

AL-Rasheed university college

Pharmacy department

First year

Human anatomy

The Female Reproductive System

الدكتور طارق جواد الربيعي

اختصاص جراحة عامه

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مدير م القصر الابيض الاهلي

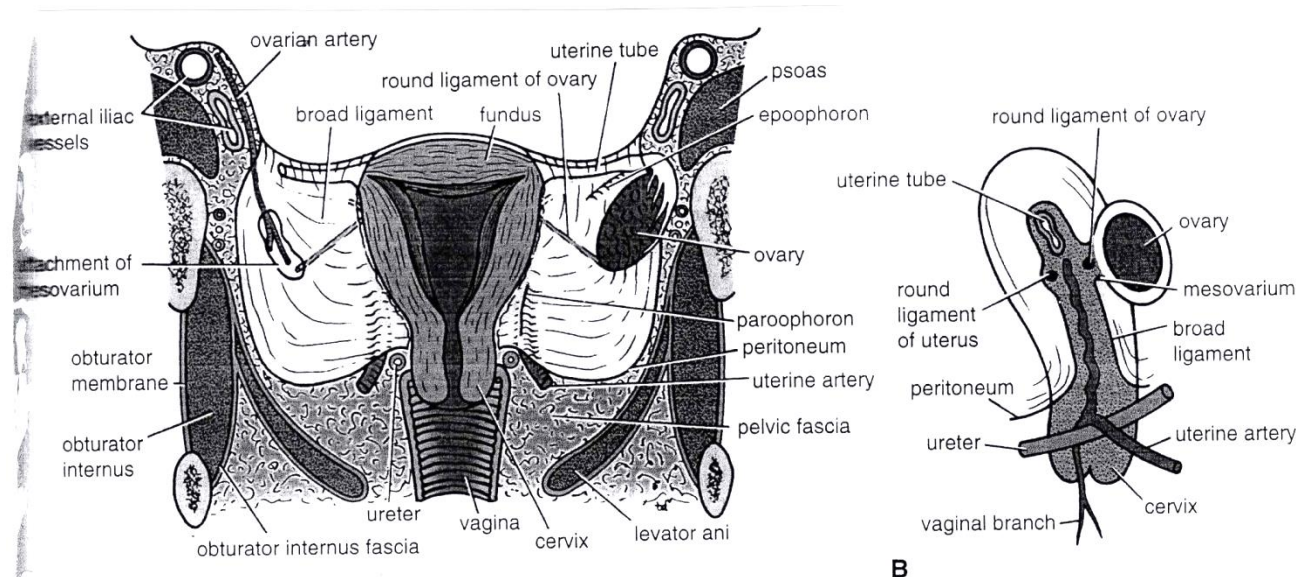
The Female Reproductive System

- **Consists of :**

1. Paired ovaries.
2. Paired uterine tubes.
3. Uterus.
4. Vagina
5. External genitalia

The Female Reproductive System the ovaries (1)

- Oval shaped.
- Measuring (4 x 2 cm).
- Attached to the back of the broad ligament by mesovarium.
- Lies against the lateral wall of the pelvis in a depression called (the ovarian fossa)
- Bounded by the external iliac vessels above , and the internal iliac vessels below.



A. Coronal section of the pelvis showing the uterus, broad ligaments, and right ovary on posterior view. The left ovary and part of the left uterine tube have been removed for clarity. **B.** Uterus on lateral view. Note the structures that lie within the broad ligament. Note that the uterus has been retroverted into the plane of the vaginal lumen in both diagrams.

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the ovary (2)

- Ovaries are surrounded by a thin fibrous capsule called the (tunica albuginea)
- It is covered by a modified area of peritoneum called (germinal epithelium) (this term is misnomer because this layer does not produce ova).
- Before puberty : the ovary is smooth.
- After puberty: it becomes progressively scarred as successive corpora lutea degenerate.
- After menopause: it become shrunken and its surface is pitted by scars.

The Female Reproductive System the ovary (3)

- Ligaments of the ovary:

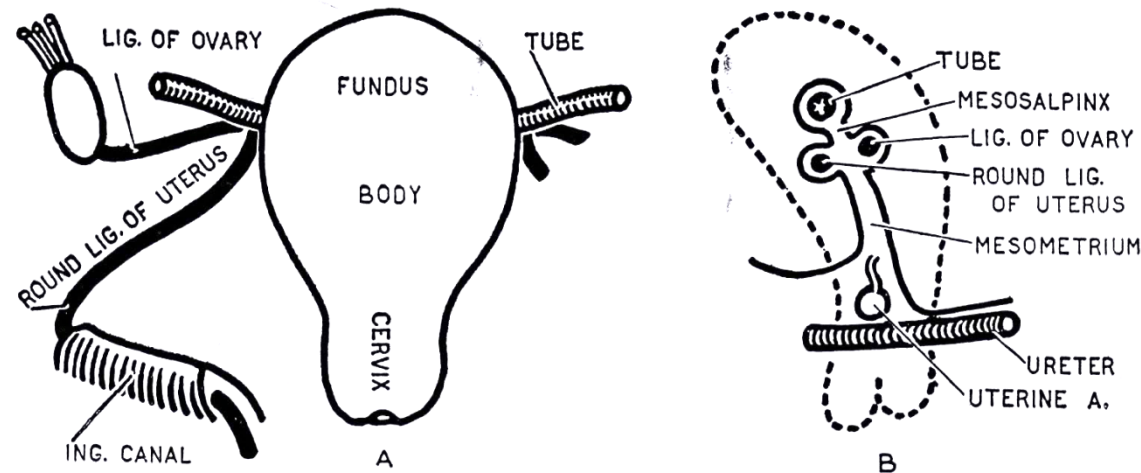
1. Suspensory ligament of the ovary:

Is the part of the broad ligament extending the lateral wall of the pelvis.

2. The round ligament of the ovary:

which represent the remains of the upper part of the gubernaculum.

It connects the lateral margin of the uterus to the ovary.



derivatives of the gubernaculum ovarii—lig. of ovary and round lig. of uterus.
B, sagittal section through broad lig. of uterus.

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the ovary (4)

- Function of the ovary:

1. Production of the female germ cells.
2. Production of female sex hormones

Arterial blood supply:

Ovarian artery branch of the abdominal aorta .

Veins drainage

Right ovarian vein drain into inferior vena cava

Left ovarian vein drains into left renal vein.

Lymphatic drainage:

Drain into para – aortic lymph nodes.

Nerve supply

From the aortic plexus

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the uterine tube (1)

- Measuring about (10 cm) long
- Lie in the upper border of the broad ligament.
- Connect the peritoneal cavity in the region of the ovary with cavity of the uterus.

• Parts of the uterine tube

1. infundibulum: is the funnel – shaped lateral end

- Projects beyond the broad ligament and overlies the ovary.

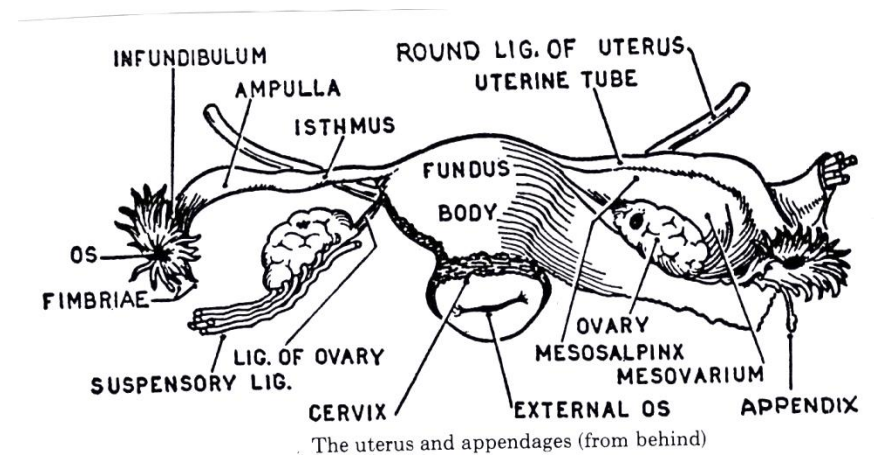
- Its free end has several finger like processes called (fimbriae) which are draped over the ovary.

2. The ampulla: is the widest part of the tube.

3. The isthmus: is the narrowest part of the tube.

- And lies just lateral to the uterus.

4. The intramural part: is the segment the pierces the uterus.



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the uterine tube (2)

- Functions:

1. Receives the ovum from the ovary.
2. Serves as conduit along which spermatozoa travel to reach the ovum .
3. Provides site for the fertilization of the ovum (usually in the ampulla).
4. Provides nourishment for the fertilized ovum.
5. Transport of the fertilized ovum to the cavity of the uterus.

Arterial blood supply:

1. The uterine artery from the internal iliac artery.
2. Ovarian artery from abdominal aorta.

Venous drainage:

Correspond to the arteries.

Lymphatic drainage:

To para – aortic lymph nodes.

Nerve supply

Autonomic innervation from inferior hypogastric plexuses.

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the uterus (1)

- Is a hollow , pear – shaped organ , with thick muscular wall.
- In the young nulliparous adult , it measure (8x5x2.5 cm)

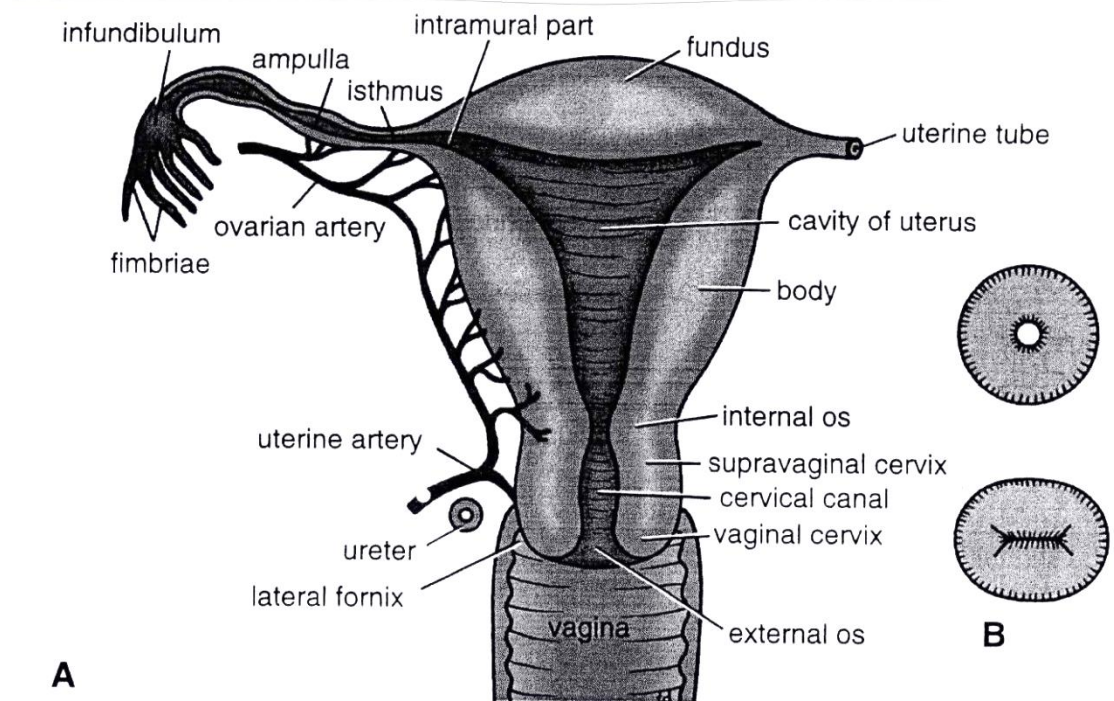
Part of the uterus:

1. fundus: lies above the entrance of the uterine tubes.
2. Body: lies below the entrance of the uterine tube.
3. Cervix : is the narrow part of the uterus

- Pierces the anterior wall of the vagina

Is divided into two part :

- a. Supra vaginal part
- b. Vaginal part.



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the uterus (2)

the cavity of uterine body :

- Is a triangular in coronal plane , but is merely a cleft in the sagittal plane.

The cavity of the cervix (the cervical canal)

- Communicates with the cavity of the uterus through the internal os.
- And with the cavity of the vagina through the external os.
- Before birth of the first child: the external os is circular.
- In a parous women : the vaginal part of the cervix is larger ,and the external os becomes a transverse slit , so that it possesses:
An anterior lip and a posterior lip

The Female Reproductive System

the uterus (3)

- Structure of the uterus:
- It is covered with peritoneum except.
 - a. Anteriorly below the level of internal os.
 - b. Laterally . There is a space between the attachment of the two layers of the broad ligament.
- The muscular wall or (myometrium)
Is thick and made up of smooth muscle supported by connective tissue.
- The mucous membrane: lining the body of the uterus is called (endometrium)
- The parametrium:is the visceral pelvic fascia that surrounds the supravaginal part of the cervix.

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the uterus (4)

- Support of the uterus:

The uterus is supported by:

A. The tone of the levator ani muscle.

B. Condensation of pelvic fascia that forms three ligaments.

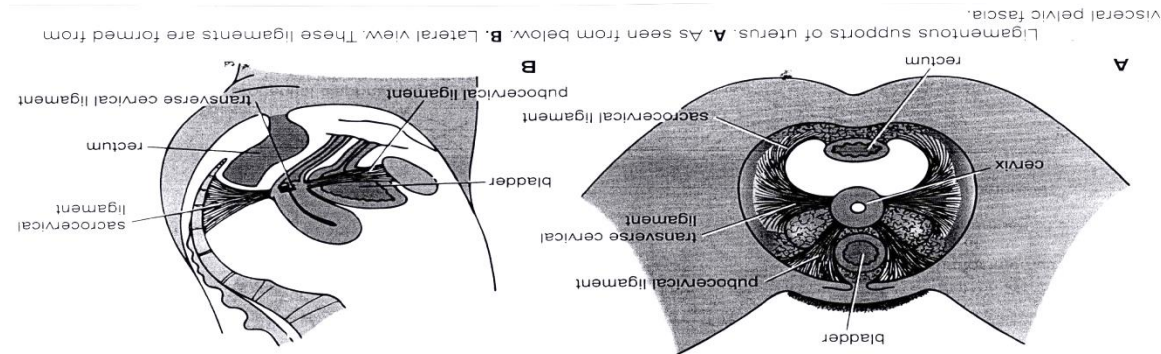
A. Levator ani muscle :the medial edges of the anterior parts of the muscles attach the cervix of the uterus by pelvic fascia.

B. Ligaments:

1. Transverse cervical(cardinal)ligament: attach the cervix and upper end of the vagina to the lateral walls of the pelvis.

2. The pubocervical ligament: two firm ligament that extends from the cervix to the posterior surface of the pubis.

3. the sacrocervical ligament : two firm fibro muscular bands pass from the cervix and upper end of the vagina to the lower end of the sacrum.



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the uterus (5)

c. Other ligament of the uterus:

1. the round ligament of the uterus.

- Represent the remains of the gubernaculum.
- Extends between the suprolateral angle of the uterus through inguinal canal to labium major helps keeping the uterus antverted (tilted forward) and ante flexed (bent forward).

2. The broad ligament of the uterus:

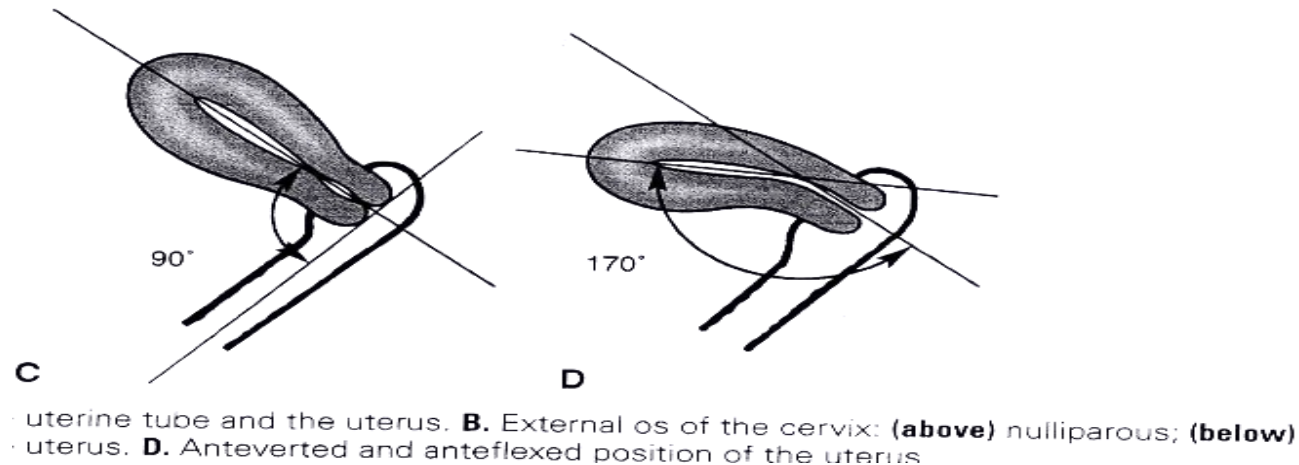
- Layered folds of peritoneum.
- Extends across the pelvic cavity from the lateral margins of the uterus to the lateral pelvic walls.
- Superiorly: the two layers are continuous and forms the upper free edge.
- Inferiorly: at the base of the ligament the two layers separate to cover pelvic floor.
- The ovary: is attached to the posterior layer by mesovarium.
- The suspensory ligament: of the ovary forms the part of the broad ligament lateral to the attachment of mesovarium.
- The mesosalpinx: is the part of broad ligament between the uterine tube and mesovarium.

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the uterus (6)

- Broad ligament (cont)
- Contents of the broad ligament.
 1. The uterine tube in the upper free border.
 2. The round ligament of the ovary and the round ligament of the uterus.
 3. The uterine and ovarian blood vessels. Lymph vessels and nerves.
 4. The epo ophoron vestigial structure above the attachment of mesovarium (remains of meso nephron).
 5. Paro phoron : mesonephric remains
- Position of the uterus:
 1. Ante version : the long axis of the uterus is bent forward on the long axis of the vagina.
 2. Ante flexion : the long axis of the body of the uterus is bent forward at the level of the internal os, with the long axis of the cervix.

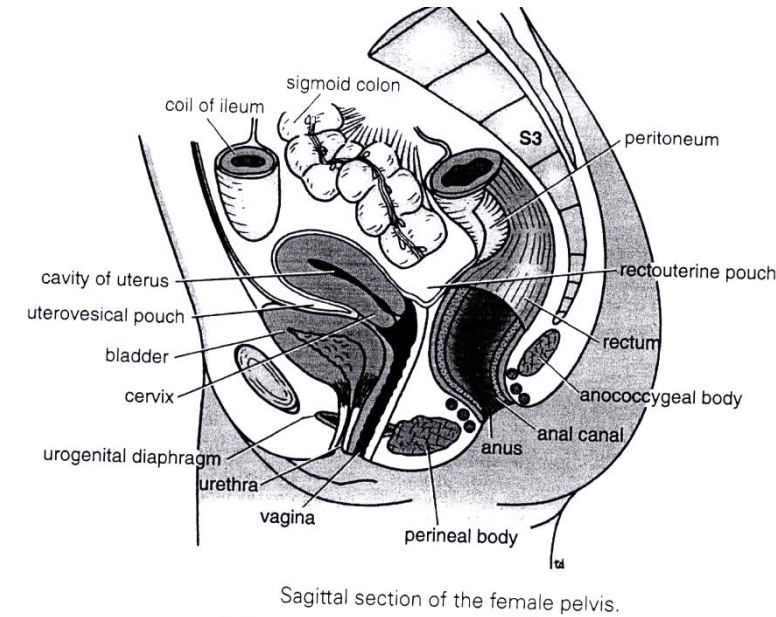
Thus in erect posture , and the bladder is empty the uterus lies in an almost horizontal plane.



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the uterus (7)

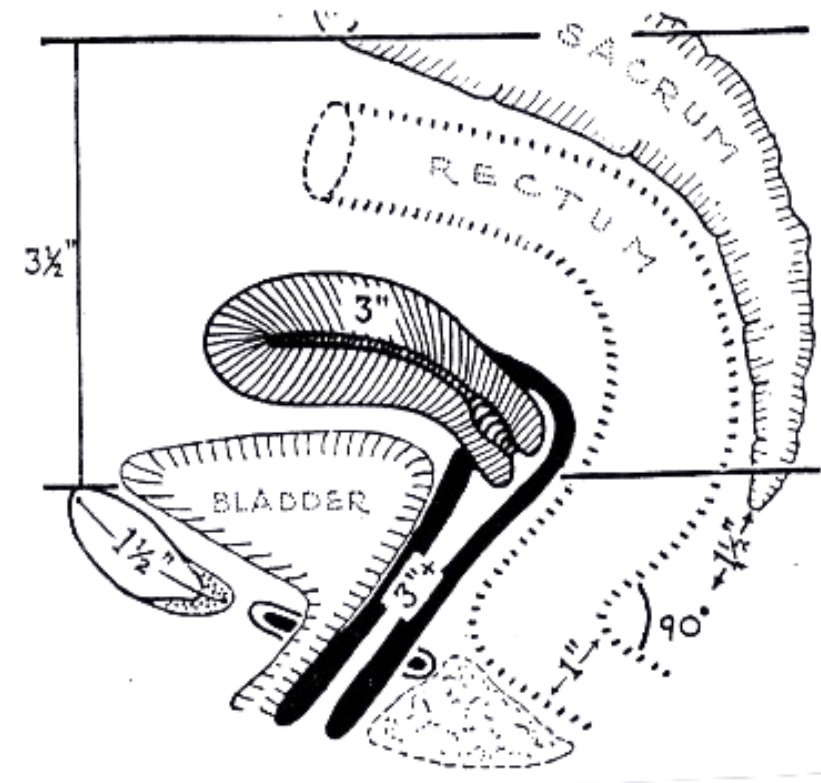
- Relations.
- Anteriorly: uterovesical pouch , superior surface of the bladder.
- Posteriorly retro uterine pouch (pouch of Douglas) coils of jejunum , sigmoid colon.
- Laterally : broad ligament uterine artery and vein.
the uterine tubes , round ligament of the ovary round ligament of uterus.
- Arterial blood supply: uterine artery branch of the internal iliac artery.
- Venous drainage: uterine vein drain in the internal iliac vein.
- Lymphatic drainage: to para aortic lymph nodes (from fundus)
To internal iliac lymph nodes (from the cervix)
- Nerve supply: autonomic innervation from inferior hypogastric plexuses.



The Female Reproductive System

the vagina (1)

- Is a muscular tube that extend upward and backward from the vulva to the uterus.
- It measures about (8 cm) long.
- Has anterior and posterior walls , which are normally in apposition.
- At the upper end: the anterior wall is pierced by the cervix which projects downward and backward into the vagina.
- The upper half of the vagina lies above the pelvic floor.
- The lower half :lies within the perineum.
- The area of vaginal lumen which surrounds the cervix is divided into four fornices ;anterior ,posterior ,right lateral , left lateral.
- The vaginal orifice in the vagina possesses a thin mucous fold called the hymen , which is perforated at the center.



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the vagina (2)

- Support of the vagina.

Upper part of vagina .by

levator ani

Transverse cervical , pubo cervical and sacrocervical ligament .

Middle part: urogenital diaphragm.

Lower part : perineal body.

Relation.

Anteriorly : bladder , urethra.

Posteriorly: rectouterine pouch (of Douglas) ampulla of rectum.

Laterally : ureter , levator ani , urogenital diaphragm.

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the vagina (3)

- Function:

1. It is the female genital canal.
2. It serves as an excretory duct for menstrual flow.
3. Forms part of the birth canal.

Arterial blood supply:

1. Vaginal artery : branch of the internal iliac artery.
2. Vaginal branch of the uterine artery.

Lymphatic drainage

External and internal iliac lymph nodes to the superficial inguinal nodes from the lower 1/3 nerve supply.

Inferior hypogastric plexus.

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the external genitalia (the vulva)

- Includes:

1. Mons pubis.
2. Labia majora.
3. Labia minora.
4. The clitoris.
5. The vestibule of the vagina.
6. The vestibular bulb.
7. The greater vestibular glands.

• ***THANKS***