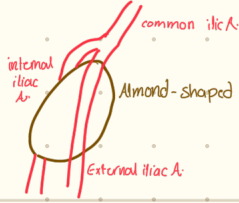


# Female Genital Organs

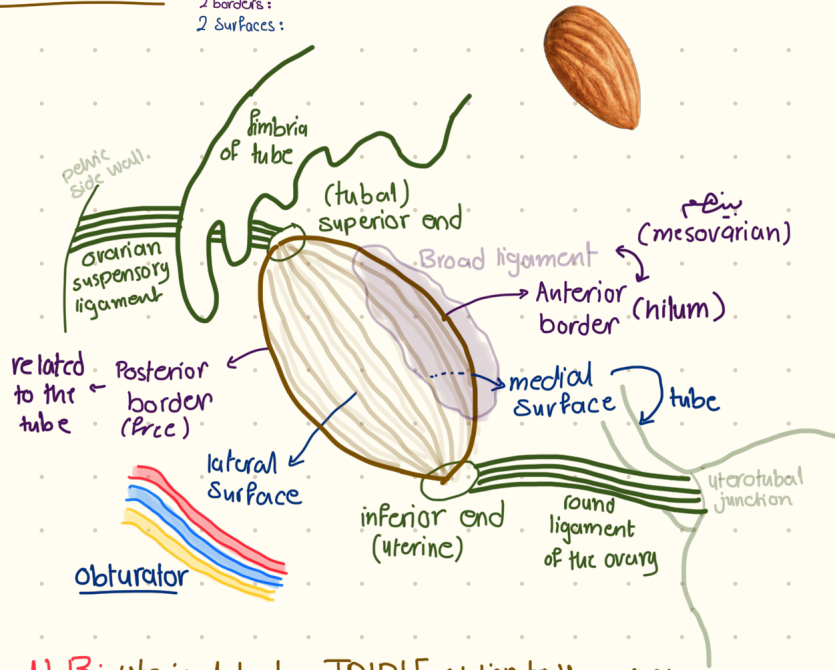
## Ovaries

Site: ovarian fossa (lateral wall of pelvis)



### Description:

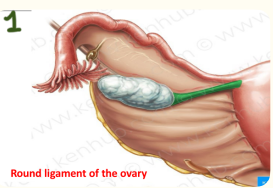
- 2 ends:
- 2 borders:
- 2 Surfaces:



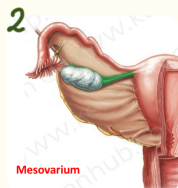
N.B.: uterine tube has TRIPLE relation to the ovary.



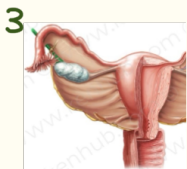
### Ligaments:



• uterine end → uterotubal junction



• Anterior border → Posterior layer of broad ligament

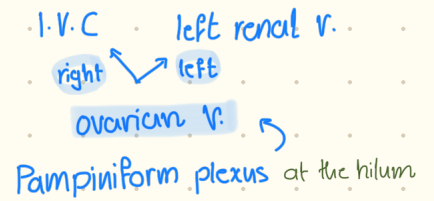


• Superior end → side wall of Pelvis  
• conducts **vessel**, **nerve** & **lymphatics**

### Blood:

- Abdominal aorta (L<sub>2</sub>) → Ovarian A. → through  
Hilum ← Mesovarium ← Suspensory ligament
- It supplies 1) Ovaries. 2) lateral 1/3 of the tube  
3) Anastomoses with uterine A. within the Broad ligament.

### Venous:



### Lymphatics:

- lateral aortic lymph nodes

### Nerve:

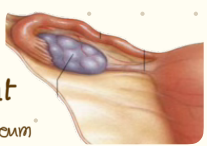


# Uterine Tubes

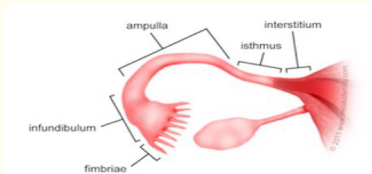
Site: medial 4/5 of upper free border of Broad ligament.

length: 10 cm


## Communications:

- laterally  $\longleftarrow$  medially
- Pierces the upper layer of broad ligament to open into the peritoneum [abdominal ostium]
  - open into superior angle of the uterus.
- 

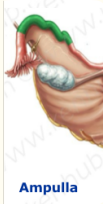
## Parts:



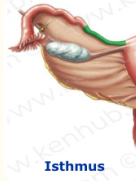
### ① Infundibulum:

- Funnel-shaped
  - 2 cm
  - Bottom (abdominal ostium)  $\varnothing$  3mm
  - Margins (Fimbriae) 20-30 irregular processes
    - during ovulation the fimbriae trap the oocytes into the uterine tube
- 


### ② Ampulla:

- The widest  $\varnothing$  4mm + The longest 5 cm
  - thin + tortuous
  - site of fertilization
- 

### ③ Isthmus:

- narrow  $\varnothing$  2mm + short 2 cm
  - thick
- 

### ④ Uterine (intramural):

- The narrowest  $\varnothing$  1mm + The shortest 1 cm
  - opens in the uterus through (uterine ostium)
- 

## Blood:

- ovarian A. + uterine A.
- lateral 1/3 medial 2/3


## Nerve:

- ovarian nerve plexus + uterine nerve plexus
- lateral 1/3 medial 2/3
- Inferior hypogastric plexus
  - Sympathetic
  - Parasympathetic

## Functions:

- It carries ampulla fertilization
  - ovaries oocytes
  - sperms uterus
- It conveys dividing zygote
  - uterus

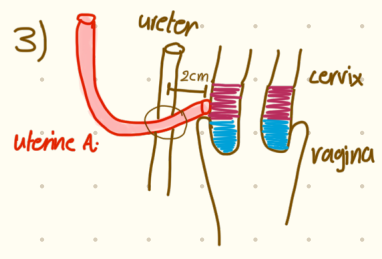
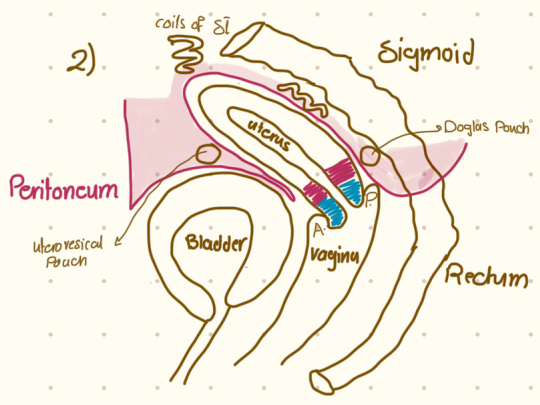
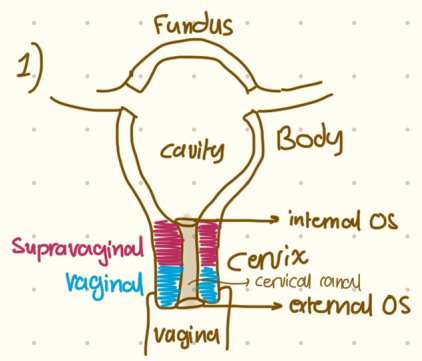
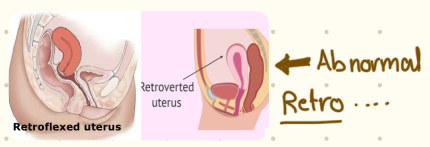
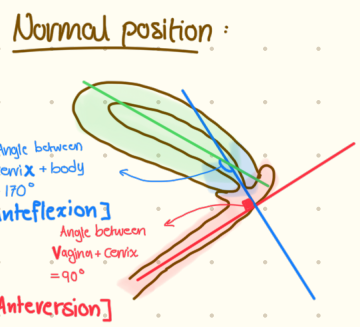
## Applied Anatomy:

- Infection  $\rightarrow$  blockage of the tube  
main cause of sterility
  - most common site for ectopic pregnancy  
hemorrhage  $\leftarrow$  ruptures  $\leftarrow$  into abdominal cavity
  - Infection  $\rightarrow$  peritonitis abdominal ostium
  - Birth control through ligation
- 

# Uterus

Site : in the lesser pelvis  
 - Pear-shaped  
 - hollow - thick muscular

communication :  
 - Superolateral angles: uterine tubes  
 - Inferiorly: vagina



## Discription :

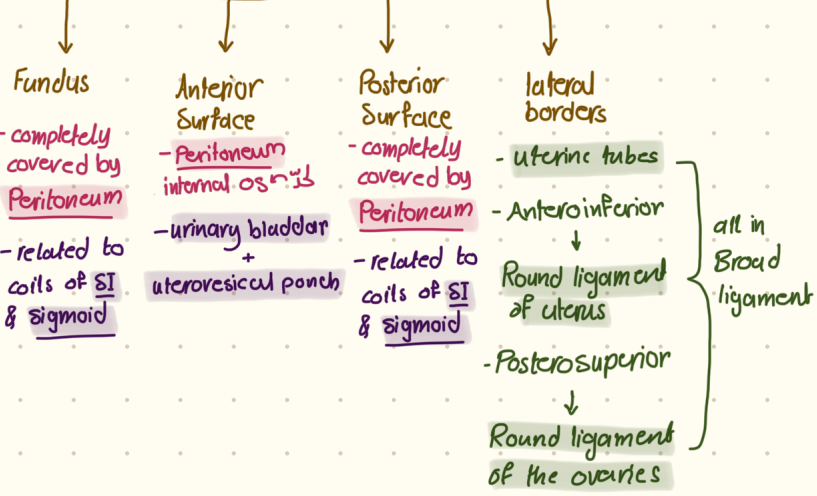


• Transverse constriction

### 1 Body

- upper 2/3 of uterus + 2 in long

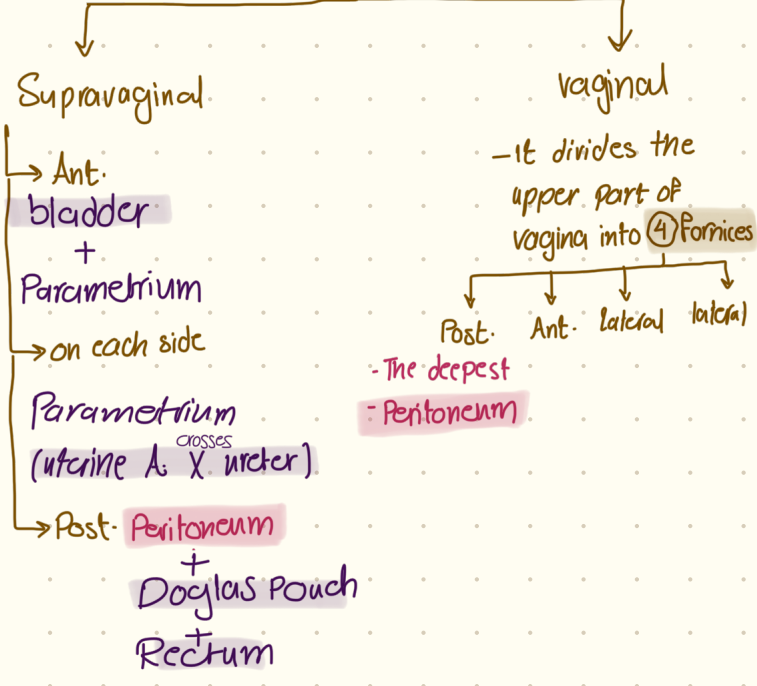
Parts



### 2 cervix

- lower 1/3 of uterus + 1 in long

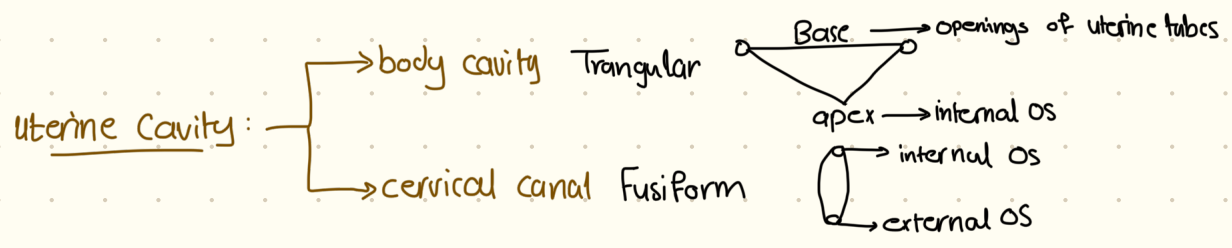
Parts



# Peritoneal covering of uterus :

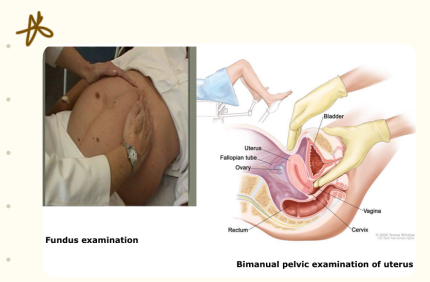
bladder → internal OS → Anterior Surface → Fundus → Posterior Surface → Supravaginal cervix → Posterior Fornix of vagina

Bare Areas : Ant. + sides of Supravaginal cervix (parametrium)



## → Anatomical significance of internal OS :

- ✓ corresponds to isthmus
- ✓ between uterine cavity & cervical canal
- ✓ at the level of ante flexion
- ✓ at the level of peritoneal reflection to the bladder



## Blood :

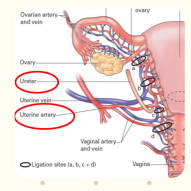
uterine A. → upper surface of pelvic diaphragm <sup>medially</sup> → root of broad ligament near lateral vaginal Fornix <sup>enters</sup> → broad ligament <sup>runs tortuous course</sup> → lateral margin of uterus <sup>Anastomosing with</sup> → ovarian A.

- Branches :
- 1) pelvic part of ureter
  - 2) vagina (azygos A.)
  - 3) cervix
  - 4) medial 2/3 of uterine tube

\* The ureters pass at (lateral vaginal Fornix)

\* The uterine A. cross the ureter (2 cm from Supravaginal cervix)

\* ureters are at risk during surgical procedures on uterus & ovaries.



Nerve : inferior hypogastric plexus → uterovaginal plexus

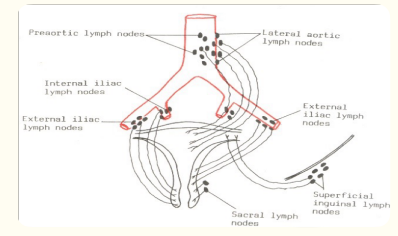
## Lymphatics :

Fundus → lateral aortic

uterotubal junction + round ligament of uterus → superficial inguinal

Body + Broad → External iliac

cervix → External + internal + sacral



## VENOUS : uterine plexuses

- ✓ extends laterally through the broad ligament
- ✓ its lower part <sup>is drained by</sup> uterine veins <sup>open into</sup> internal iliac vein
- ✓ It communicates with (ovarian + vaginal) plexuses

\* Varicose vein & hemorrhoids (common during pregnancy)

↳ Due to I.V.C + inferior mesenteric vein compression by the gravid uterus

# Ligaments

Attached to body of uterus

Attached to cervix of uterus

## ① Round ligament of uterus



From: uterotubal junction (anteroinferior) To: labia majora

Course: Broad ligament (Proximal part) → hooks around inferior epigastric Artery (Distal Part) → deep inguinal ring (enters) → inguinal canal → labia majora

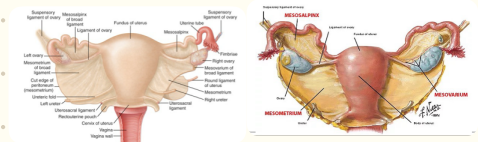
Structures accompany the ligament in inguinal canal:

- 1) Artery of the round ligament. (Cremasteric in males)
- 2) Genital branch of genitofemoral N. (Supplies labia majora)
- 3) Lymphatics (From uterotubal junction → superficial inguinal lymph nodes)

Function: It keeps anteroVersion angle against the backward pull of uterosacral ligaments.

Round ligament pain → Symptoms: sharp, sudden spasm in the belly increases by coughing, laughing, rolling over in bed, standing up quickly  
 Cause: stretch of round ligament during pregnancy

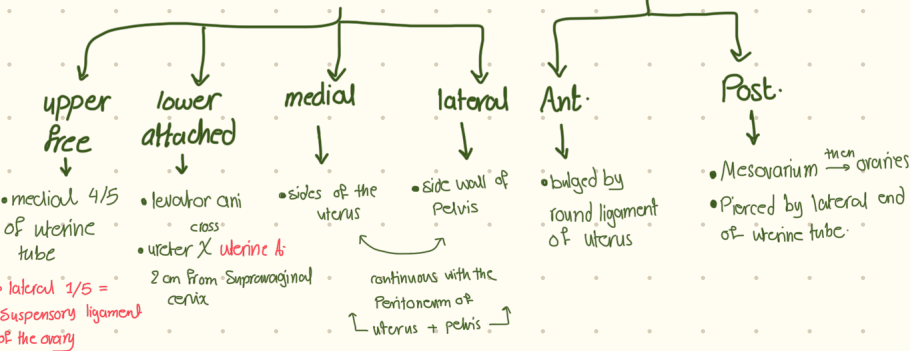
## ② Broad ligament



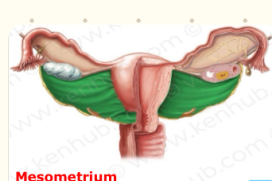
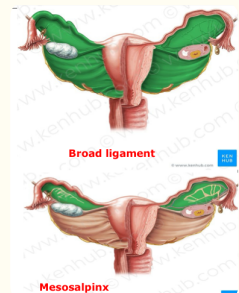
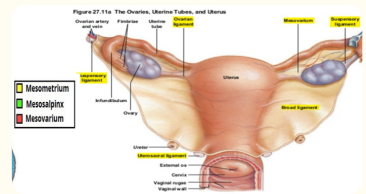
From: side of the uterus To: lateral + floor of pelvis [double-layered peritoneum]

Description:

④ borders      ② layers



- Parts:
- 1) Mesovarium: Broad ↔ ovaries
  - 2) Suspensory: ovaries ↔ side pelvis (ovarian vessels + lymphatics)
  - 3) Mesosalpinx: ovarian ligament ↔ tube
  - 4) Mesometrium: ovarian ligament ↔ body



Content:

- 1 uterine tube → Round of ovaries
- 2 ligaments → Round of uterus
- 2 vessels → uterine, ovarian
- 2 nerve plexuses → uterovaginal (uterine A & Ovarian A & Ovarian N), ovarian (ovarian A & Ovarian N)
- 2 embryo → Epoophoron (+ Gartner's duct), Pároophoron
- 2 others → lymphatics, connective tissue (Parametrium)

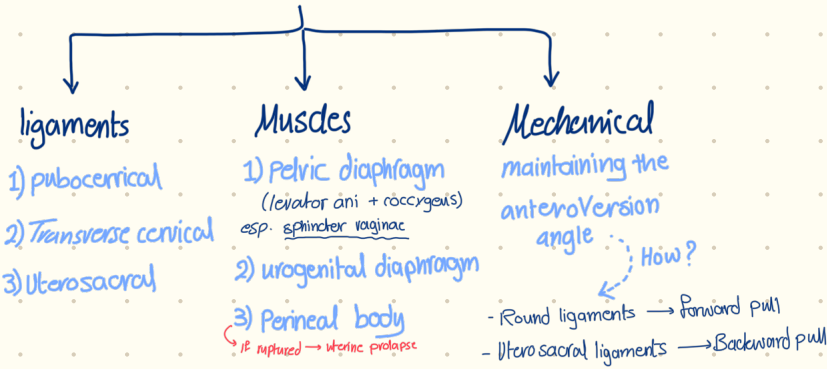
# Ligaments

Attached to  
body of uterus

Attached to  
cervix of uterus

They prevent uterine prolapse  
into the vagina ✓

## \* Supporting factors of uterus:



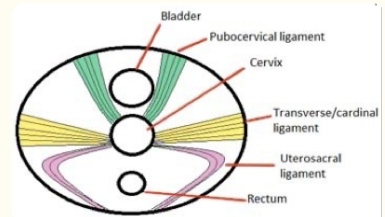
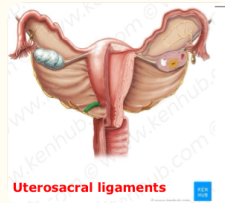
① Pubocervical ligament  
From: cervix To: pubis

② Transverse cervical ligaments  
(Mackenrodt's)

From: cervix + upper vagina To: side wall of pelvis  
\* main uterine support

③ uterosacral ligaments

From: posterolateral cervix + lateral vaginal fornices To: S<sub>2</sub> S<sub>3</sub>



# Vagina

- fibromuscular tube
- (8 cm)
- lined with stratified squamous epithelium

Site: From uterus

↓ down to

Vestibule  
(cleft between the 2 labia minora)

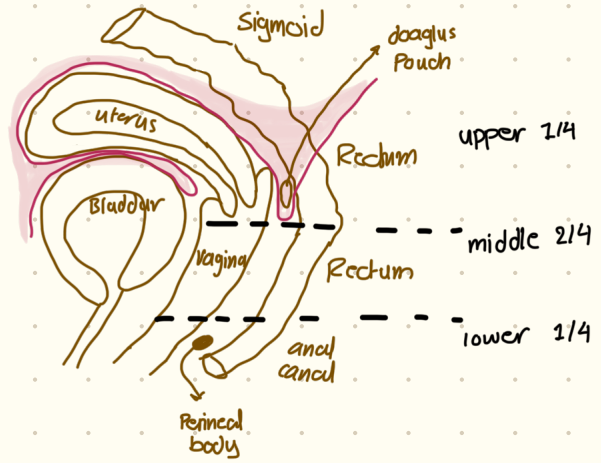
## Dimensions:

Ant. wall = 7.5 cm    Post. wall = 9 cm

## Relations:

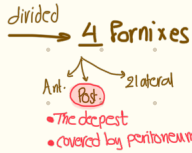
covered by Peritoneum

- |                     |  |   |
|---------------------|--|---|
| <b>Ant.</b>         | <b>Post.</b>   | <b>lateral</b>  |
| • Bladder + urethra | upper 1/4<br>• Douglas pouch + Rectum<br>middle 2/4<br>• Rectum<br>lower 1/4<br>• Perineal body + anal canal | upper<br>• ureter<br>middle<br>• Sphincter vaginae<br>lower<br>• urogenital diaphragm (in deep perineal pouch)<br>• bulbs of vestibule<br>• greater vestibular glands (in superficial perineal pouch) |

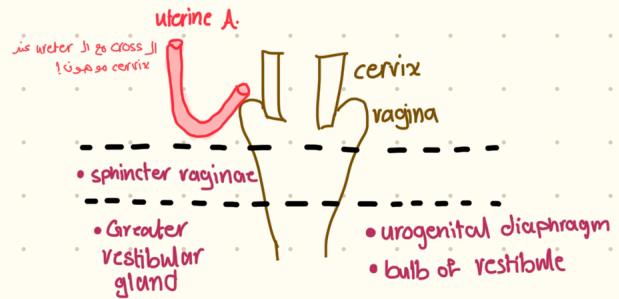


## Cavity:

- superior part = vaginal part of cervix

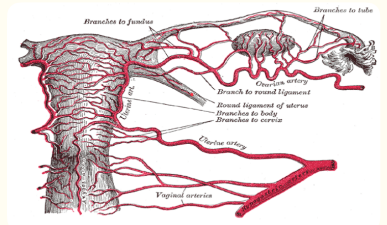


\* In Virgins → hymen (thin mucosal fold)



## Blood: uterine & vaginal A.

## Anastomosis



**Venous:** vaginal venous plexus → vaginal vein → internal iliac vein

**Lymphatics:** Above Hymen → external + internal iliac  
Below Hymen → superficial inguinal

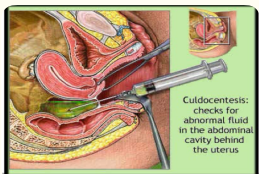
(autonomic fibers)

Nerve: inferior hypogastric plexus → Utero-vaginal plexus  
lower inch: pudendal n.

\* The uterus is completely covered by peritoneum EXCEPT supravaginal cervix anteriorly & laterally

\* The vagina has no peritoneum EXCEPT Posterior Fornix (of Douglas pouch)

Culdocentesis: drainage of pelvic abscess → Blood through: vagina / Posterior Fornix by: a needle



\* Illegal abortion → Misguided nonsterile instruments → Pierce the Post. Fornix → Pelvic Peritonitis (Pateel) لالال

Painless labor: Epidural anaesthesia L3 - L4

## External Genitalia:

### ① The clitoris

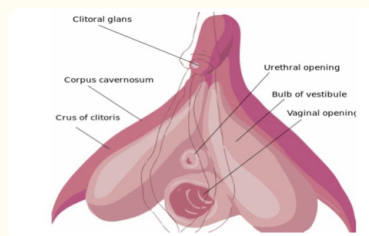
Site: Anterior part of pudendal cleft [penis قوس], bulb:

- 2 corpora cavernosa (arise from sides of pubic arch)
- No corpus spongiosum
- Not transversed by urethra
- End → glans clitoridis (sensitive)

### ③ Bulbs of vestibule

site: along the sides of the vaginal orifice

- Two large elongated masses of erectile tissue
- covered by bulbospongiosus muscles
- separated from clitoris
- separated by the vestibule → vaginal orifices, urethral



### ② Vestibule

site: space between the two labia minora

It contains: Urethral orifice: • 2 cm Posterior to clitoris  
• Anterior to vaginal orifice.

Vaginal orifice: • The most posterior in the vestibule  
• closed in the virgin by the hymen

→ orifices of the greater vestibular glands (of Bartholin).  
= one on each side of vaginal orifice  
= in superficial perineal pouch