

**NEET CRASH COURSE**

# Human Reproduction



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# HUMAN REPRODUCTION

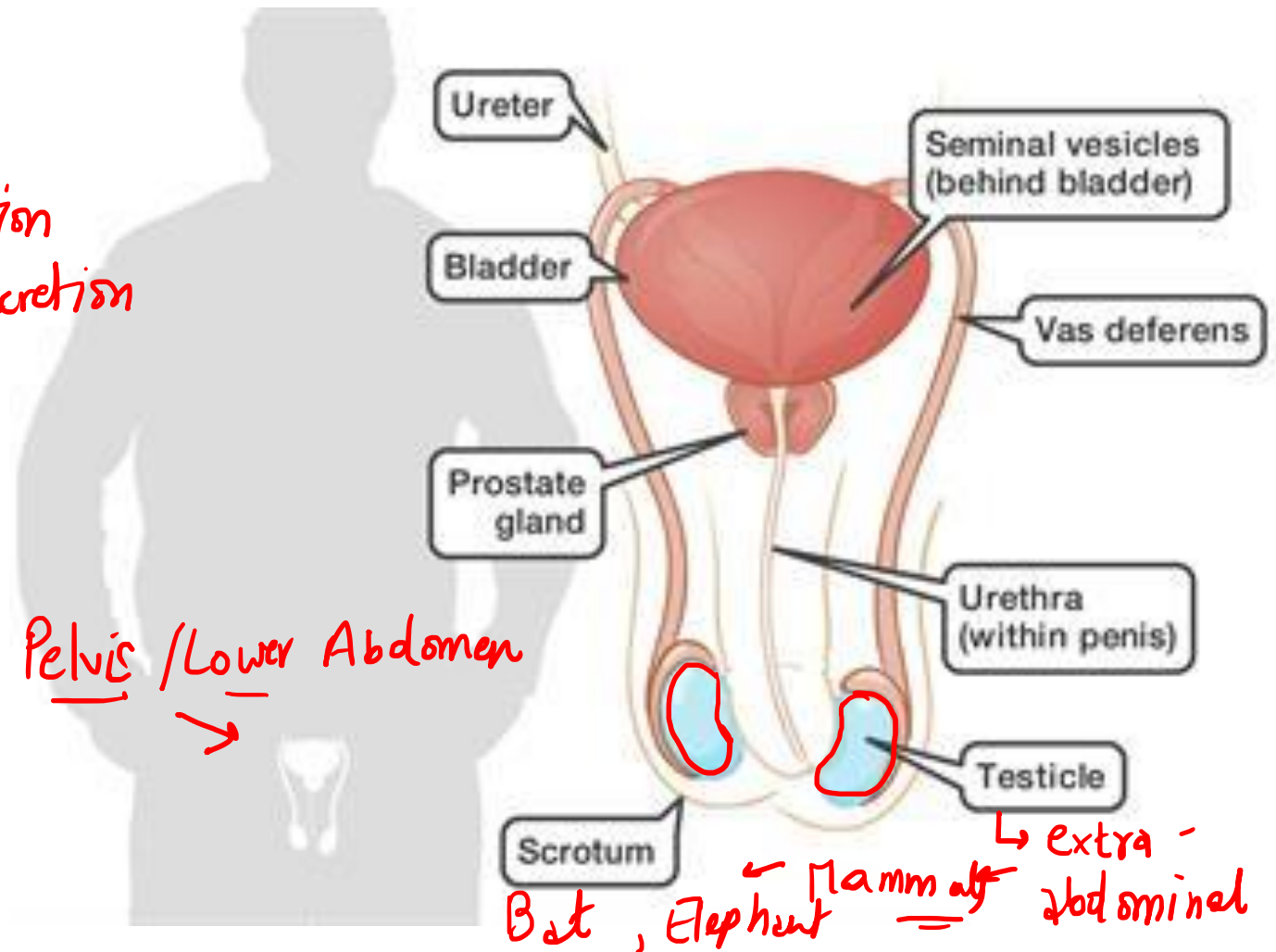
## Male Reproductive System

Male reproductive system comprises of-

1. Primary sex organ- Testis → Sperm formation  
→ hormone secretion

2. Secondary sex organs-

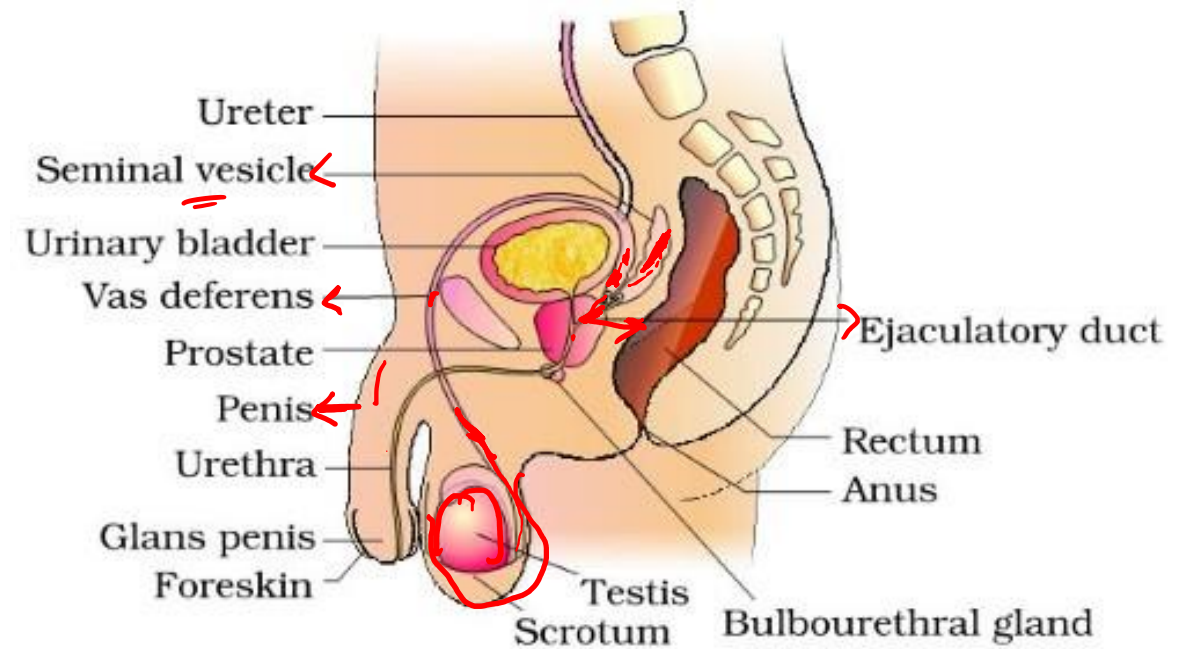
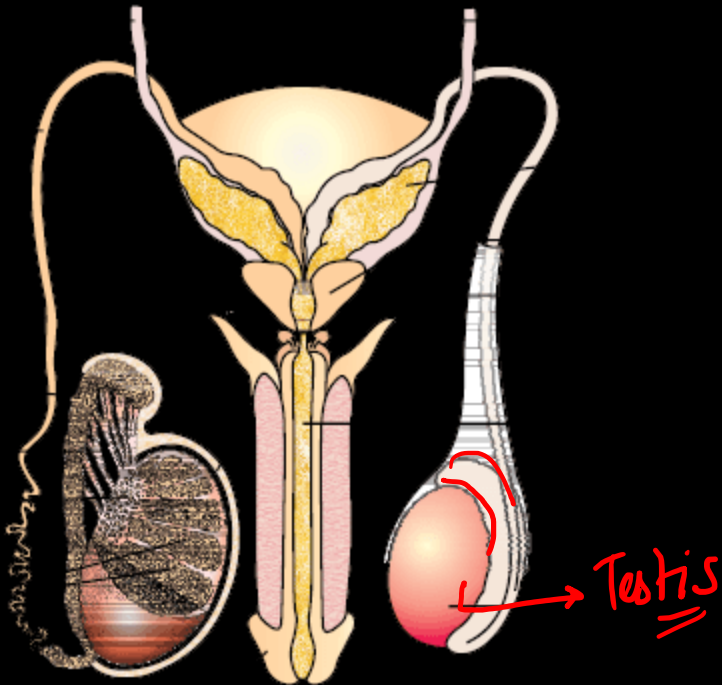
- I. Accessory ducts →
- II. Accessory glands →
- III. External genitalia (Penis) →



# HUMAN REPRODUCTION

## Male Reproductive System

NEET



**Figure 3.1(a)** Diagrammatic sectional view of male pelvis showing reproductive system

NCERT Images

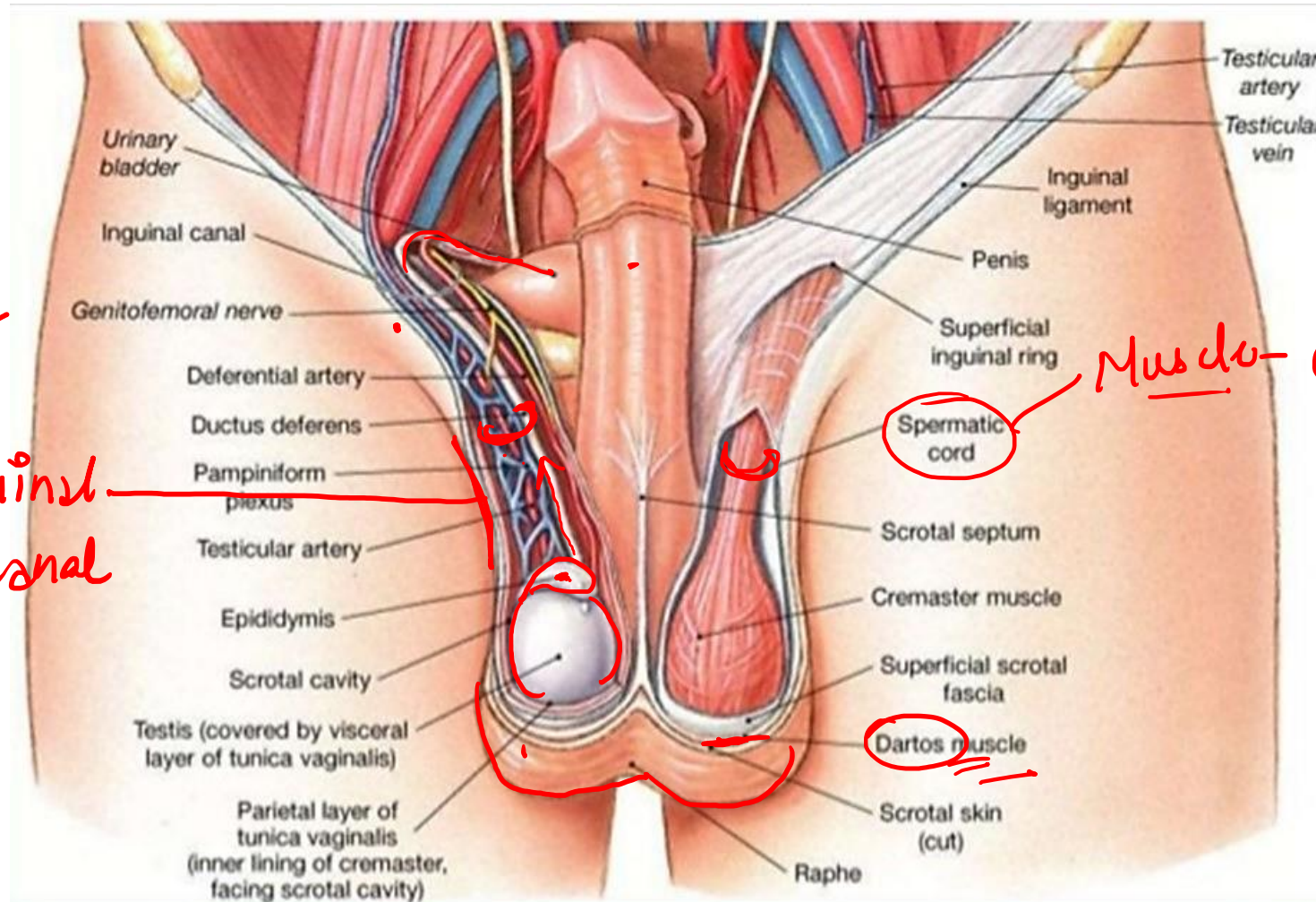
# HUMAN REPRODUCTION

## Male Reproductive System

### Internal structure of Scrotum

# U.ing  
Testis  
↓  
extra abdominal  
↓  
Sperm →  $37^{\circ}\text{C}$  ✗  
→  $35^{\circ}\text{C}$  ✓

Inguinal canal



Scrotum

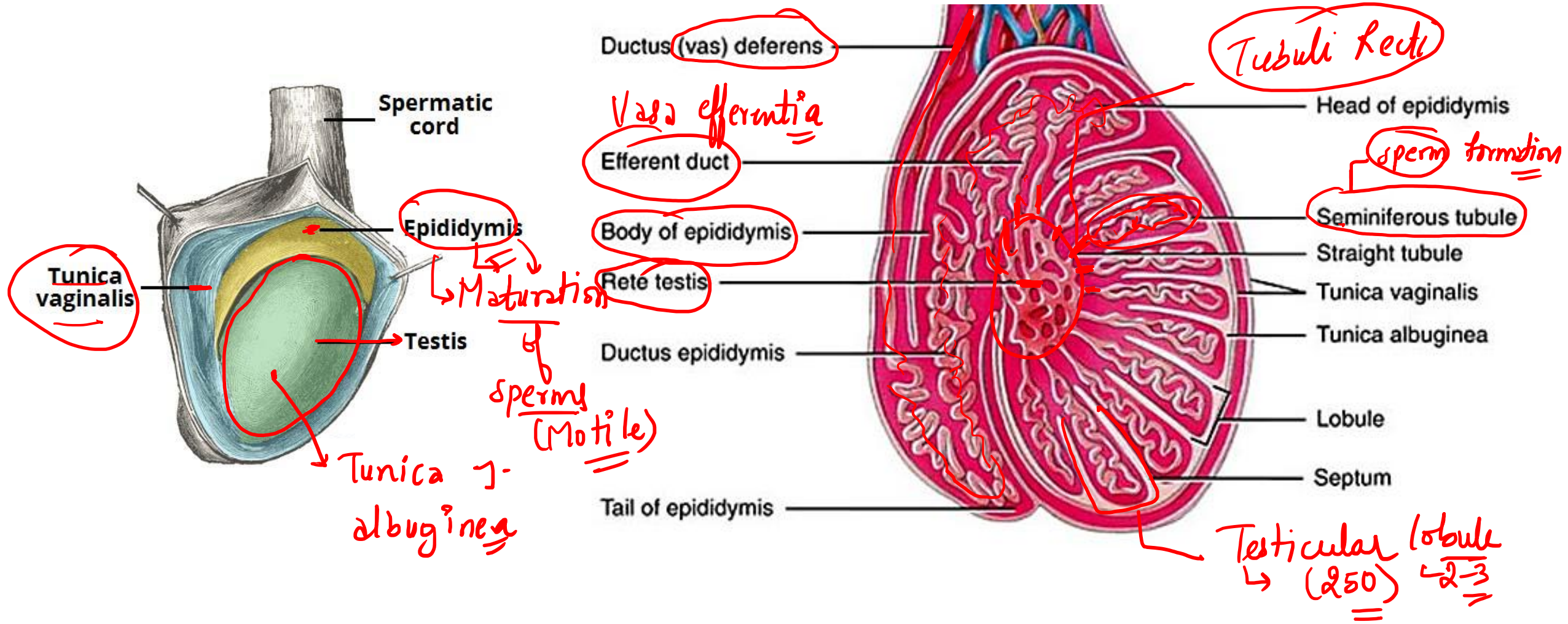
Muscle - cremaster - Testis  
push pull  
env.  
=

# HUMAN REPRODUCTION

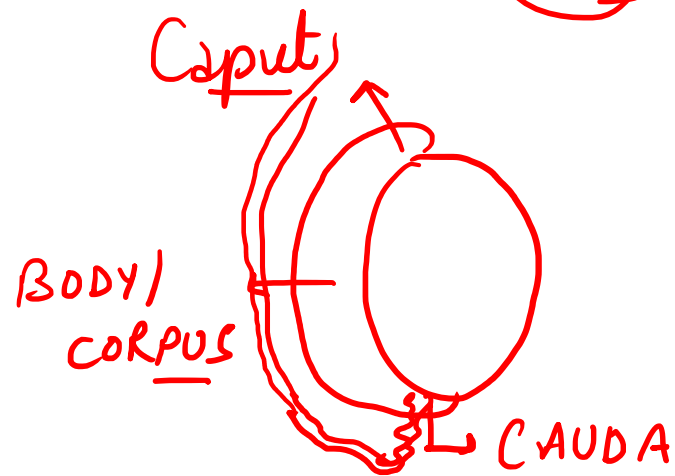
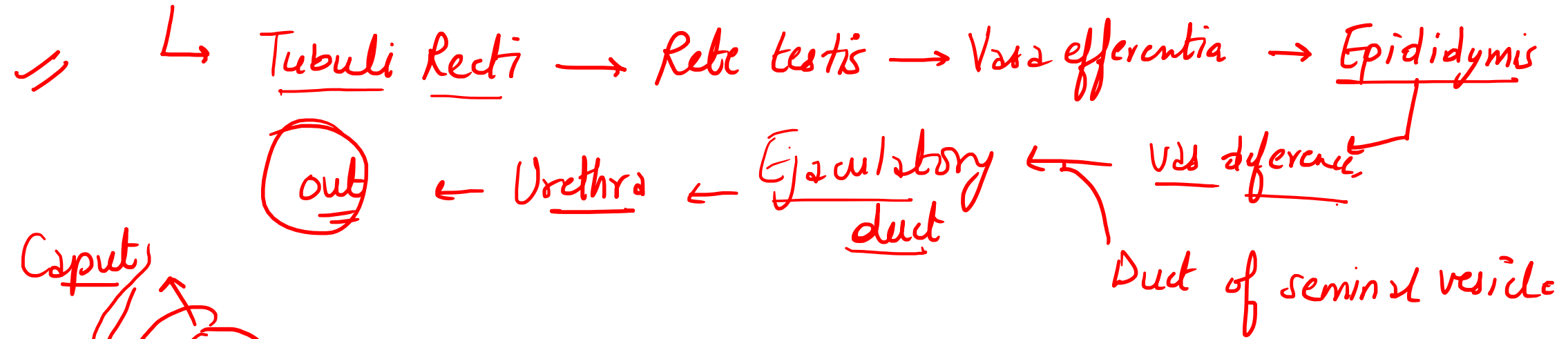
## Male Reproductive System

External and internal structure of testis

① Accessory ducts

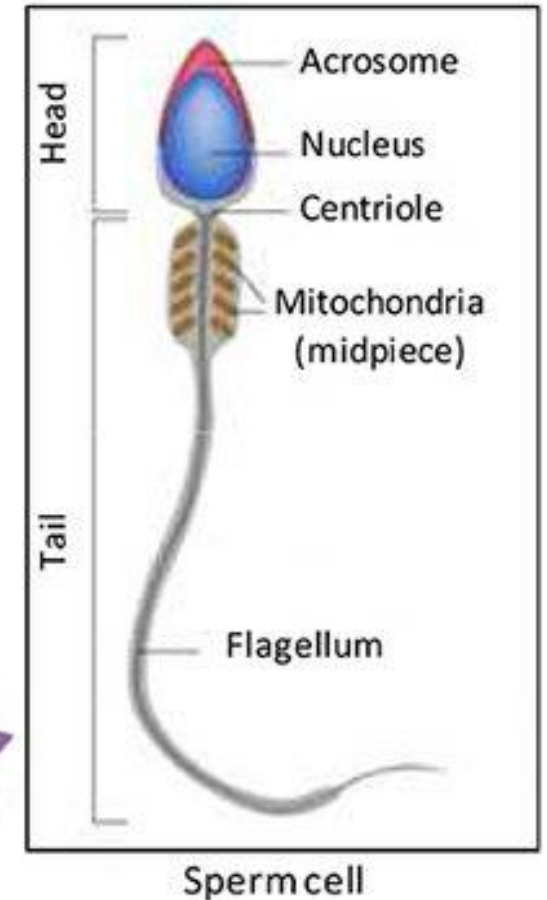
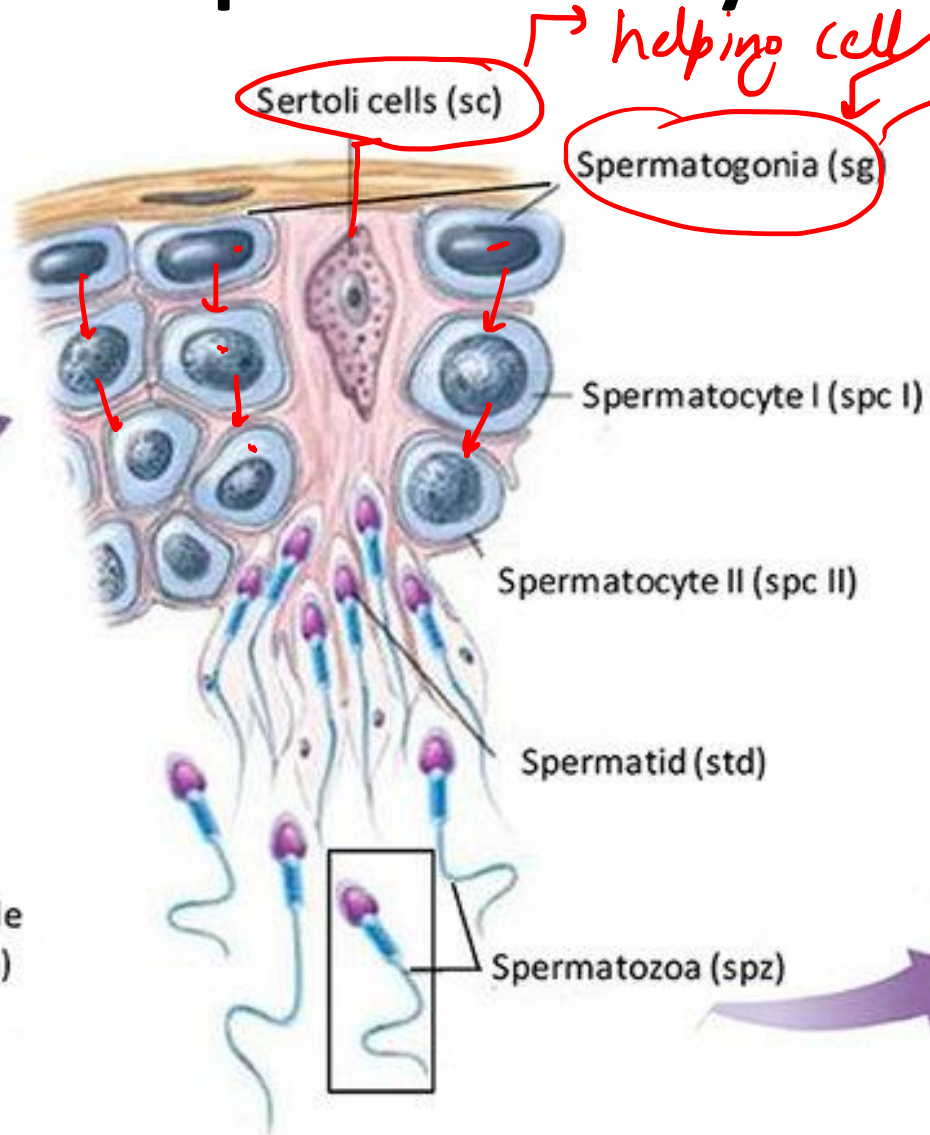
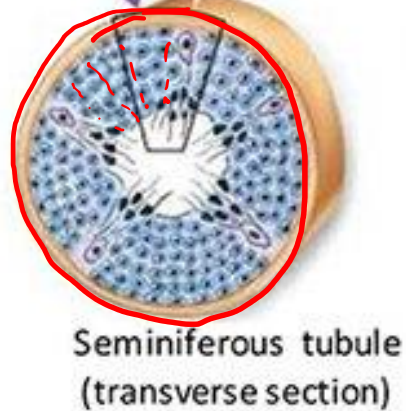
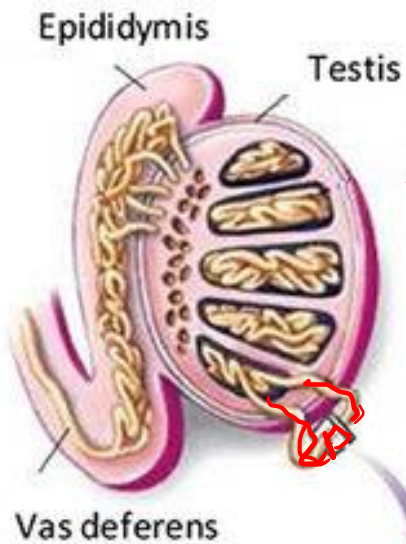


# Seminiferous tubule



# HUMAN REPRODUCTION

## Male Reproductive System



MG cells  
Male germ (PGM)

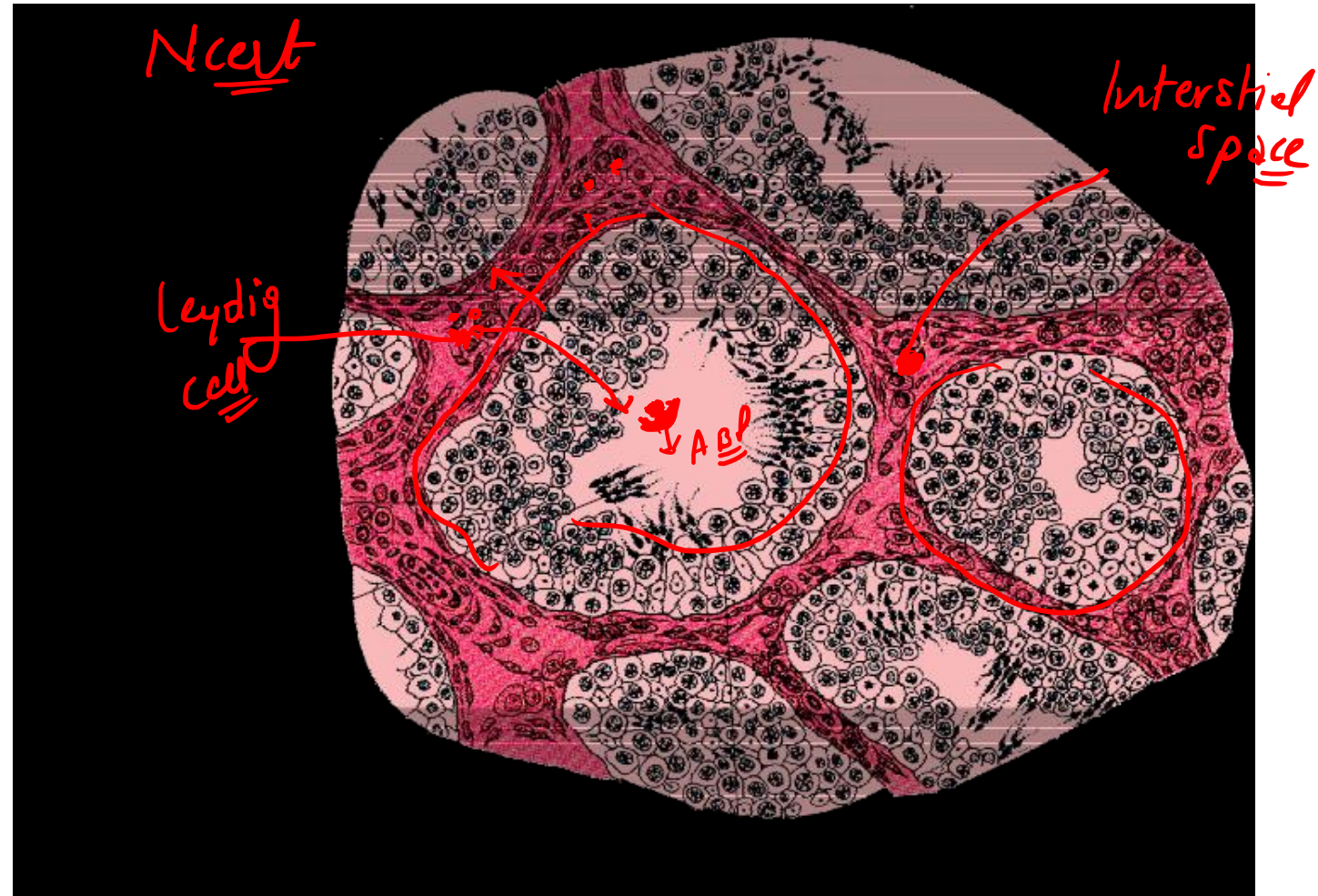
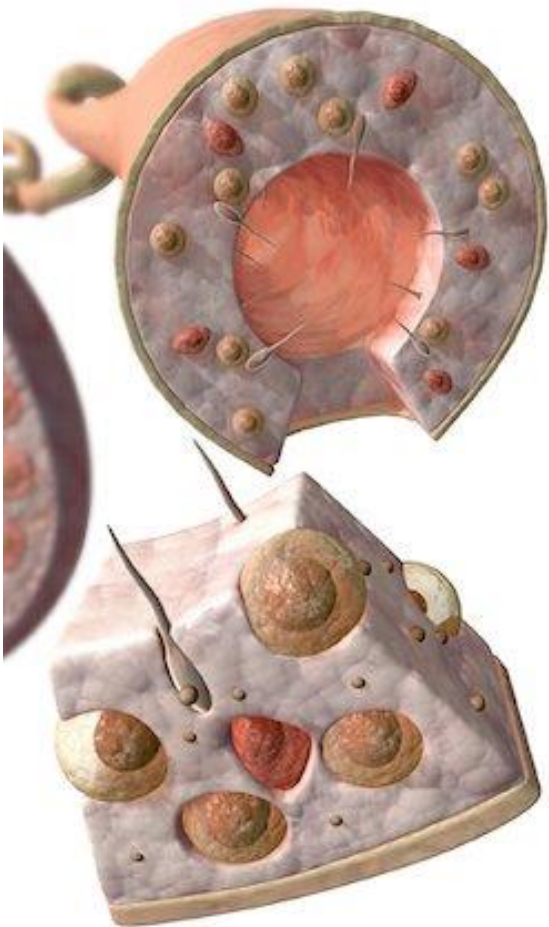
helping cell

Sperm formation

# HUMAN REPRODUCTION

## Male Reproductive System

Seminiferous Tubules( site of spermatogenesis)



# HUMAN REPRODUCTION

## Male Reproductive System

Seminiferous tubules consists of –

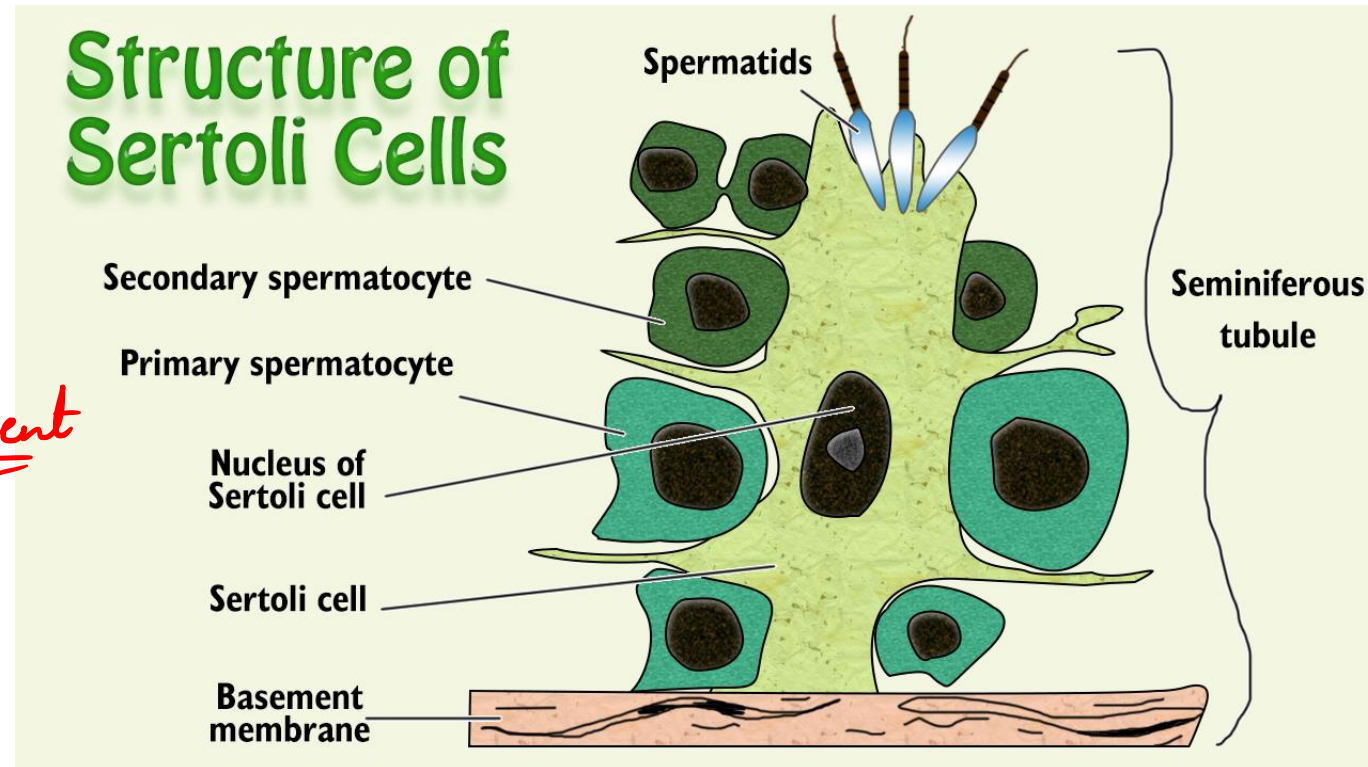
- ✓ 1. Male germ cells/primordial germ cells
- ✓ 2. Sertoli/subtentacular/nurse cells →
- ✓ 3. Leydig/interstitial cells

→ Hormone

→ Testosterone

→ sperm

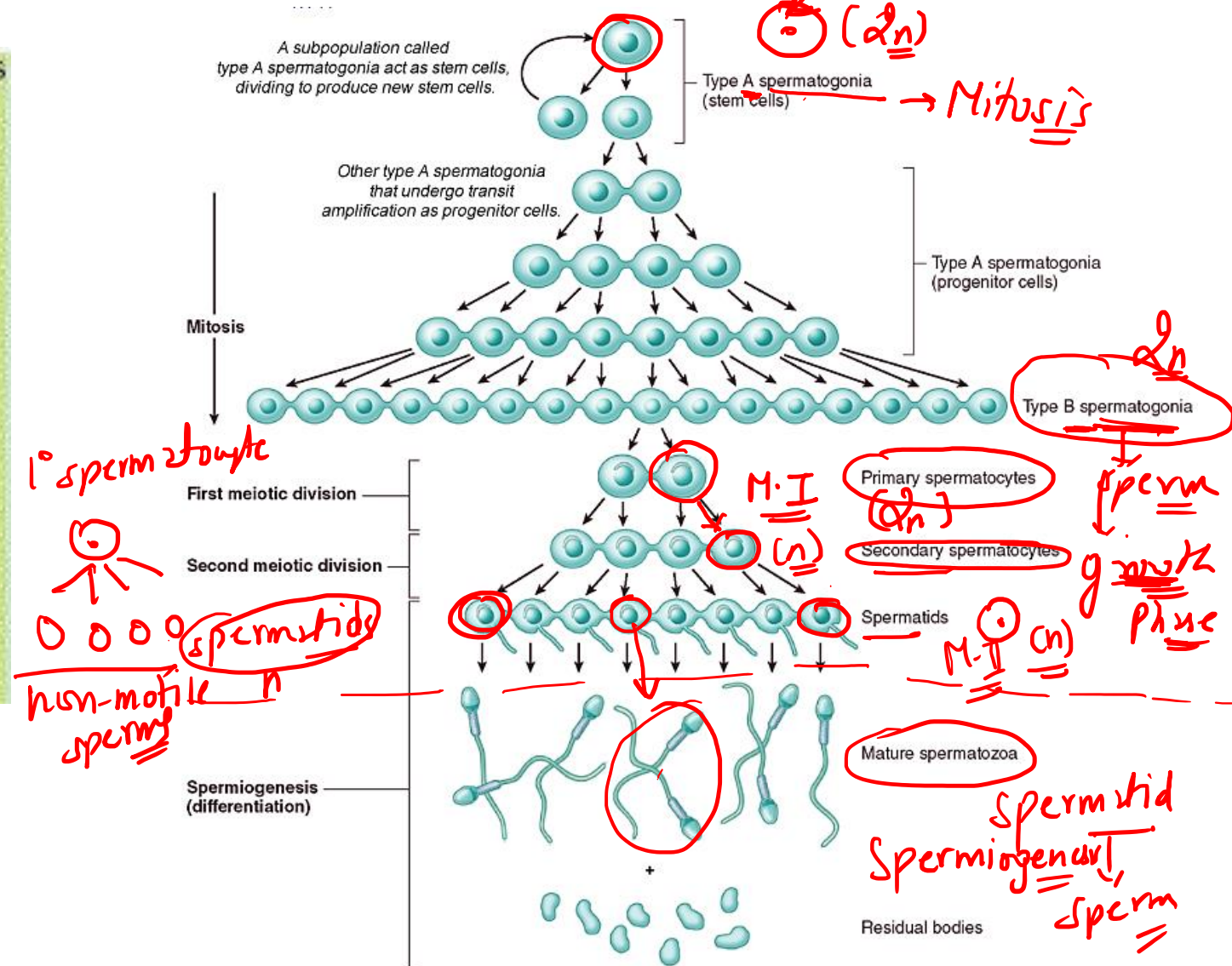
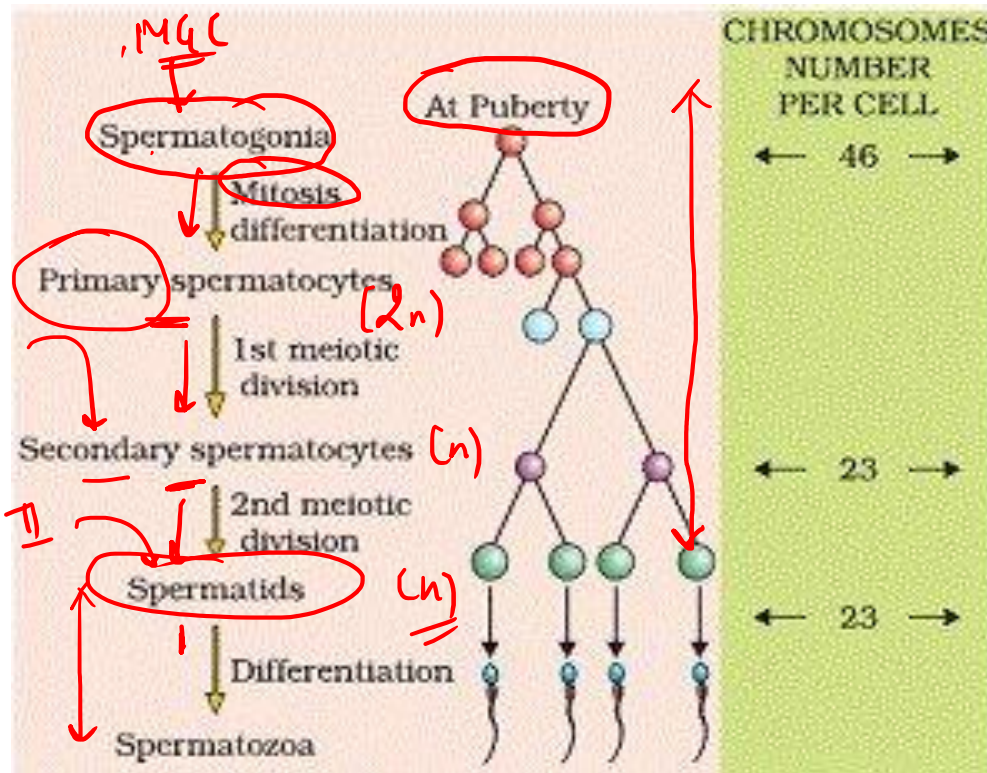
nourishment



# HUMAN REPRODUCTION

## Male Reproductive System

Germin  
MGCL 200-300 million  
(2n) Mitosis (2n)



## SPERMATOGENESIS

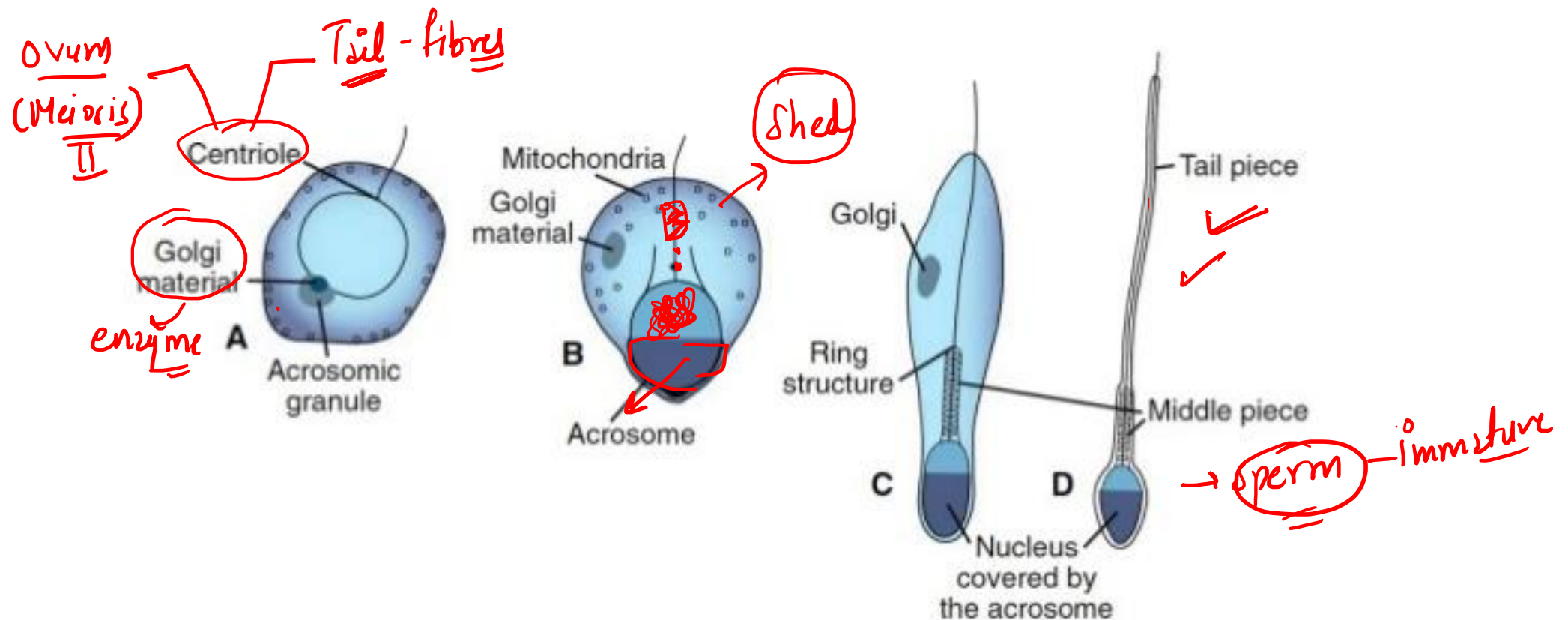


Hypothalamus  
↑  
Pituitary  
Blood → +ve

# HUMAN REPRODUCTION

## Male Reproductive System

**Spermiogenesis**- The process of conversion of non-motile spermatids into motile spermatozoa or sperms.



# HUMAN REPRODUCTION

## Male Reproductive System

### Structure of Sperm

Sperm is made up of four parts-

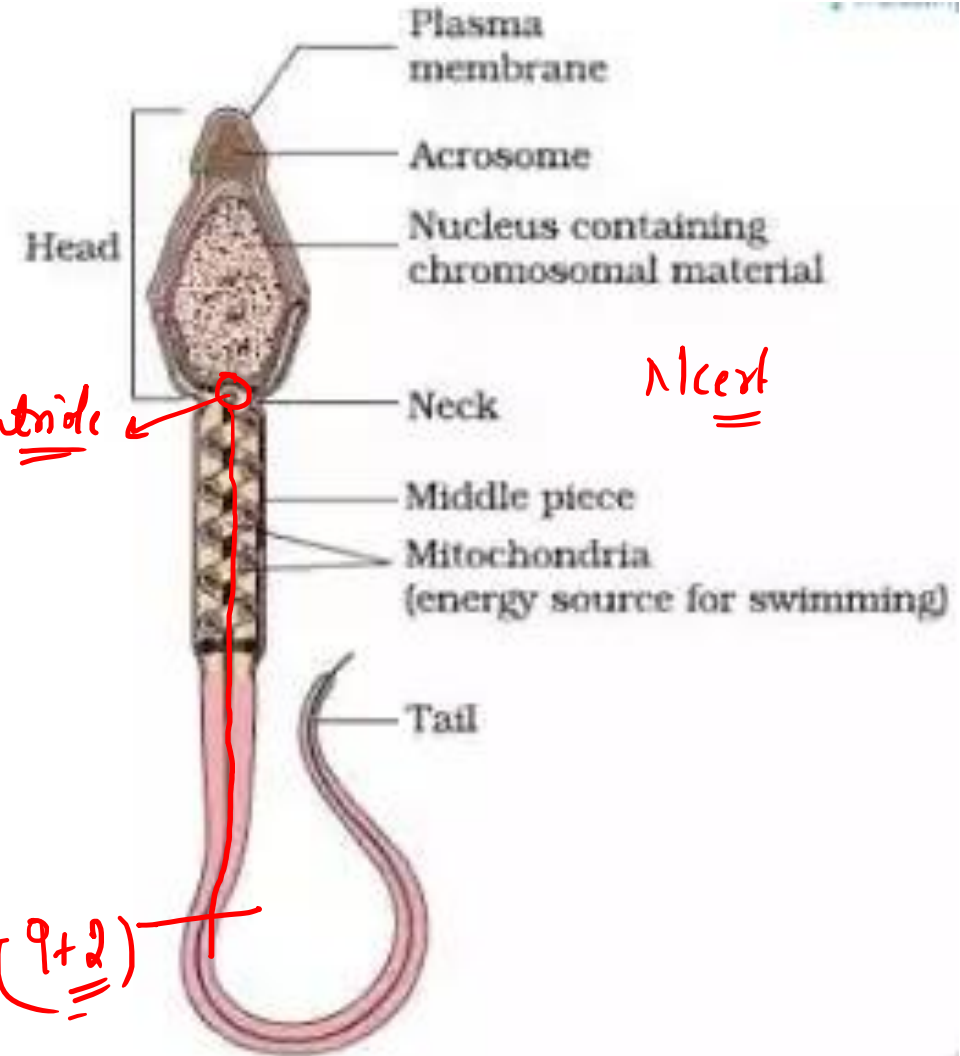
- ↳ 1. Head → Acrosome-enzyme  
→ Nucleus (n)
- ↳ 2. Neck →
- ↳ 3. Middle piece
- ↳ 4. Tail → Mitochondria only  
→ energy  
→ Movement

(ovum M.I.)

Proximal

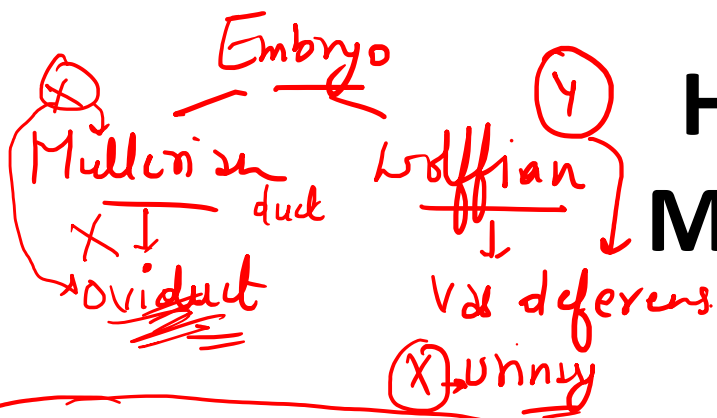
Distal

Tail fibre



# HUMAN REPRODUCTION

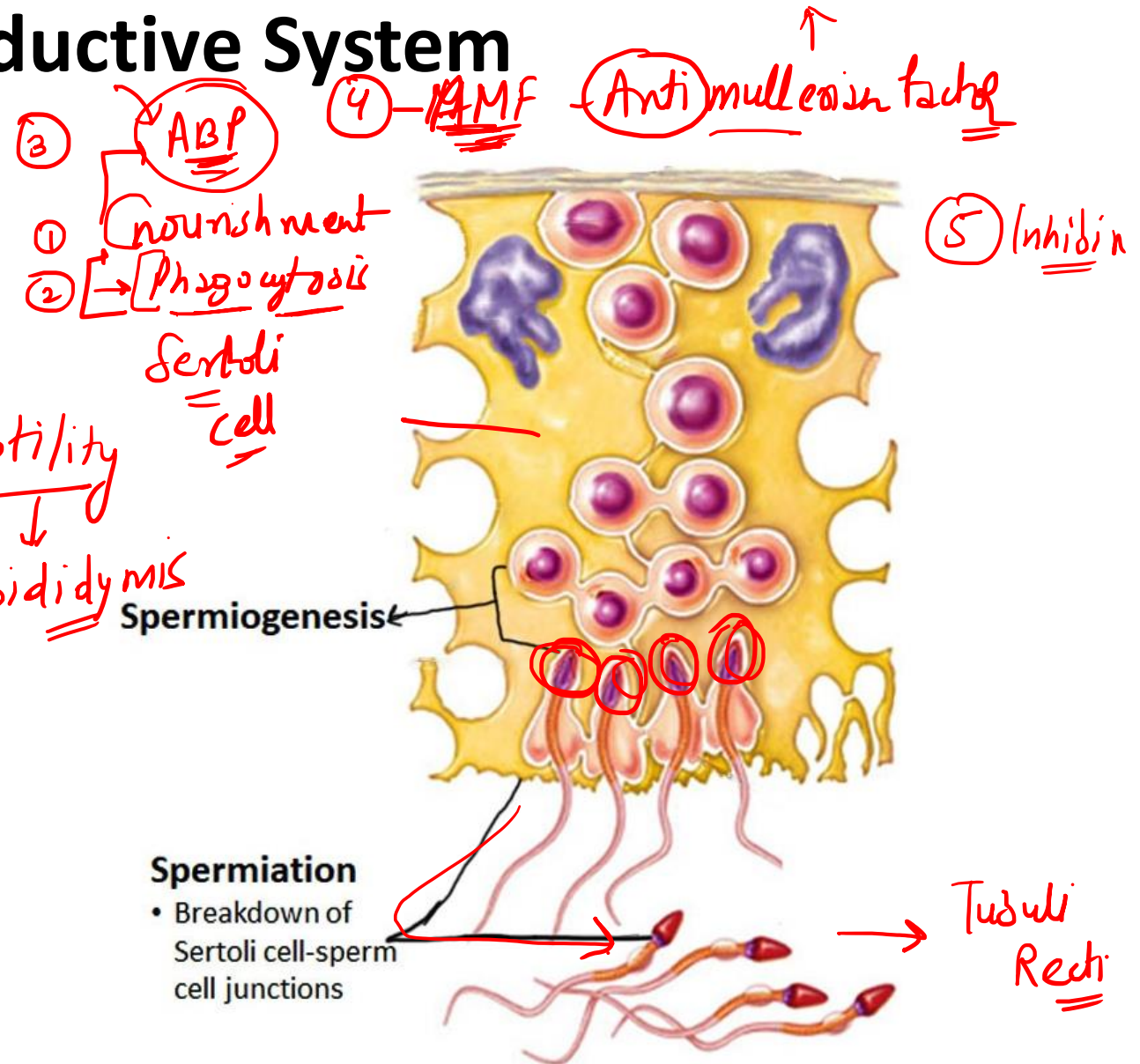
## Male Reproductive System



### Spermiation-

The process of release of mature sperms from Sertoli cells into the lumen of seminiferous tubules prior to their movement to the epididymis.

Motility  
↓  
Epididymis



# HUMAN REPRODUCTION

## Male Reproductive System

sperm + liquid  
↳ seminal  
60-65% → plasma

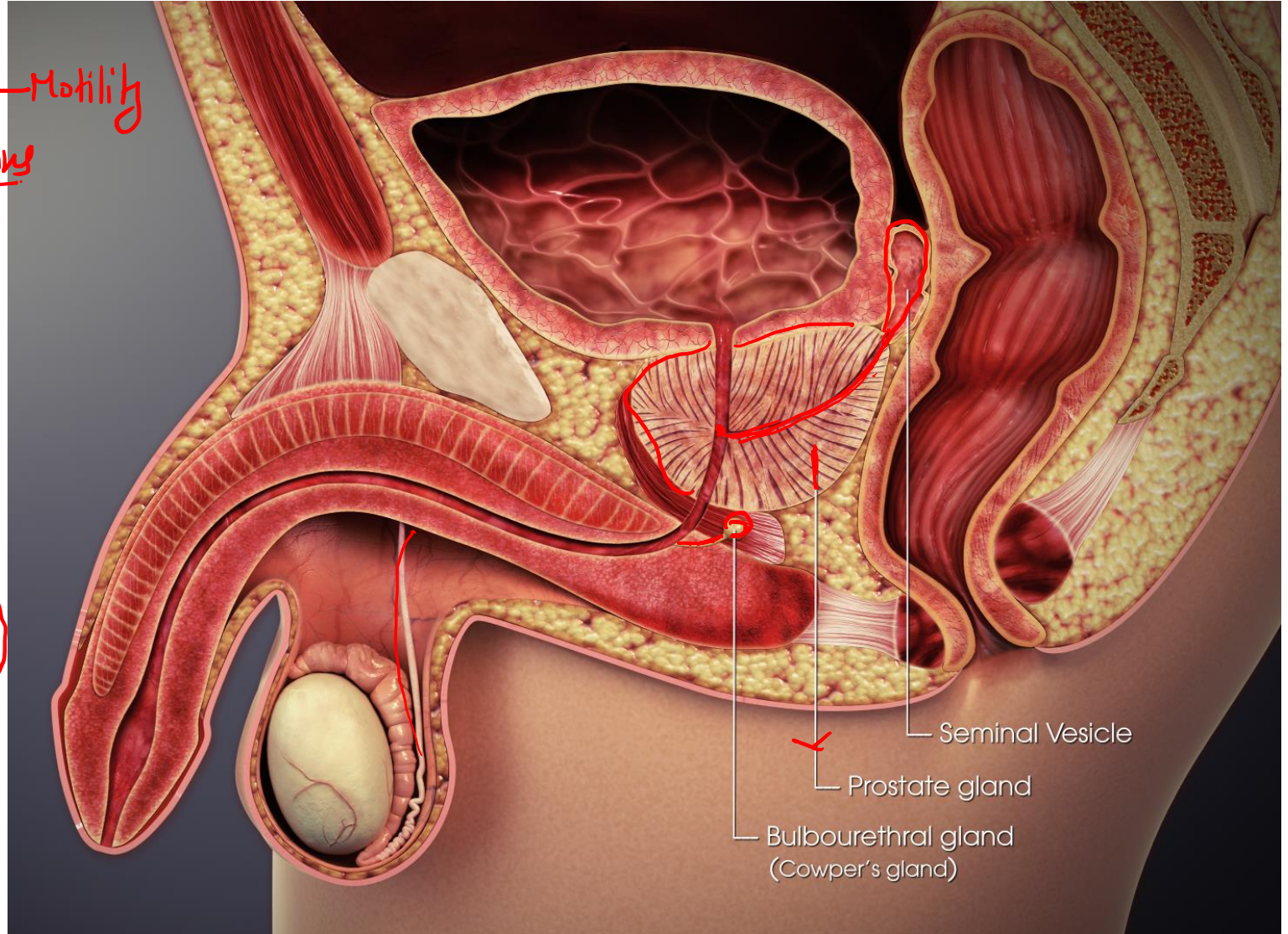
### Accessory Glands

nourish w/ → fructose → prostaglandins  
↳  $Ca^{2+}$  ✓

1. Seminal vesicle → Apical Alkaline
2. Prostate gland → single
3. Bulbourethral gland or Cowper's gland → pair

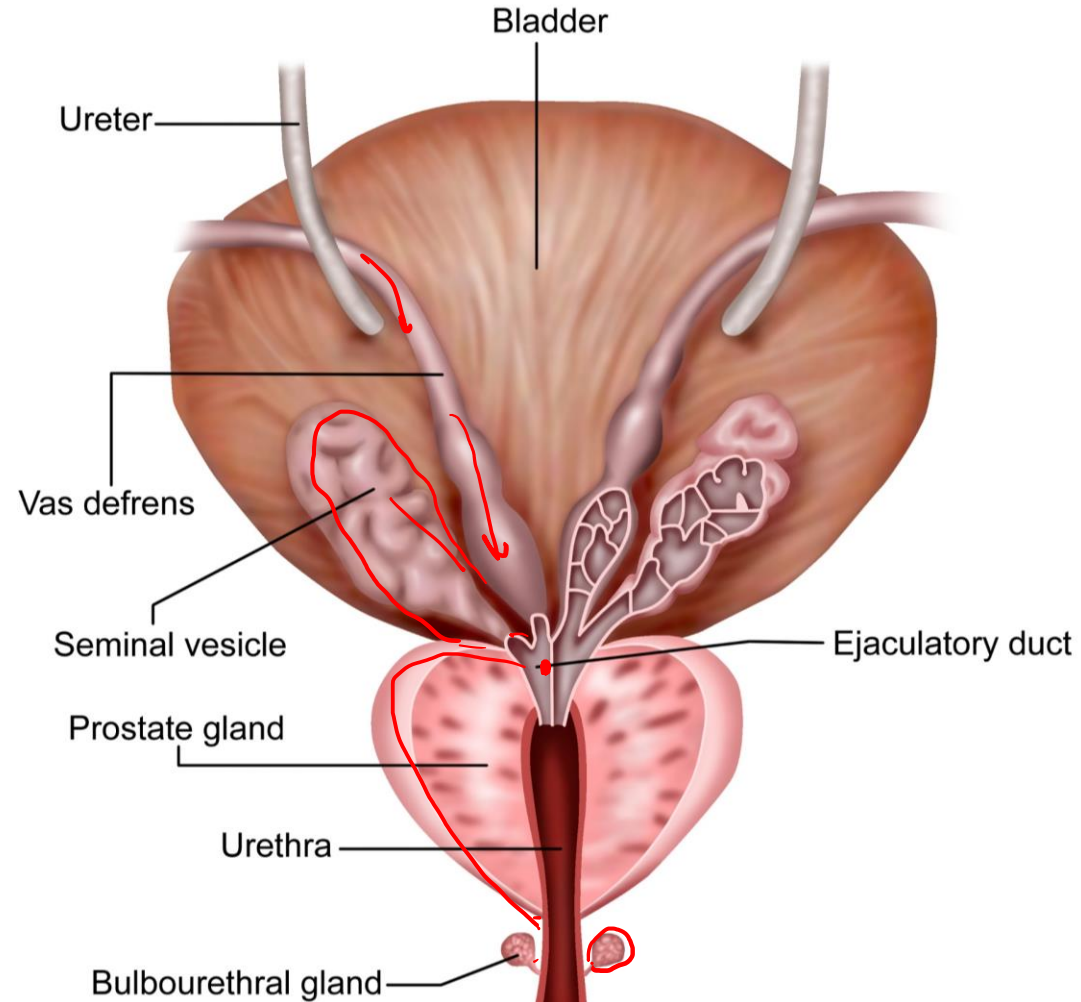
Prostate - Alkaline → Neutralize urethra

lubrication medium  
→ enzyme  
→ citric acid  
→ prostaglandins



# HUMAN REPRODUCTION

## Male Reproductive System



# HUMAN REPRODUCTION

## Male Reproductive System

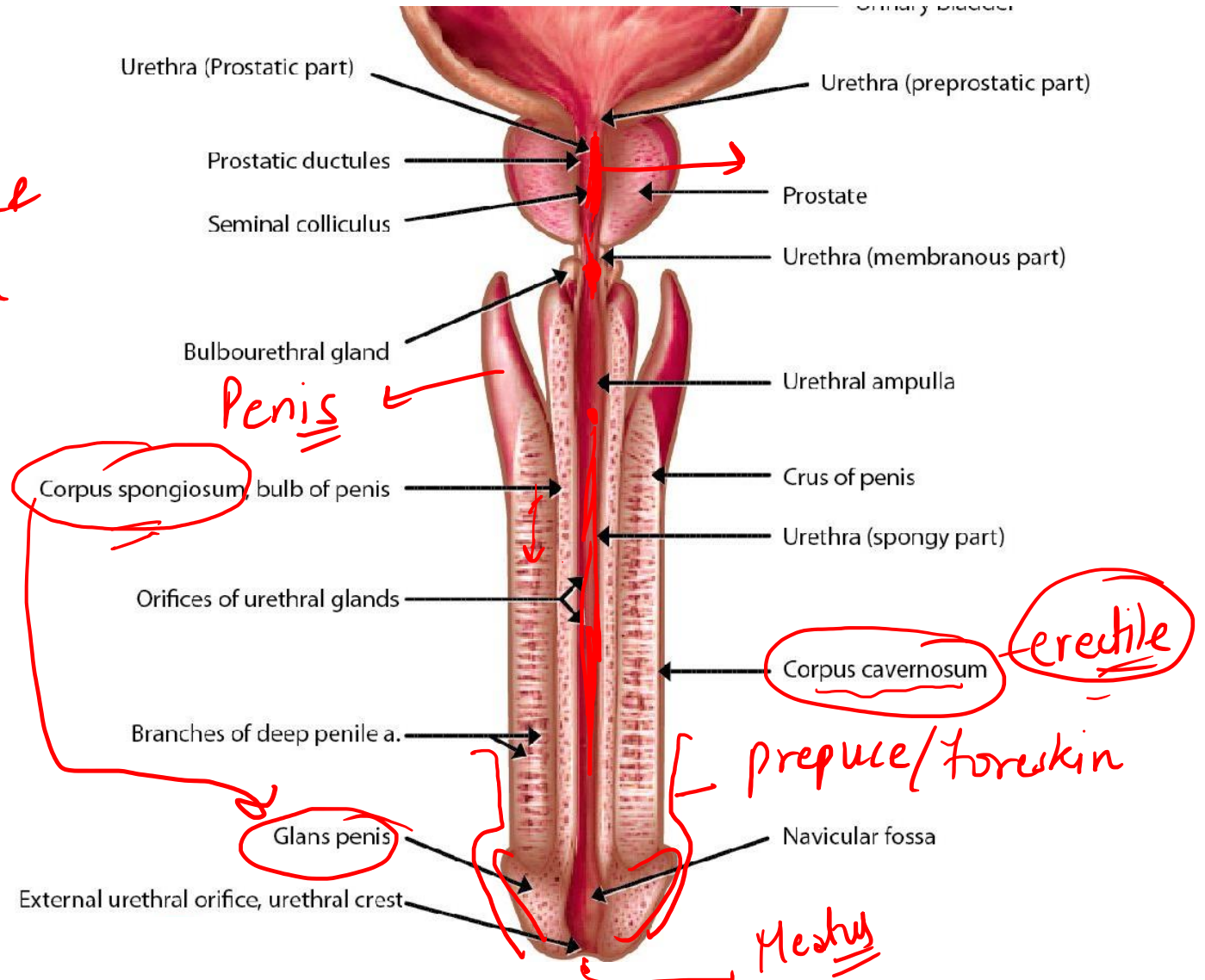
### Structure of Urethra

Urethra consists of three parts-  
→ urine  
perm

1. Prostate Urethra

2. Membranous Urethra

3. Penile urethra  
→ long



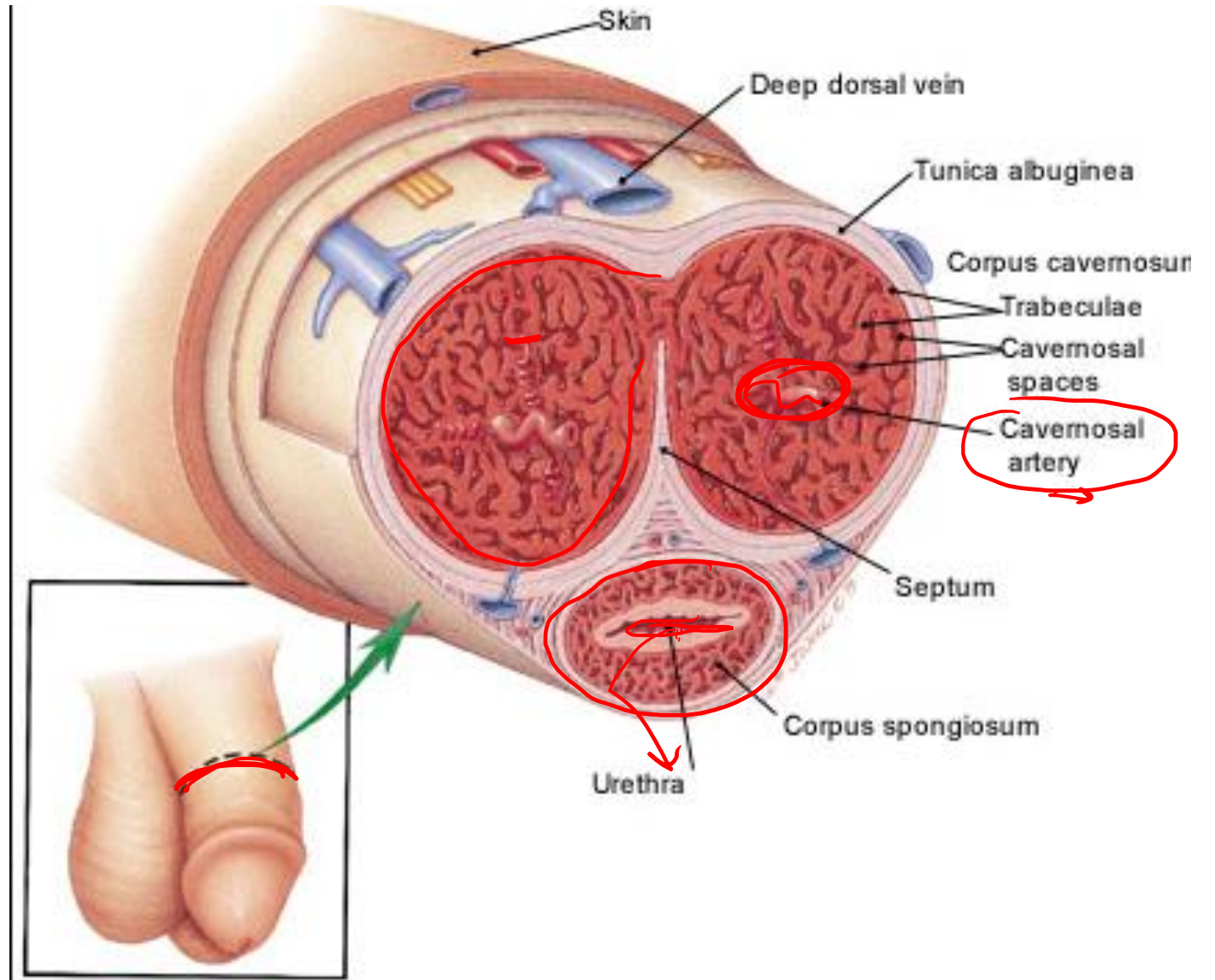
# HUMAN REPRODUCTION

## Male Reproductive System

### Structure of Penis

Penis comprises of two main types of erectile tissues-

1. Corpora cavernosa
2. Corpora spongiosum



# HUMAN REPRODUCTION

## Male Reproductive System

### Composition of Semen

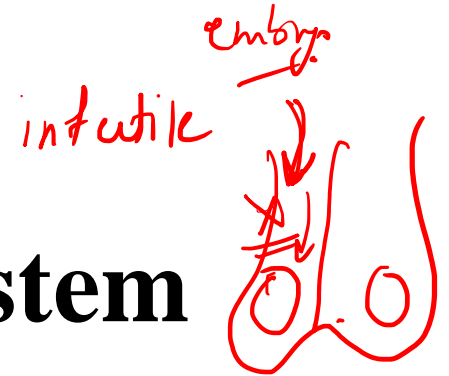
(Semen = Sperm + Seminal plasma)

- Semen contains 200 to 300 million sperms in one ejaculate.
- Out of these millions sperm 60% of the sperms must have normal shape and size and at least 40% of them must show vigorous motility.
- pH of semen is 7.3 to 7.5

# HUMAN REPRODUCTION

## Male Reproductive System

### Diseases of Male Reproductive System



- Prostate Cancer: Cancer of the prostate gland, triggered by hormone testosterone or some pathogens.
- Inguinal hernia: Tearing of inguinal tissue may result in the protrusion of a part of intestine into the scrotum.
- Andropause: Reduced production of testosterone.
- CASTRATION: Removal of the testis.

Cryptorchidism  
↳ Scrotum

# HUMAN REPRODUCTION

## Female Reproductive System

Female reproductive system comprises of-

1. Primary sex organ- Ovary

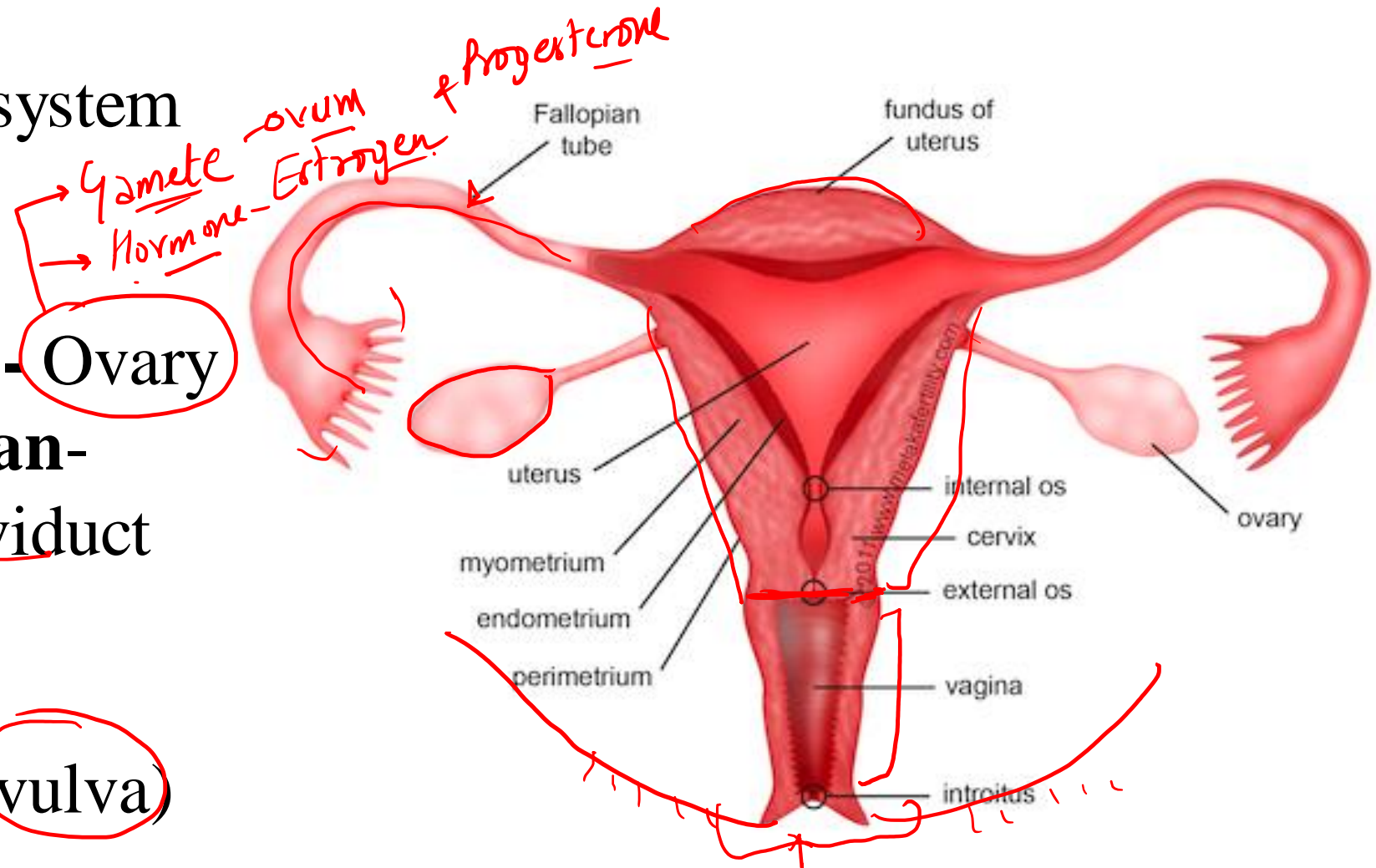
2. Secondary sex organ-

i. Fallopian tube or oviduct

ii. Uterus

iii. Vagina

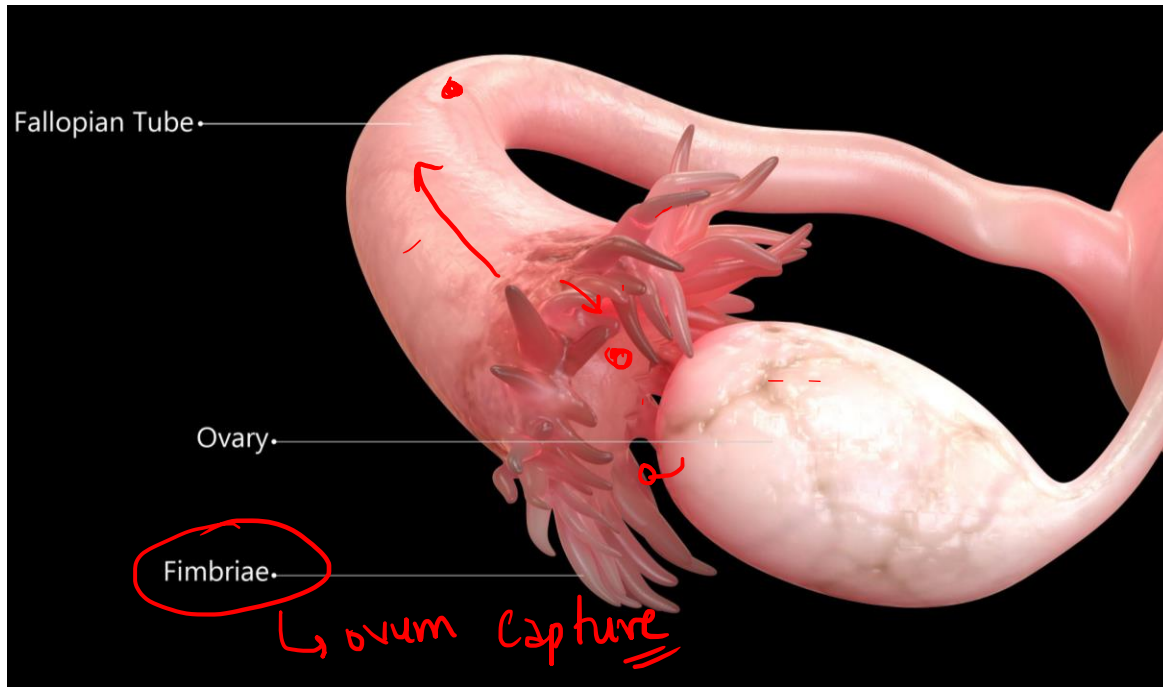
iv. External genitalia (vulva)



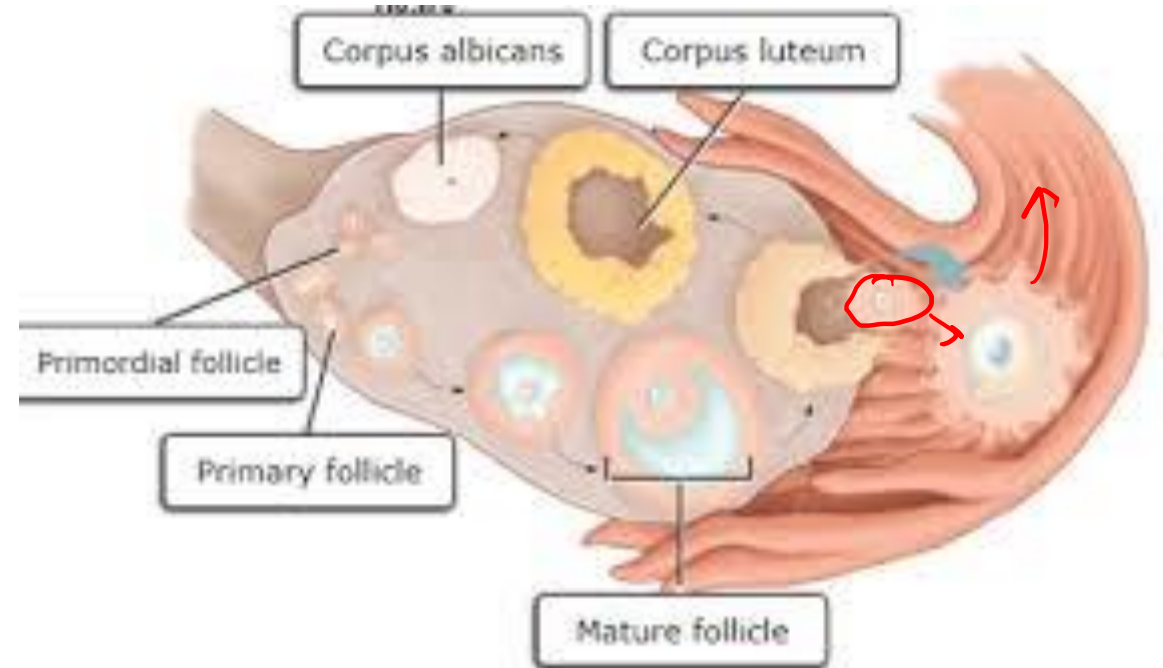
# HUMAN REPRODUCTION

## Female Reproductive System

### OVARY



External View

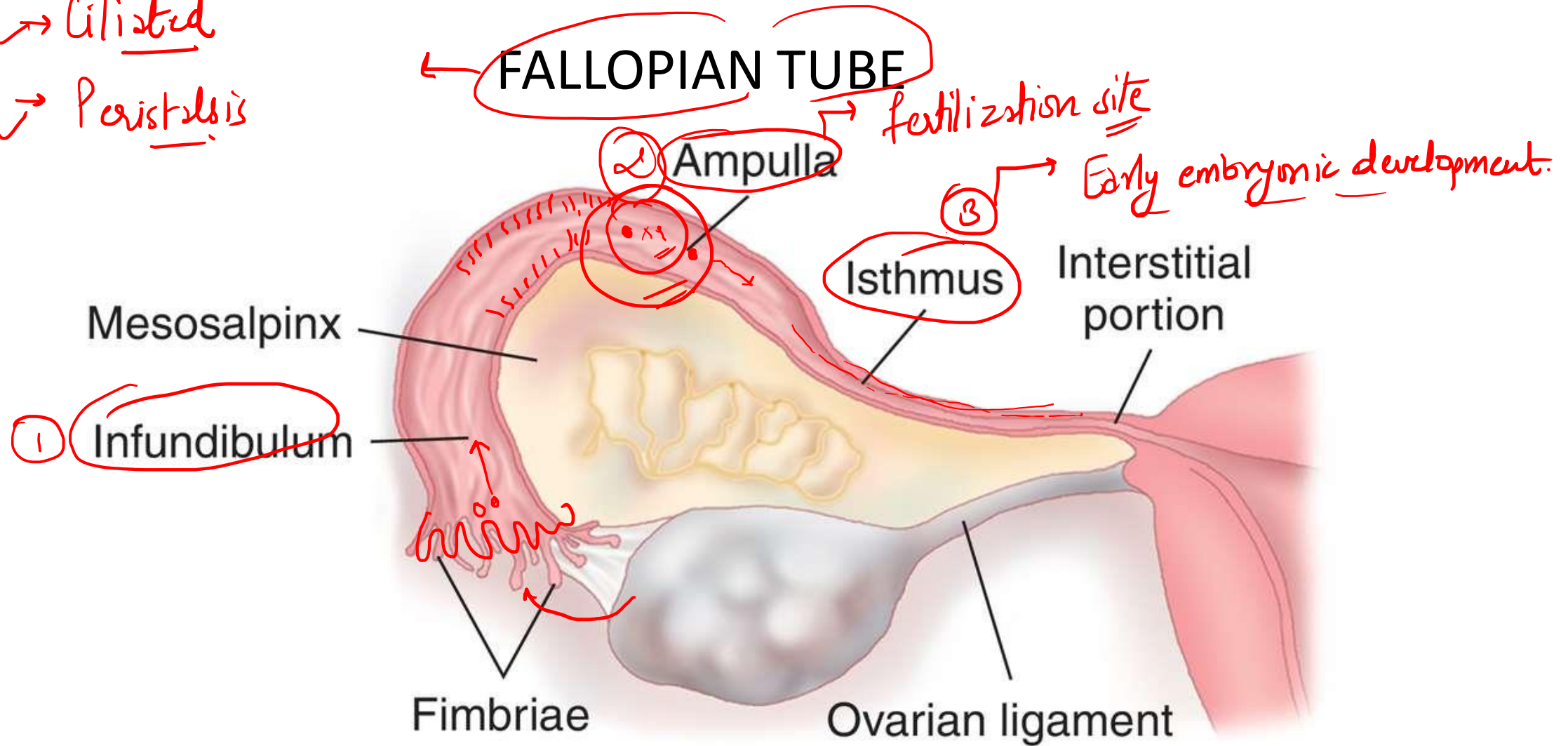


Internal View

# HUMAN REPRODUCTION

## Female Reproductive System

Columnar  
↑  
→ Ciliated  
→ Peristalsis



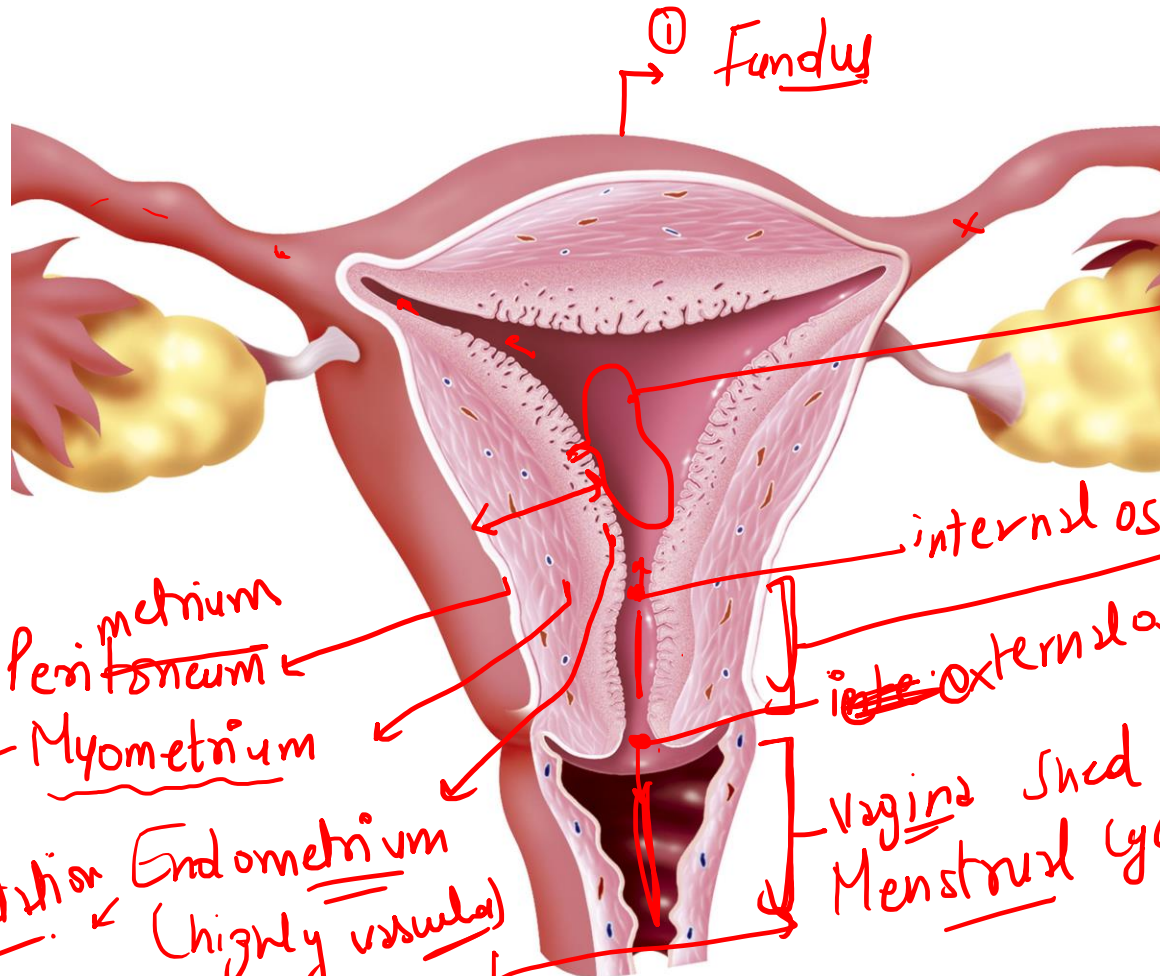
# HUMAN REPRODUCTION

## Female Reproductive System

### UTERUS

I<sup>st</sup> coitus

7.3-7.5



smooth muscles

implantation

Endometrium

(highly vascular)

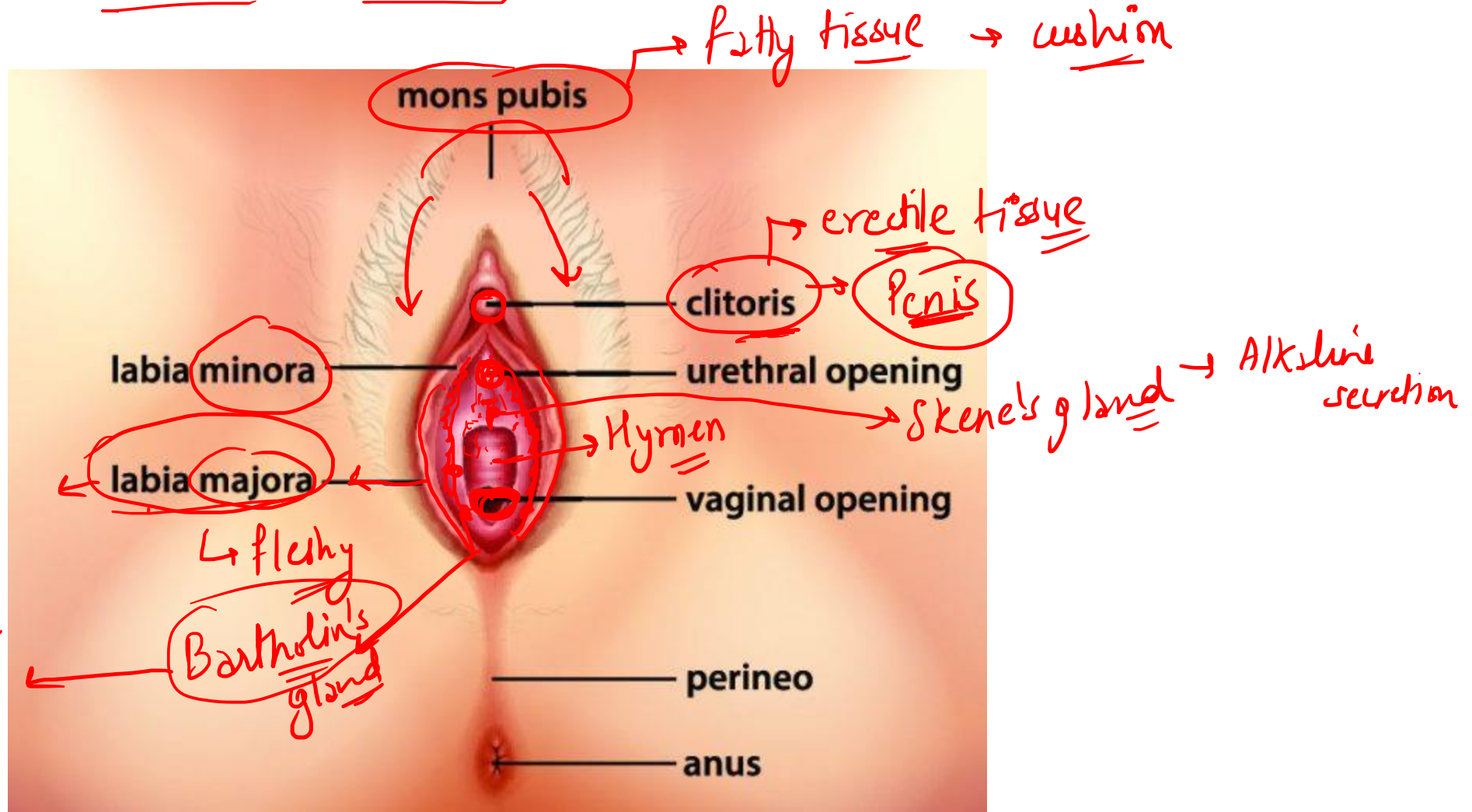
Shed if there is no fertilization

Menstrual cycle

# HUMAN REPRODUCTION

## Female Reproductive System

### EXTERNAL GENITALIA(VAGINA)



Thank You