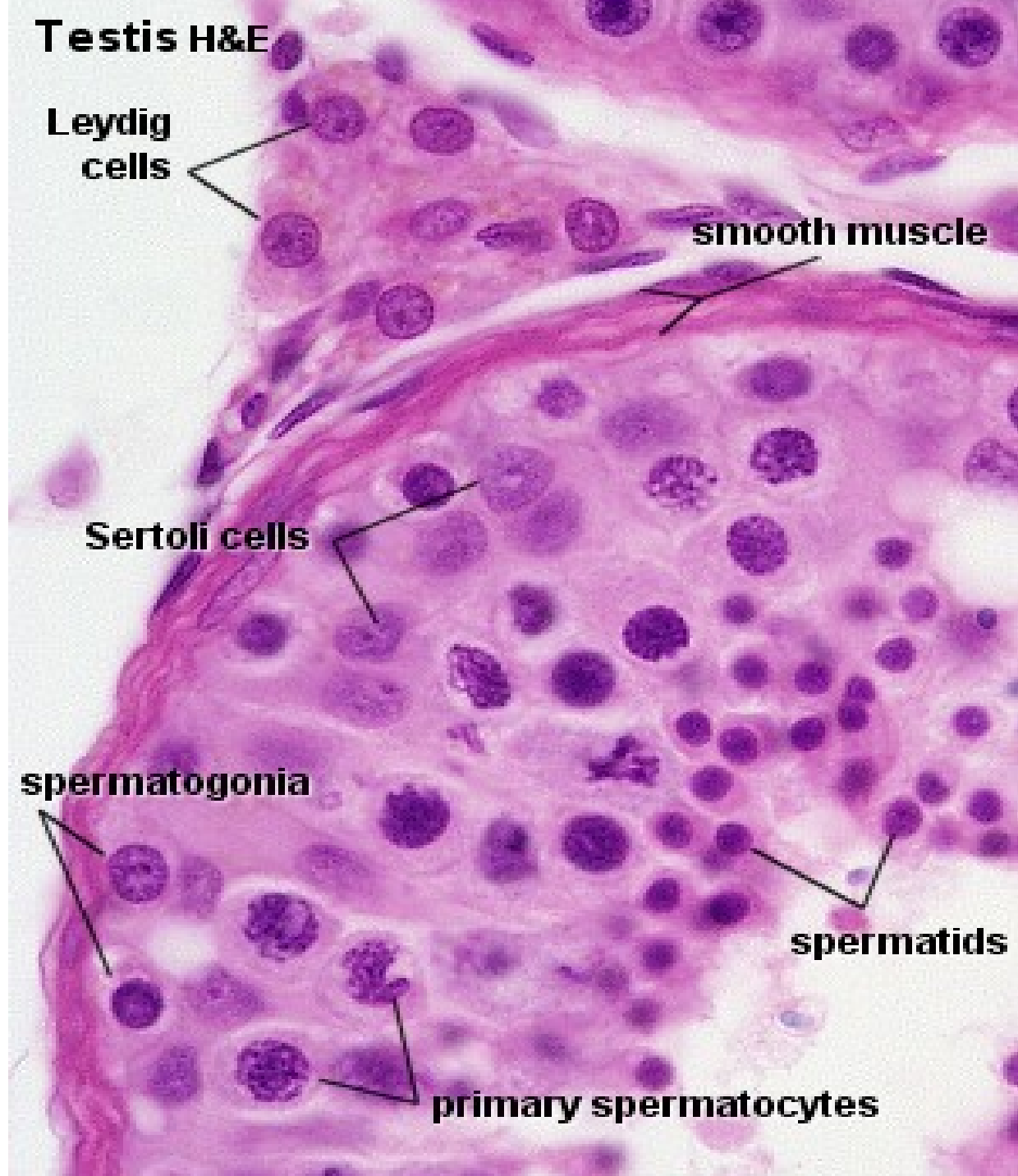


# Spermatogenesis



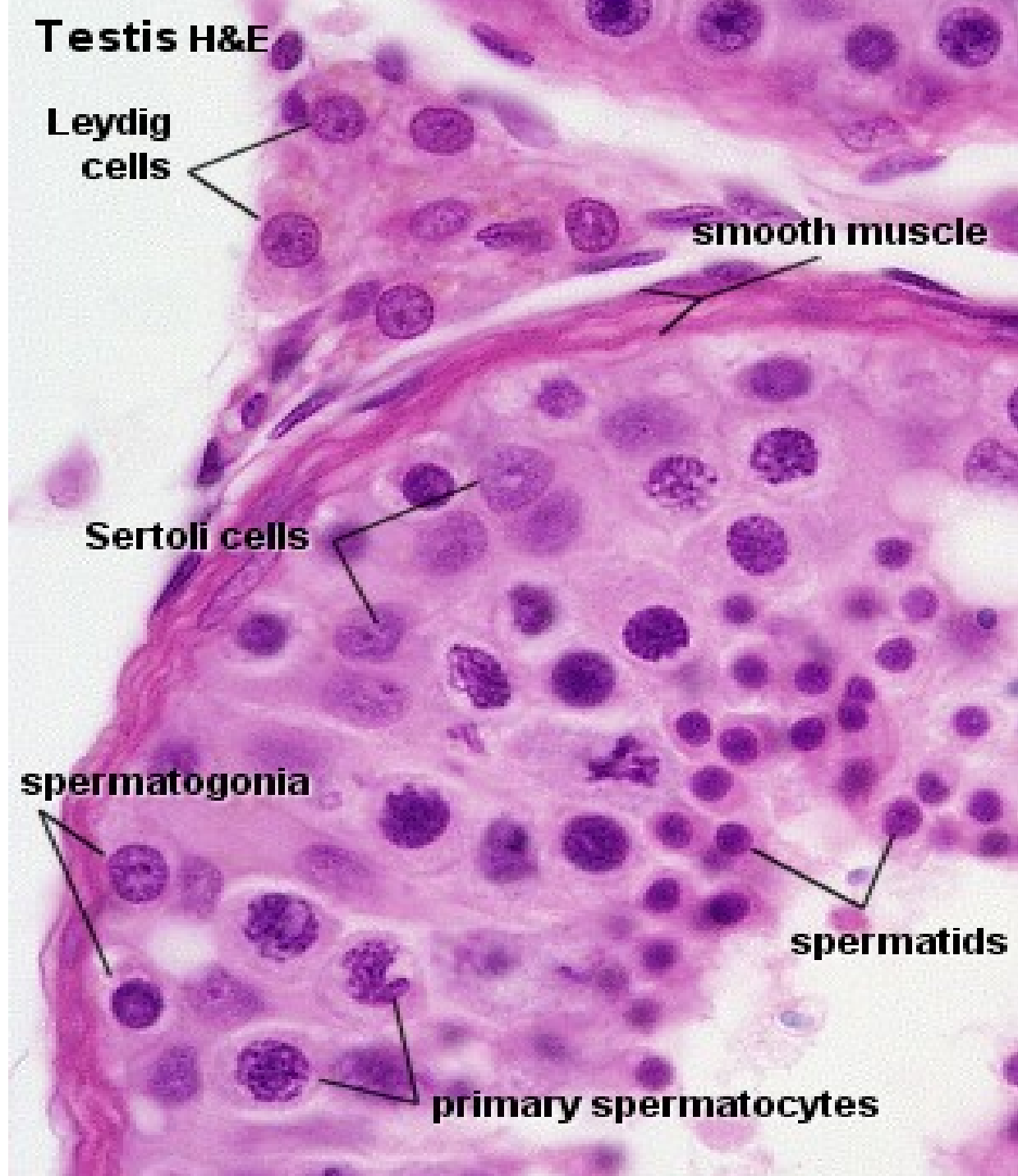
# Sertoli cells

- The Sertoli cells are elongated pyramidal-shaped cells that extend from the basement membrane to the lumen of ST.
- They have large pale oval or triangular nucleus.
- Their lateral borders have concavities into which spermatogenic cells are located.
- Adjacent cells are bound together by tight junction forming the blood-testis barrier (separate the developing spermatogenic cells from harmful substances in the blood).
- **Functions:** formation of blood-testis barrier, provide support and nutrition to SC, secretion of androgen binding protein.



## Interstitial (Leydig) cells

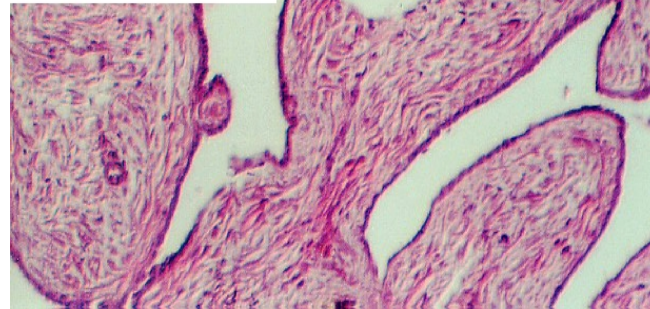
- Cluster of cells present in the interstitial tissue between the ST.
- Polygonal with large central nucleus and acidophilic cytoplasm contain lipid droplets.
- Produce testosterone.



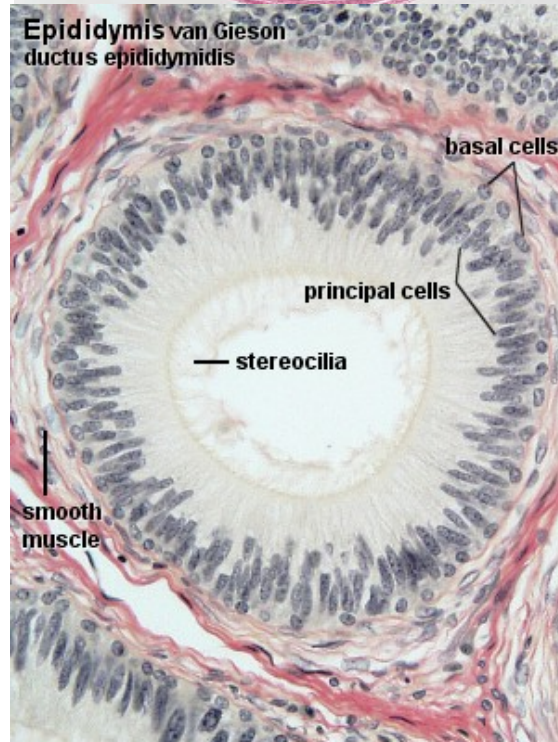
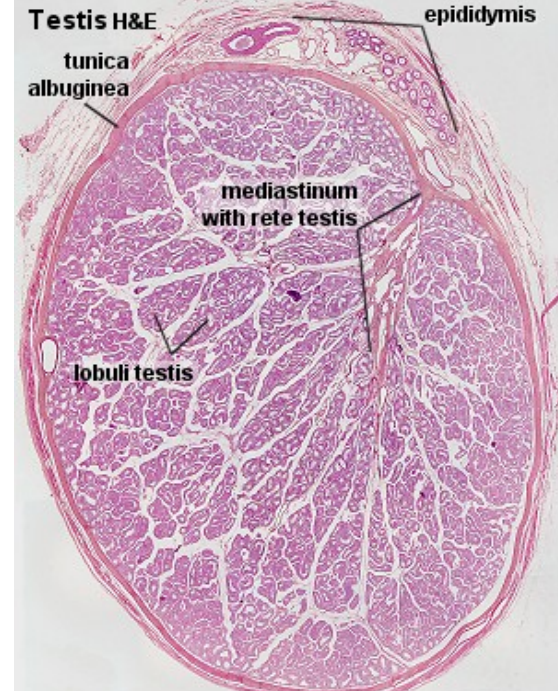


# Excretory duct

- The excretory duct includes: rete testis, ductulus efferens, ductus epididymidis, and ductus (vas) deferens.
- They channels surrounded by the loose connective tissue of the mediastinum testis. They are lined by cuboidal or stratified cuboidal epithelium.
- The rete testis opens into seven or eight efferent ducts. are lined by a pseudostratified columnar epithelium of varying in height from place to place, giving the duct an irregular appearance.
- The ductus epididymidis is highly tortuous consists of head, body, tail, and is lined with pseudostratified columnar with stereocilia.



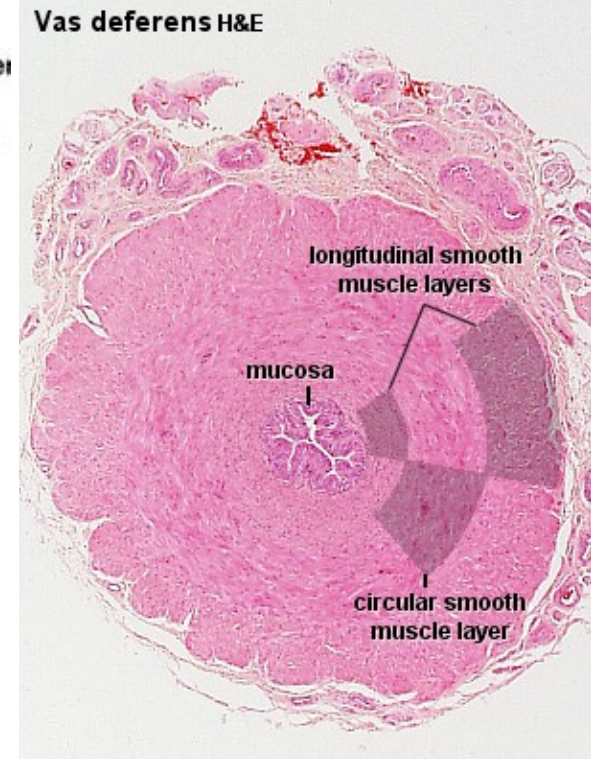
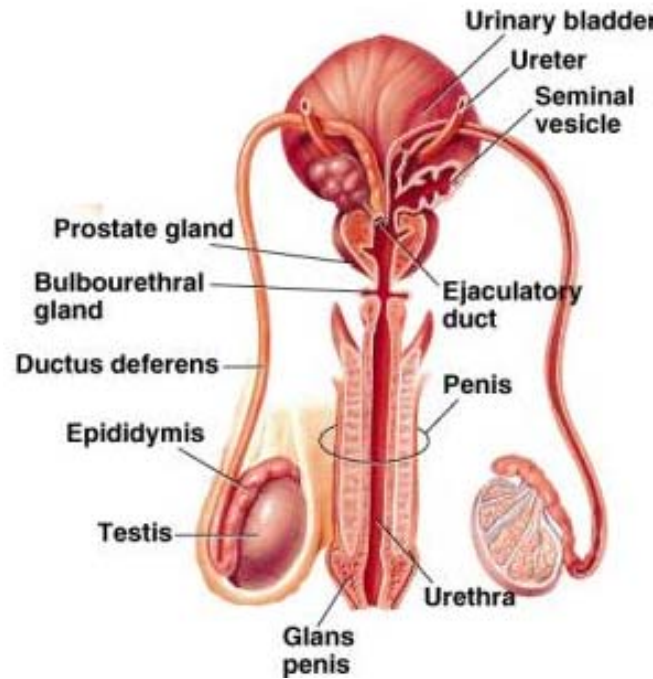
Epididymis van Gieson  
ductulus efferens





# Ductus deferens

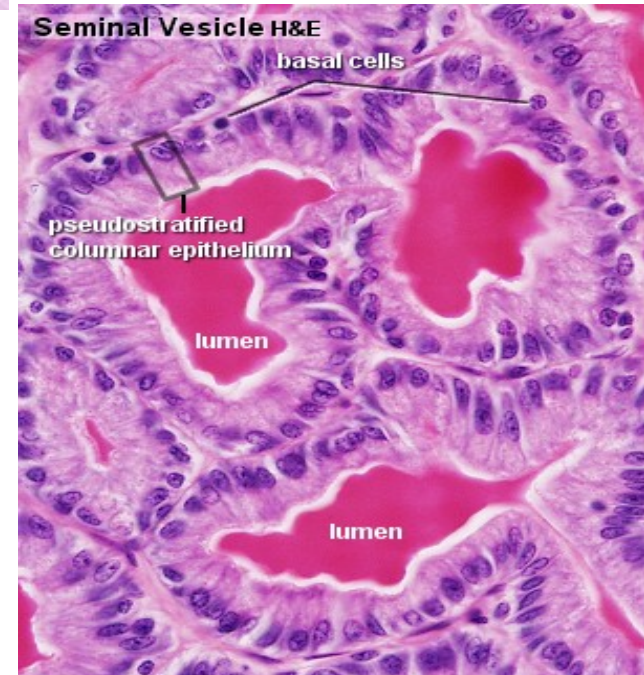
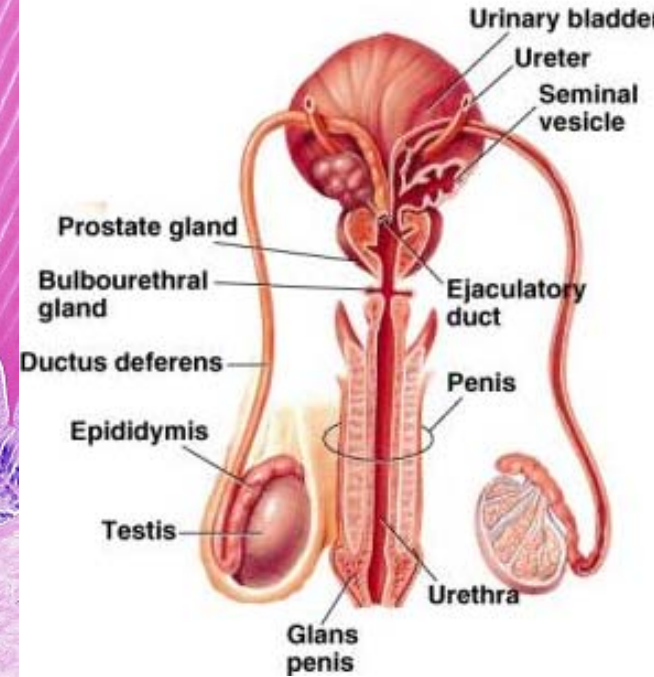
- Straight tube continues from the tail of the epididymis to the prostatic urethra.
- It has a narrow lumen and thick muscular wall.
- The wall is formed of mucosa-submucosa, muscularis, and adventitia.
- The mucosa is formed of pseudostratified columnar epithelium with stereocilia and underlying thin layer of CT.
- The tunica muscularis is formed of 3 layers of smooth muscles: inner and outer longitudinal and middle circular.
- The adventitia is a loose CT.





# Accessory Genital Glands

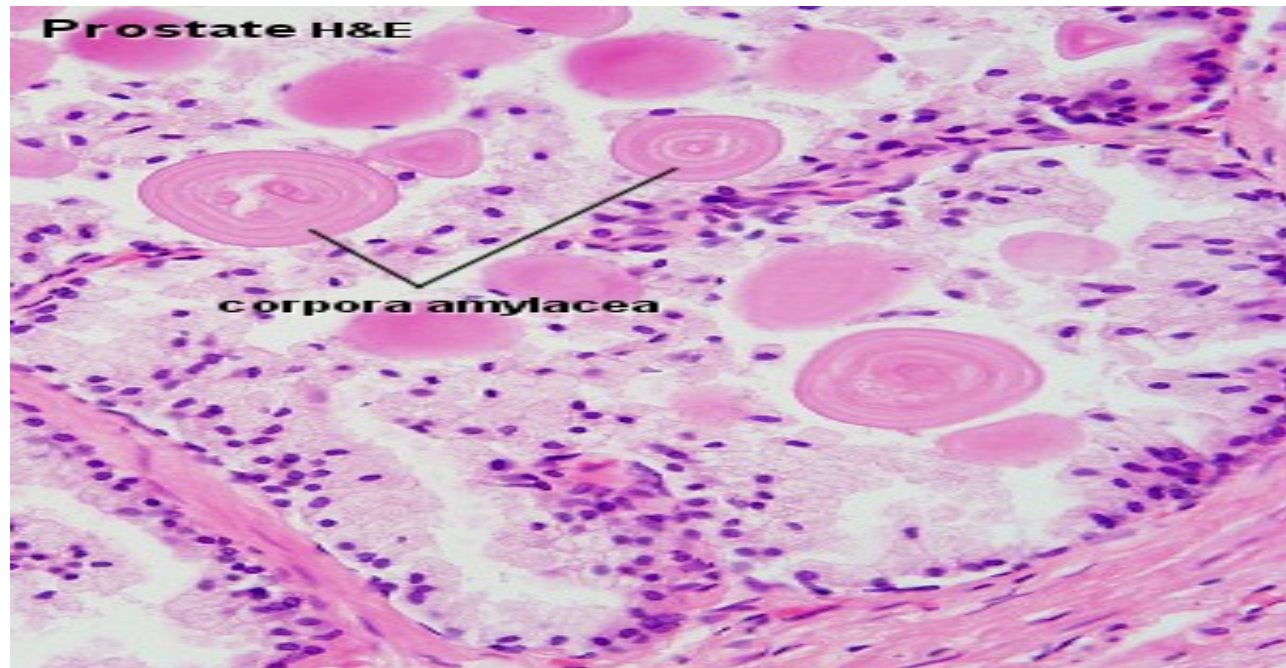
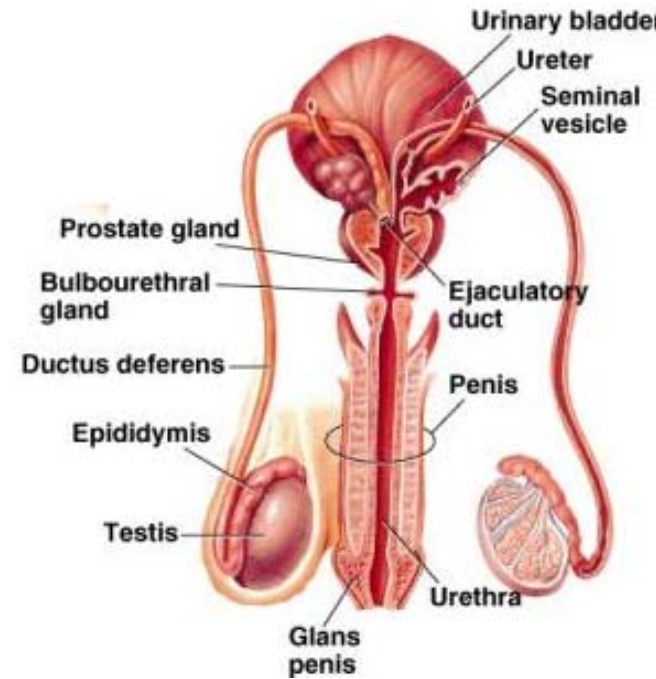
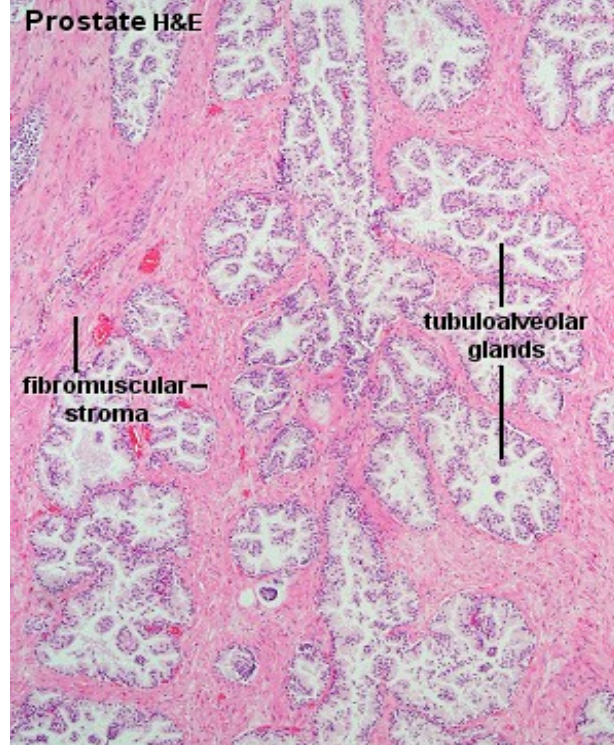
- The accessory genital glands include the seminal vesicles, prostate, and bulbourethral gland.
- The seminal vesicles are two highly tortuous tubes embedded in CT and smooth muscle fibers.
- It is lined by a mucous membrane forming complex folds.
- The epithelium is pseudostratified columnar epithelium.
- The lamina propria-submucosa is a loose connective tissue layer contains sac-like secretory units lined by simple columnar secretory epithelium.
- The tunica muscularis consists of longitudinal smooth muscle fibers.
- The adventitia is a loose connective tissue outer layer.
- A portion of the gland may be covered by serosa.
- Its secretion constitutes about 70% of the semen volume, and contains fructose, citrates and prostaglandins.





# Accessory Genital Glands

- The prostate gland is a compact mass of compound tubuloalveolar glands surrounding the prostatic urethra.
- The stroma is formed of capsule and septa of dense fibromuscular CT that divide the prostate into lobules.
- The parenchyma consists of 3 sets of glands arranged in 3 concentric layers: mucosal, submucosal, and main prostatic glands.
- The glands are lined with secretory epithelium varies in shape depending on the functional activity of the gland from simple cuboidal or columnar to pseudostratified columnar epithelium.
- The lumen of the secretory units may contain concretions (corpora amylacea).





# Penis

- It consists of 3 cylindrical masses of erectile tissue.
- Two corpora cavernosa dorsally.
- One corpus spongiosum surrounding the urethra ventrally.
- The erectile tissue is composed of CT and smooth muscle fibers separating blood spaces.
- The penis is surrounded externally by skin.

