



Motivational Corner:

"It does not matter how slowly you go as long as you do not stop."



Objectives:

At the end of this lecture, the student should be able to describe the microscopic structure of :

1. Testis and epididymis.
2. Vas deferens.
3. Seminal vesicles.
4. Prostate.

1- Male Reproductive System

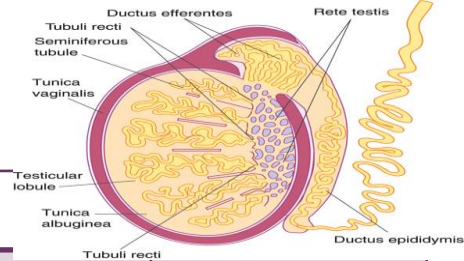
Extra notes: Gray

Important notes: Red

Revised by

خولة العماري & هشام الفيلبي

Testis

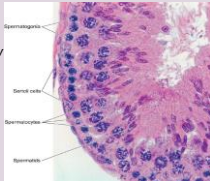



Stroma

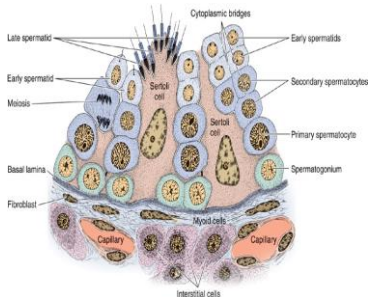
1. Tunica Vaginalis	2. Tunica Albuginea	3. Tunica Vasculosa	4. Septa	5. Interstitial tissue
- It is formed of mesothelial cells	- Dense irregular collagenous C.T.	- Formed of loose vascular C.T. lining tunica albuginea & septa from the inside	- Dense irregular collagenous C.T. - Divide the testis into about 250 intercommunicating compartments. - testicular lobules = lobuli testis	- Loose vascular C.T. in between the seminiferous tubules. Content: 1. loose vascular C.T. 2. interstitial cells of Leydig

Parenchyma

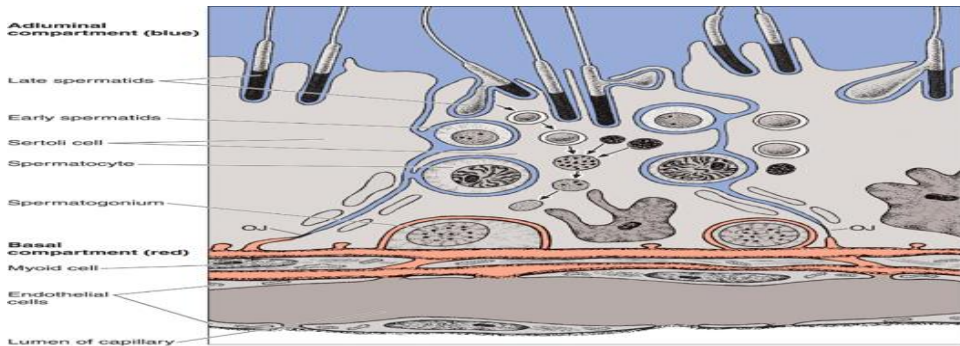
Exocrine Part The seminiferous tubules which produce spermatozoa	Endocrine Part Interstitial cells of Leydig which produce testosterone Locate in interstitium
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Seminiferous Tubules	Interstitial Cells of Leydig
<p>Each tubule is lined with stratified epithelium called seminiferous epithelium which is <u>formed of 2 types of cells</u>:</p> <ol style="list-style-type: none"> Spermatogenic cells Sertoli cells <p>Each tubule is surrounded by a basement membrane.</p> <p><i>Further details below</i></p> 	<p>Are rounded or polygonal cells with central rounded nucleus.</p> <p>Cytoplasm:</p> <ul style="list-style-type: none"> - Acidophilic & vacuolated - Mitochondria with tubular cristae <p>Function: Secrete testosterone</p> 



1. Spermatogenic cells	2. Sertoli cells
<p>A series of cells lining the seminiferous tubules extending from the BM to the lumen</p> <p>Include:</p> <ol style="list-style-type: none"> Spermatogonia 1ry spermtocytes 2ry spermatocytes Spermatids Spermatozoa 	<p>Are columnar or pyramidal cells. Nucleus: basal, vesicular, irregular with prominent nucleolus.</p> <p>Functions:</p> <ol style="list-style-type: none"> Support & nutrition of spermatogenic cells Phagocytosis of cytoplasmic remnants of spermatogenesis Secretion of: <ul style="list-style-type: none"> - Testicular fluid - Androgen Binding Protein (ABP) - Inhibin hormone Formation of Blood- testis barrier <i>mentioned in the next page</i>

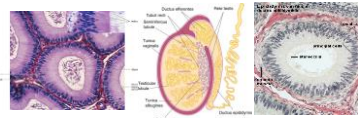
Blood-Testis Barrier



<p>It is formed by the tight junctions between the basal parts of the lateral borders of adjacent Sertoli cells.</p> <p>It divides the seminiferous tubule <u>into 2 compartments:</u></p>	
<p>1. Basal compartment: Contains spermatogonia</p>	<p>2. Adluminal compartment: Contains other spermatogenic cells</p>
<p>Function:</p> <ol style="list-style-type: none">1. It protects developing spermatogenic cells from drugs and toxic materials2. It prevents autoimmune infertility	



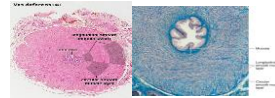
EPIDIDYMIS (DUCTUS EPIDIDYMIS):



Epithelium Ps.Str.Col.E. with stereocilia	Basal lamina	Loose C.T.	Layer of circularly arranged smooth muscle cells
Function: 1-Storage & maturation of spermatozoa. 2-Propelling spermatozoa to the vas deferens.			

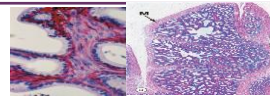
DUCTUS DEFERENS (VAS DEFERENS):

It is a muscular narrow tube with irregular lumen.



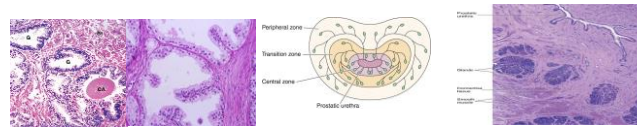
Mucosa	Musculosa	Adventitia
Ps. Str. Col. E. with stereocilia (immotile cilia) on a corium of loose C.T.	(thick; 3 layers): 1- Inner longitudinal muscle layer 2-Middle circular 3-Outer longitudinal	loose C.T
Function: Propelling of spermatozoa by strong peristalsis.		

SEMINAL VESICLES:



Mucosa	Musculosa	Adventitia
Is highly folded. - Epithelium: Ps. Str. Col. E. - Lamina propria of C.T.	1- Inner circular layer. 2- Outer longitudinal layer.	C.T
Function: Secretion of <u>most of seminal fluid, rich in fructose & vit. C.</u> which are the main nutrients for spermatozoa. It drain to prostatic urethra		

Prostate:



Stroma	Parenchyma	Acini and ducts	Prostatic concretions (corpora amylacea)
fibromuscular capsule & trabeculae.	30-50 glands in 3 concentric groups around the prostatic urethra: <u>Mucosal group</u> : small. <u>Submucosal group</u> : medium sized. <u>Main group</u> : Large, 70% of all glands.	are lined with simple Col. or Ps. Str. Col. E. according to activity of the glands	-Round or oval masses of glycoprotein in the lumen of some glands. -Increase with advancement of age & become calcified.

Function: participates in the secretion of the seminal fluid. Its secretion is rich in acid phosphatase & proteolytic enzymes.



إذا انزقت مرة وتبي تدخل الاختبار يعني بسرعة
مر على الـ

lining epithelium

يعني اهم شي ال تستس واي شي epithelium

MCQs

1) Which one is the function of interstitial cells of leydig?

- a. Produce spermatozoa
- b. Secrete testosterone
- c. Formation of blood-testis barrier

2) Which one is not a content of testis stroma?

- a. Tunica vaginalis
- b. Tunica vasculosa
- c. Seminiferous tubules

3) What divides the testis into 250 intercommunicating compartments ?

- a. Septa
- b. Tunica vaginalis
- c. Interstitial tissue

4) The type of epithelium of Seminal vesicles is?

- a. Pseudo stratified columnar epithelium
- b. Pseudo stratified columnar epithelium with stereocillia
- c. Simple cuboidal with goblet cells

5) Which of the following is component of basal compartment in blood-testis barrier?

- a. Spermatids
- b. Spermatogenic cell
- c. Spermatogonia

6) A part of male genital duct that has a strong peristaltic movement due to thick muscular layer?

- a. Seminiferous tubules
- b. Ductus deferens
- c. Epididymis

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Thanks you for checking our work, Good luck.

-Team histology.

