PRACTICAL ROADMAP

MALE REPRODUCTIVE SYSTEM

DR N GRAVETT
THE TESTIS

• Slide 7

Stain: Iron Haematoxylin

**NOTE:** Iron haematoxylin, a blue-black stain demonstrates the chromosomes in the dividing cells of the testis
THE TESTIS

Interstitial Tissue
Loose connective tissue between the seminiferous tubules.

Connective Tissue
Septum
These incomplete septae divide the testis into lobes.

Tunica Albuginea

Seminiferous Tubule

Interstitial Tissue
Loose connective tissue between the seminiferous tubules.
THE TESTIS

Tunica Albuginea

Tunica Vasculosa

Blood Vessel (BV)

Leydig Cells

Seminiferous Tubule

Interstitial Tissue
NOTE: Leydig cells are endocrine glands and as such are usually located close to blood vessels. These cells are located **outside the seminiferous tubules** within the loose connective tissue stroma.
SEMINIFEROUS TUBULE

• Seminiferous Epithelium
  – Complex **Stratified** Epithelium consisting of 2 basic cell populations:

1. Sertoli Cells
2. Cells of the Spermatogenic Series:
   • Spermatogonia
   • Primary Spermatocyte
   • Secondary Spermatocyte *(Transitory phase: not seen in histological section)*
   • Early Spermatid
   • Late Spermatid
TESTIS AND EPIDIDYMIS

• Slide 11

Stain: H&E

NOTE: This slide is for ANAT 2020 only

Pathway of sperm from point of production to exterior:

Seminiferous Tubule ➔ Tubuli recti ➔ Rete Testes ➔ Efferent Ductules ➔ Epididymis ➔ Vas Deferens ➔ Ejaculatory Duct ➔ Prostatic Urethra ➔ Membranous Urethra ➔ Penile Urethra
TESTIS AND EPIDIDYMIS

- Seminiferous Tubules
- Body of Epididymis
- Tunica Albuginea
SEMINIFEROUS TUBULE

- Seminiferous Tubule
- Leydig Cells
- Sertoli Cell
- Late Spermatids
- Early Spermatids
- Spermatogonium
- Myoid Cell
- Primary Spermatocyte
- Lumen
MEDIASTINUM TESTES

- Seminiferous Tubules
- Head of Epididymis
- Rete Testis
- Efferent Ductules
- Mediastinum Testes
- Tubuli Recti (Straight Tubules)
- Tunica Albuginea
- Blood Vessels
As the seminiferous tubules approach the mediastinum testes, they assume a short straight course giving rise to the tubuli recti (i.e. straight tubules). The tubuli recti are lined by Sertoli cells only.
The rete testis is an anastomosing set of channels within the highly vascular mediastinum testes. Do not confuse these tubules with blood vessels. Blood vessels are lined by endothelium, whereas the rete testis are lined by a simple cuboidal to low columnar epithelium with a single apical cilium and few short microvilli.
The efferent ductules are lined by a pseudostratified columnar epithelium composed of low cuboidal epithelial cells alternating with tall columnar epithelial cells, giving the lumen of these tubules a characteristic saw-tooth shaped lumen.
* The smooth muscle layer of the epididymis will thicken as it nears the vas deferens, resulting in an inner an outer longitudinal and middle circular layer of smooth muscle.
THE VAS DEFERENS

• Slide 116 Spermatic Cord

Stain: H&E

**NOTE:** This slide is for **ANAT 2020** only
This is a demonstration slide.
THE VAS DEFERENS
The ductus deferens is lined by a pseudostratified columnar epithelium with stereocilia.

IL: Inner longitudinal layer of smooth muscle / MC: Middle circular layer of smooth muscle / OL: Outer longitudinal layer of smooth muscle
LP: Lamina propria

THE VAS DEFERENS
THE PROSTATE GLAND

• Slide 77

Stain: H&E

NOTE: This slide is for ANAT 2020 only
THE PROSTATE GLAND

- Capsule
- Prostatic Urethra
- Colliculus Seminalis
- Prostatic Utricle
- Fibromuscular Connective Tissue Stroma
- Ejaculatory Ducts
- Secretory Acini
The epithelial lining of these acini is highly variable and is under the influence of testosterone and adrenal androgens. The acini are usually lined by simple columnar epithelium, but patches of simple cuboidal, squamous and pseudostratified epithelium is also seen.
Prostatic concretions contain deposits of glycoproteins and glycoaminoglycans. They increase in number with increasing age in males and they appear to have no clinical or physiological significance.
THE PENIS

• Slide 37

Stain: H&E and Elastic

NOTE: This slide is for ANAT 2020 only
THE PENIS

- Corpus Cavernosum
- Corpus Spongiosum
- Penile Urethra
- Superficial Blood Vessels
- Tunica Albuginea of Corpus Cavernosum
- Tunica Albuginea of Corpus Spongiosum
- Dorsal Artery
- Dorsal Vein
- Dorsal Nerve
CORPUS CAVERNOSUM (H.P.)

- Cavernous Vein lined by Endothelium
- Trabeculum
- Cavernous Vein
- Helicine Artery
- Trabeculum Consisting of Smooth Muscle and CT
- Helicine Artery
CORPUS SPONGIOSUM (H.P.)

- Cavernous Vein
  - Lined by endothelium
- Glands of Littré
- Tunica Albuginea
- Urethral Mucosa
- Penile Urethra
- Trabeculae
  - Smooth muscle
  - CT
  - Elastic Fibres
- Cavernous Vein
PENILE URETHRA (H.P.)

- **Stratified Columnar / Pseudostratified Columnar Epithelium**
- **Lumen**
- **Lamina Propria**
- **Glands of Littré**
- **Urethral Lacunae (of Morgagni)**