

FEMALE GENITAL ORGANS

The Uterus

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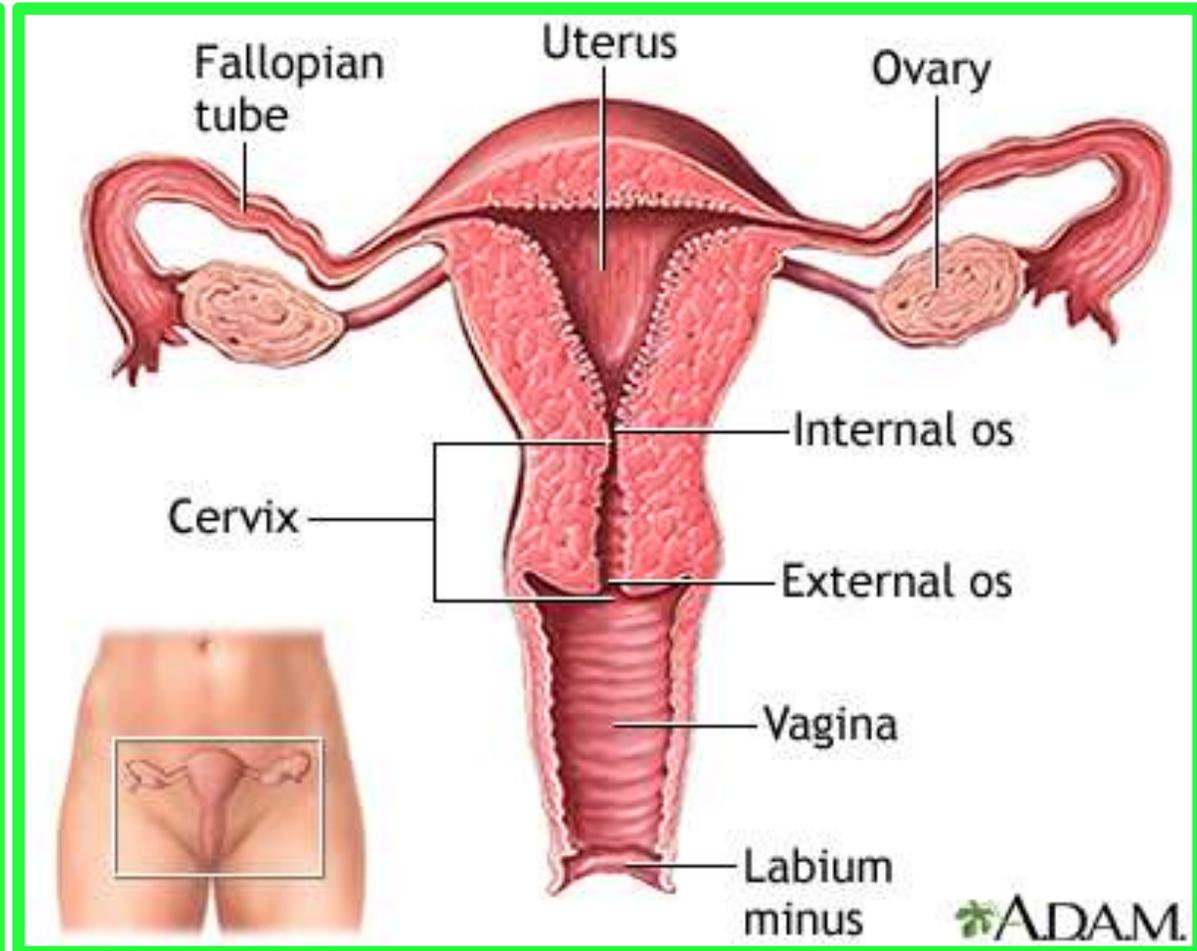
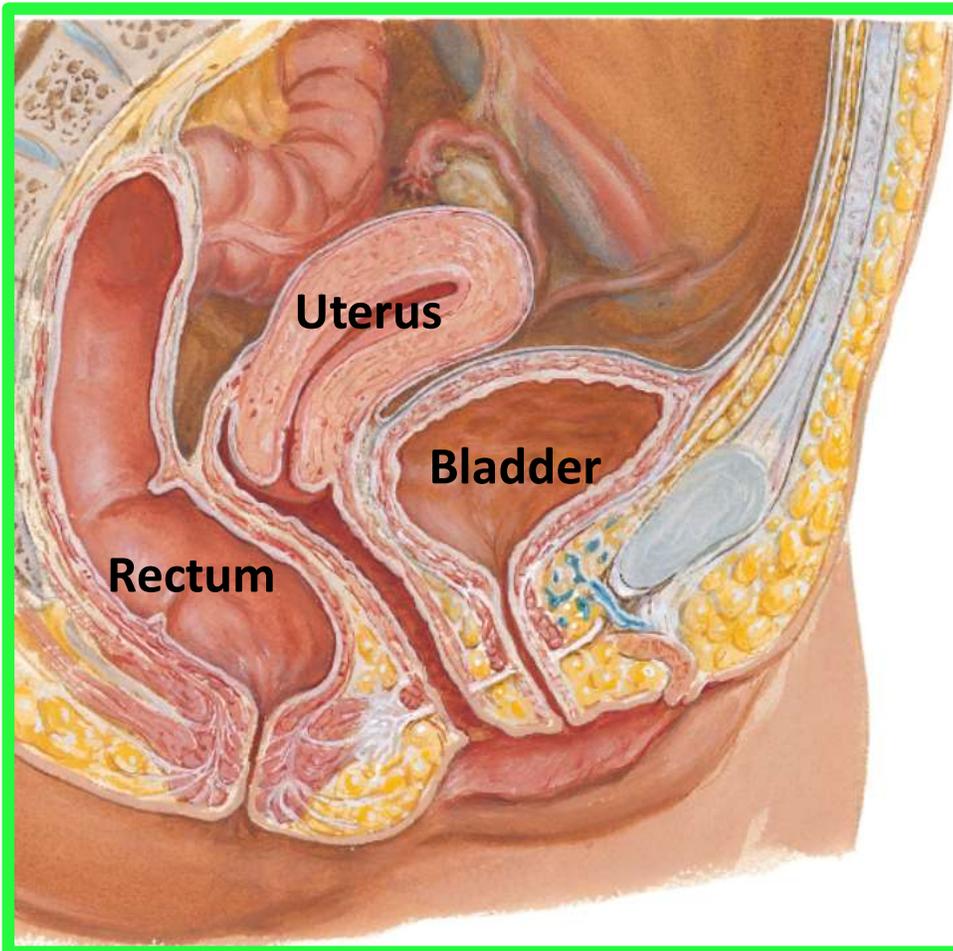
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The uterus is a hollow thick-walled muscular organ.

**** Site:** It lies between the urinary bladder anteriorly and the rectum posteriorly.

**** Dimensions:** (1 inch thickness) (2 inches breadth) (3 inches Length).



The Uterus

** Peritoneal covering:

1- **Fundus:** completely covered by peritoneum.

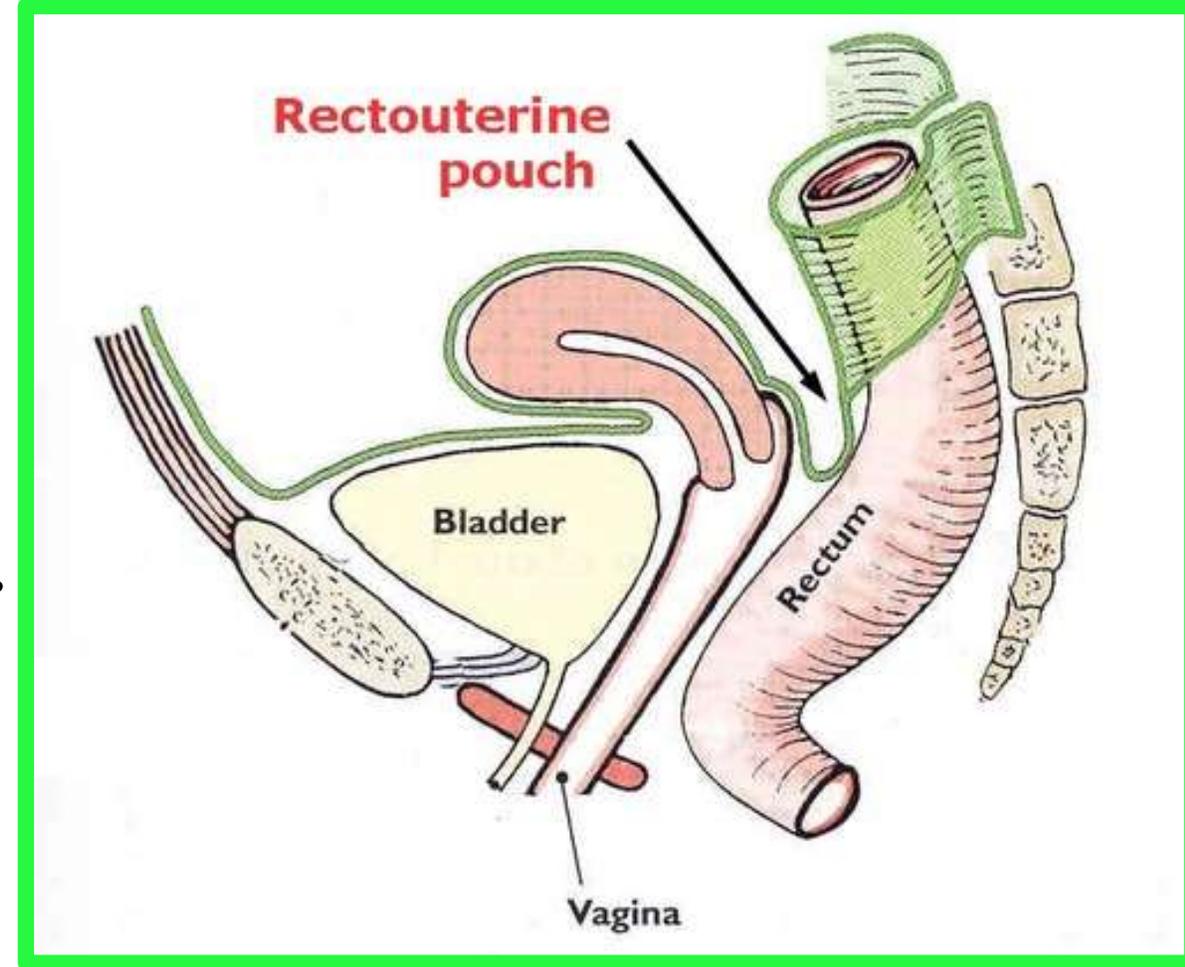
2- **Body:**

A. Anterior surface is covered by peritoneum.

- It is reflected at the junction of the body with the cervix to the superior surface of the urinary bladder, forming the utero-vesical pouch.

B. Posterior surface is covered by peritoneum of the **recto-vaginal (Douglas) pouch**.

3- **Cervix:** **Anteriorly** not covered by the peritoneum while **posteriorly** covered by the peritoneum of the **recto-vaginal (Douglas) pouch**.



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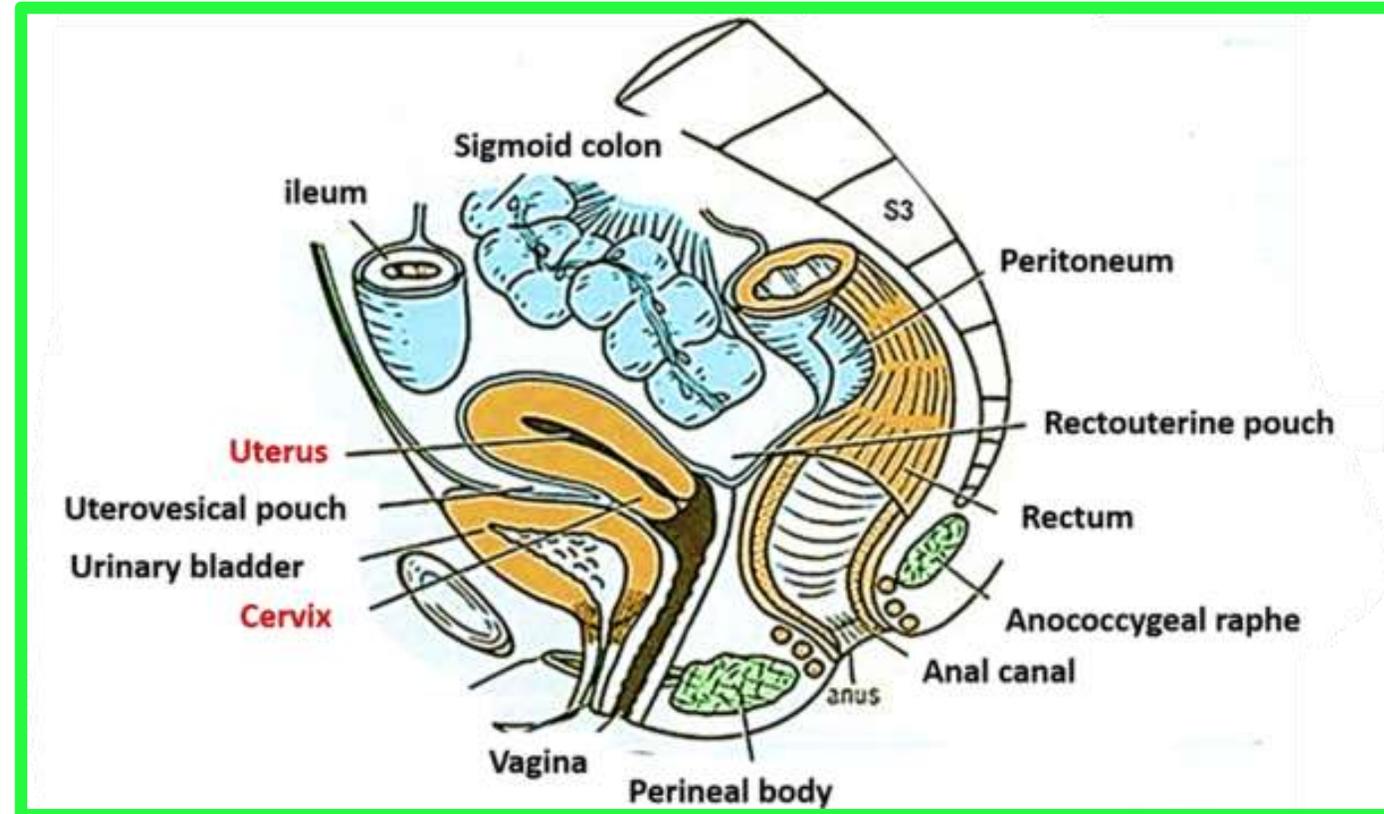
** Parts and relations

1- Fundus

- ❖ This is the free rounded end of the uterus. It is convex in all directions.
- ❖ It is related to coils of small intestine.

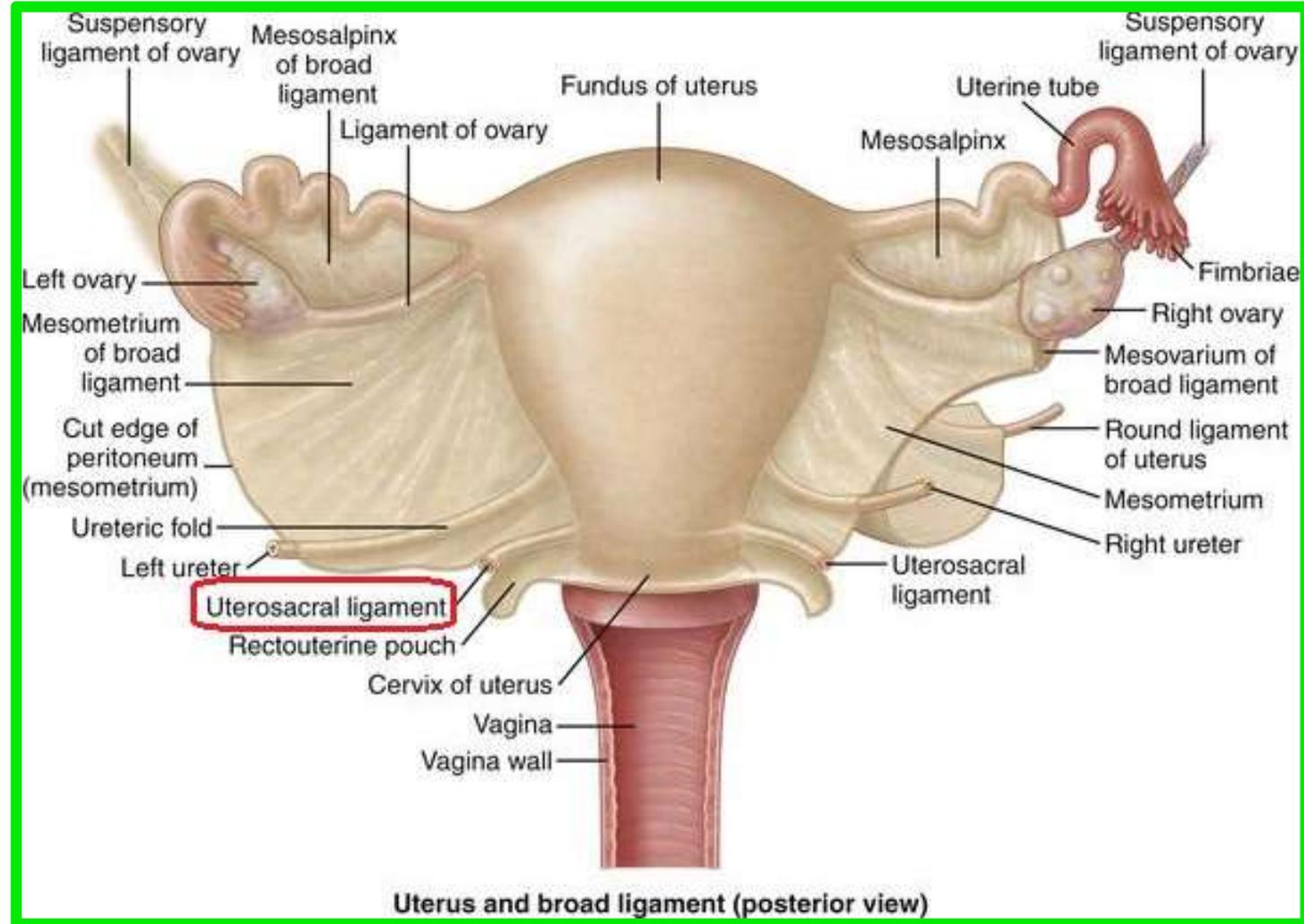
2- Body

- ❖ This is the middle part of the uterus.
- ❖ Its junction with the cervix is called **the isthmus** of the uterus.
- ❖ The body has **2 surfaces** (**anterior** and **posterior**) and **2 lateral borders**.



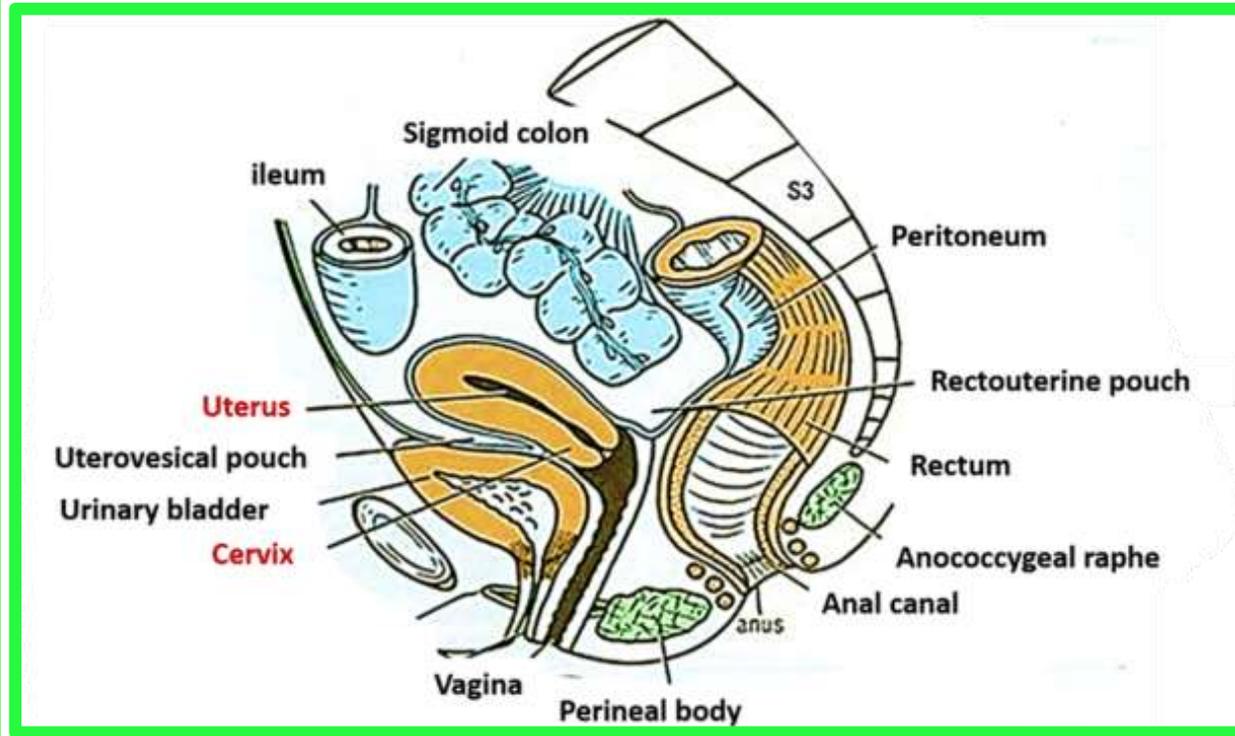
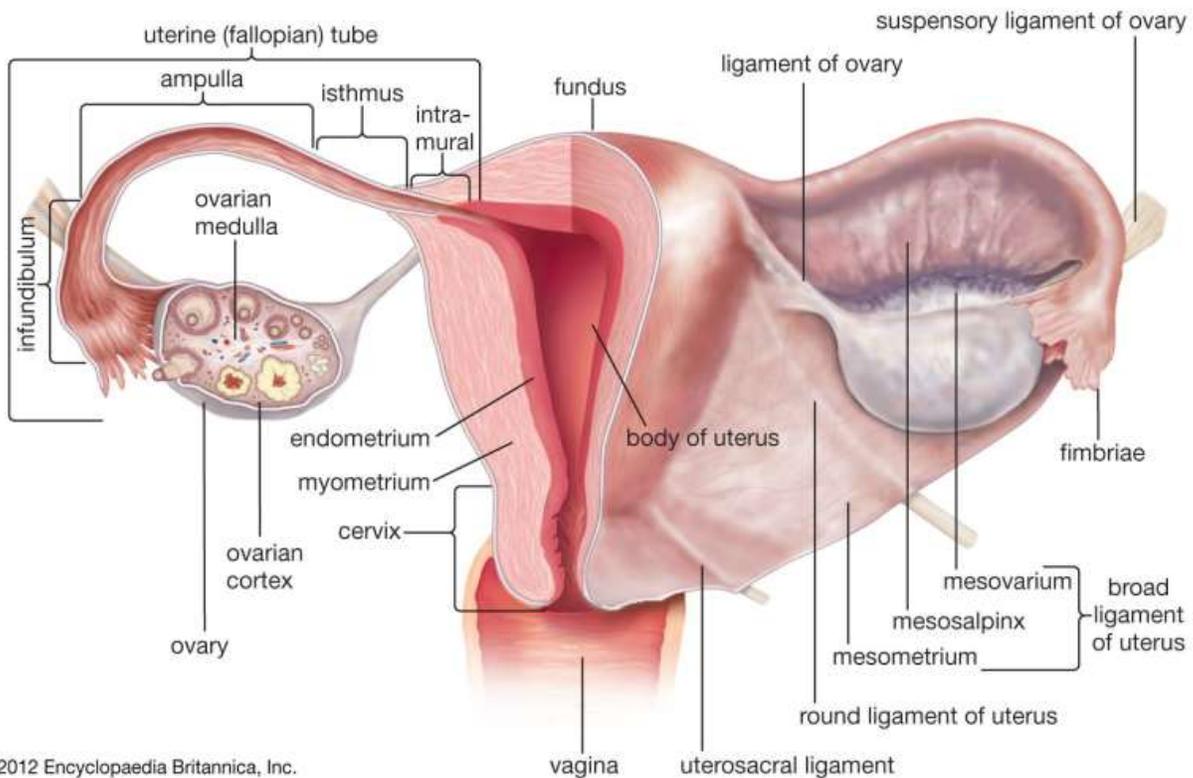
The Uterus

- ❖ N.B;
- ❖ **The uterine (Fallopian) tubes** join the uterus at the junction of the fundus and body.
- ❖ **The ligament of the ovary** is attached just below and behind the uterine tube.
- ❖ **Round ligament of the uterus** attached just below and in front of the uterine tube



** Relations of the body:

- 1) **Anterior surface** related to the superior surface of the urinary bladder.
- 2) **Posterior surface**, related to the sigmoid colon and small intestine.
- 3) **Lateral borders**; give attachment to **the broad ligament of the uterus**.

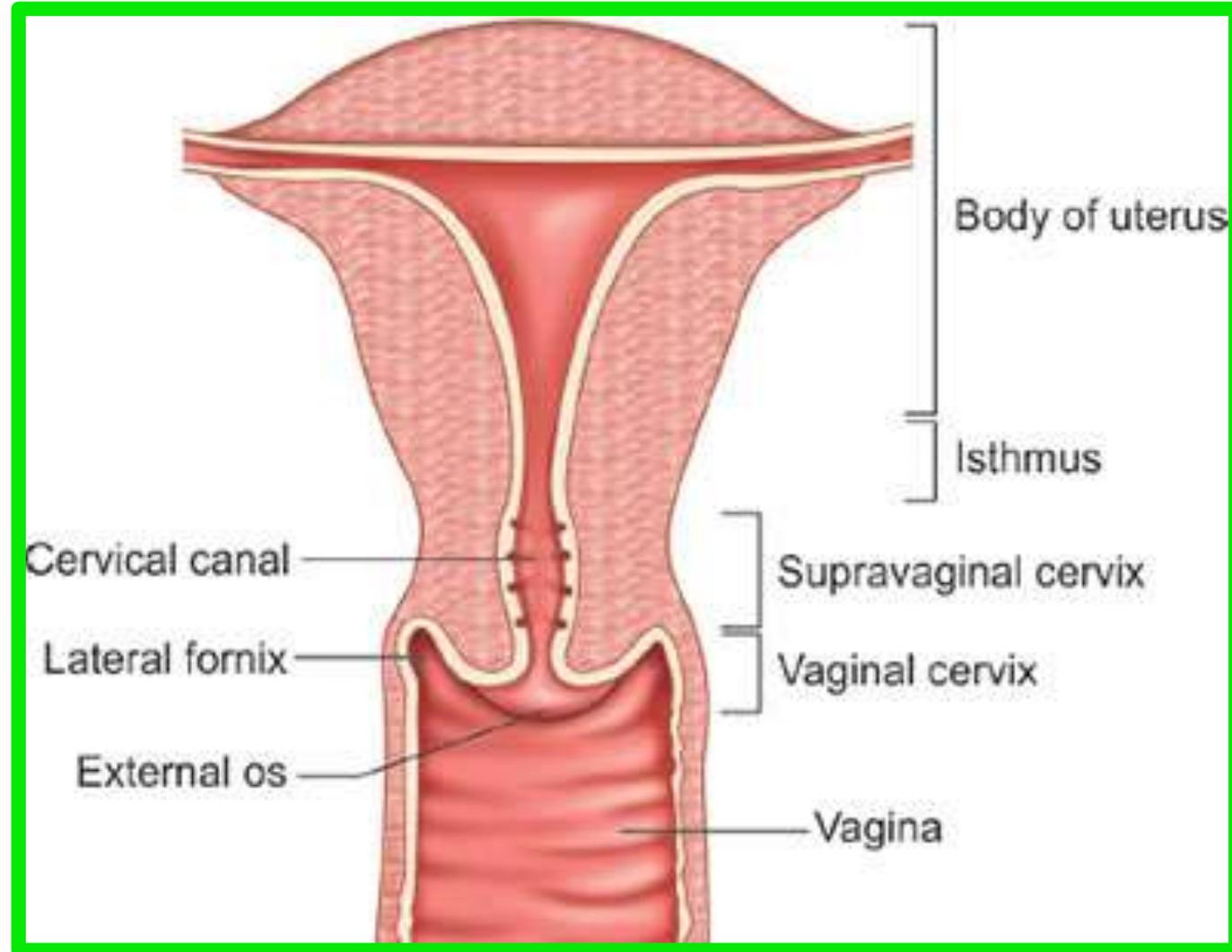


The Uterus

** Parts and relations

3- Cervix:

- ❖ This is the lower part of the uterus.
- ❖ It projects through the upper part of the anterior wall of the vagina.
- ❖ It is divided into **supravaginal** and **vaginal portions**

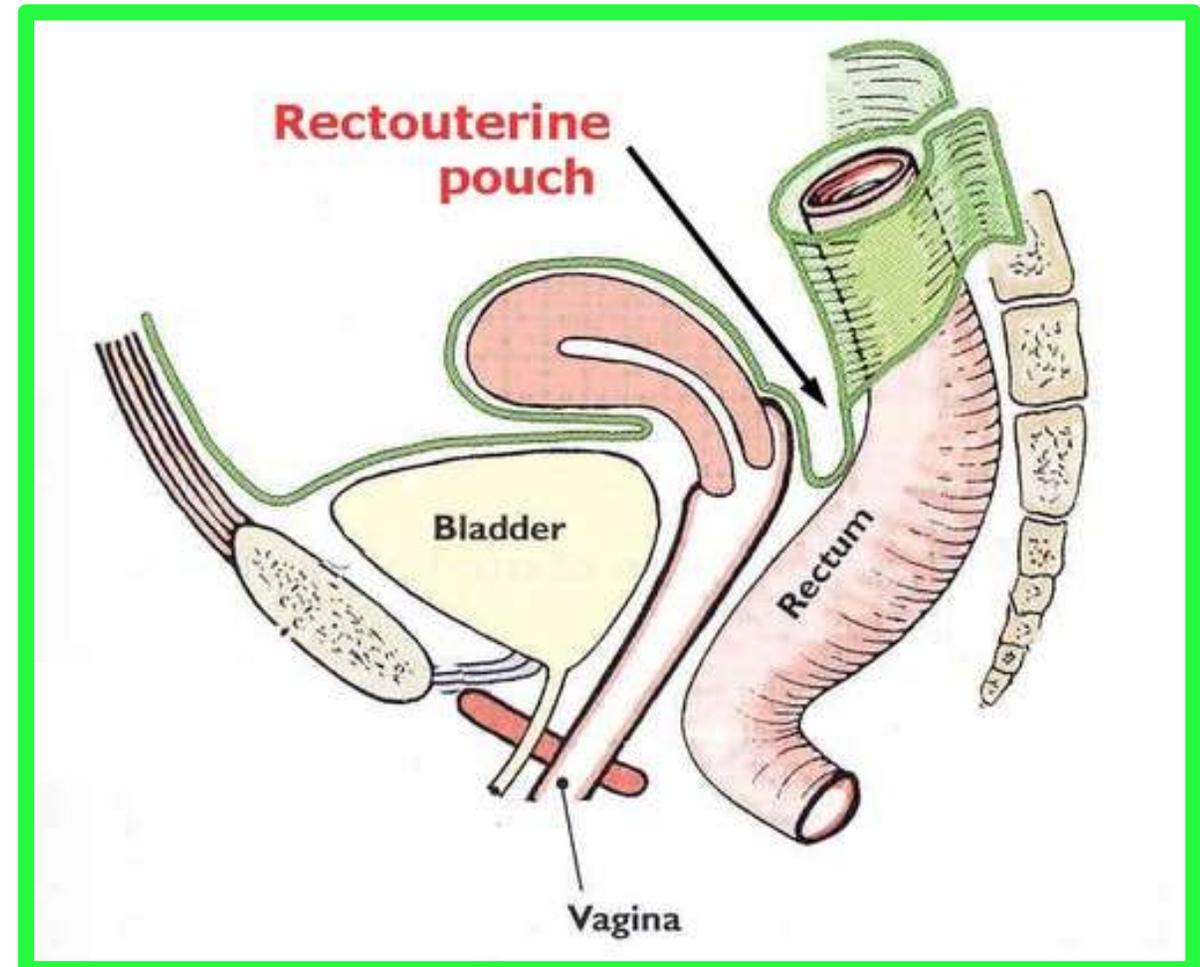
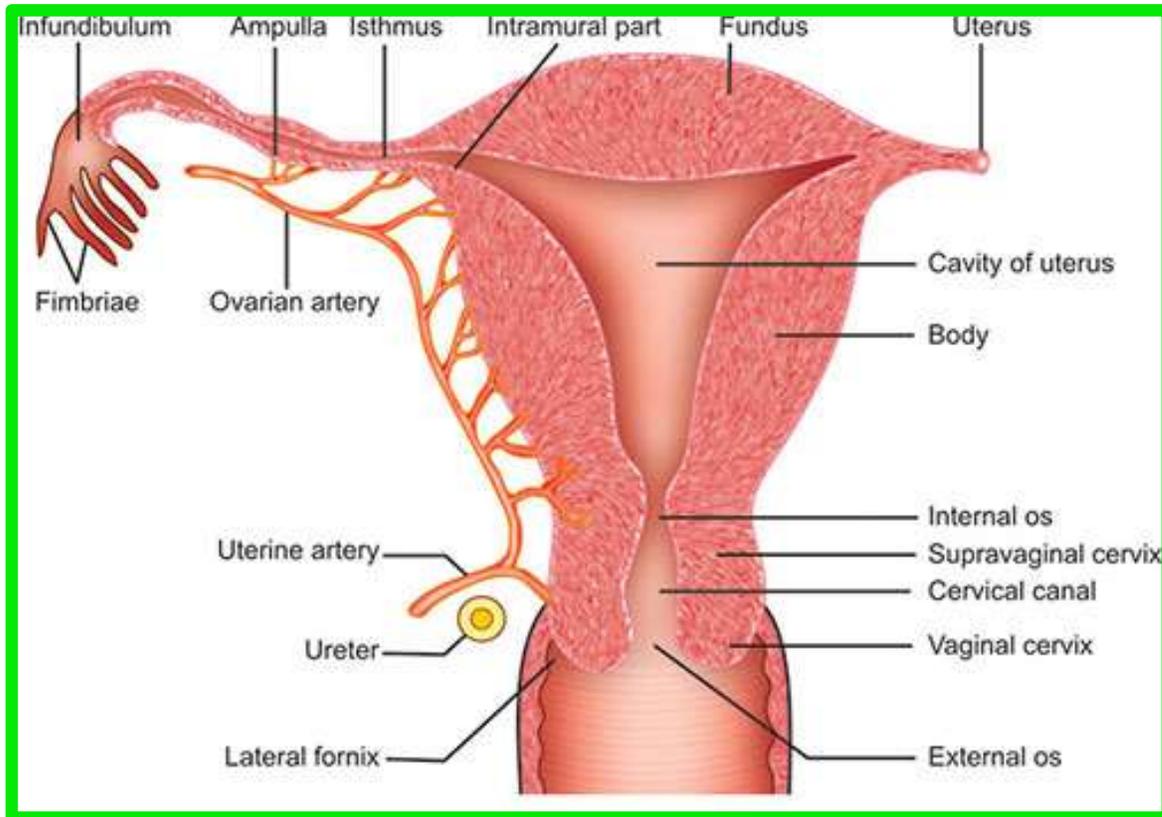


a- The supravaginal part of the cervix:

- **Anteriorly**, is related to the base of the urinary bladder.
- **Posteriorly**, is related to the rectum separate from it by small intestine.
- **Laterally**, it is related to: **1) Uterine vessels.** **2) Ureter.**

b- The vaginal portion of the cervix:

- It is surrounded by **the vaginal Fornices.**



** Cavity of the uterus:

1- Cavity of the body :

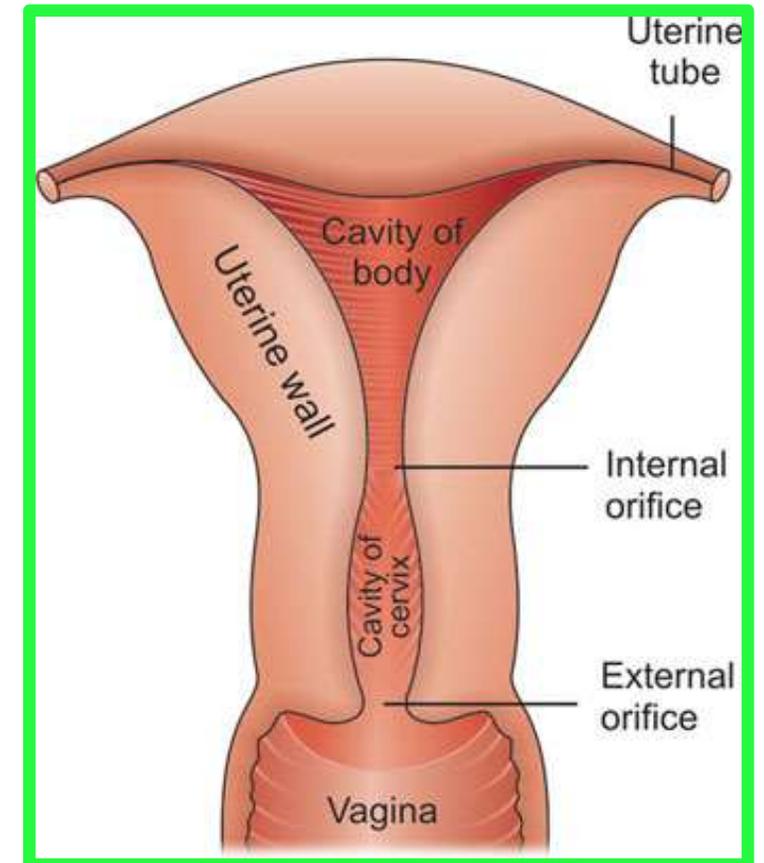
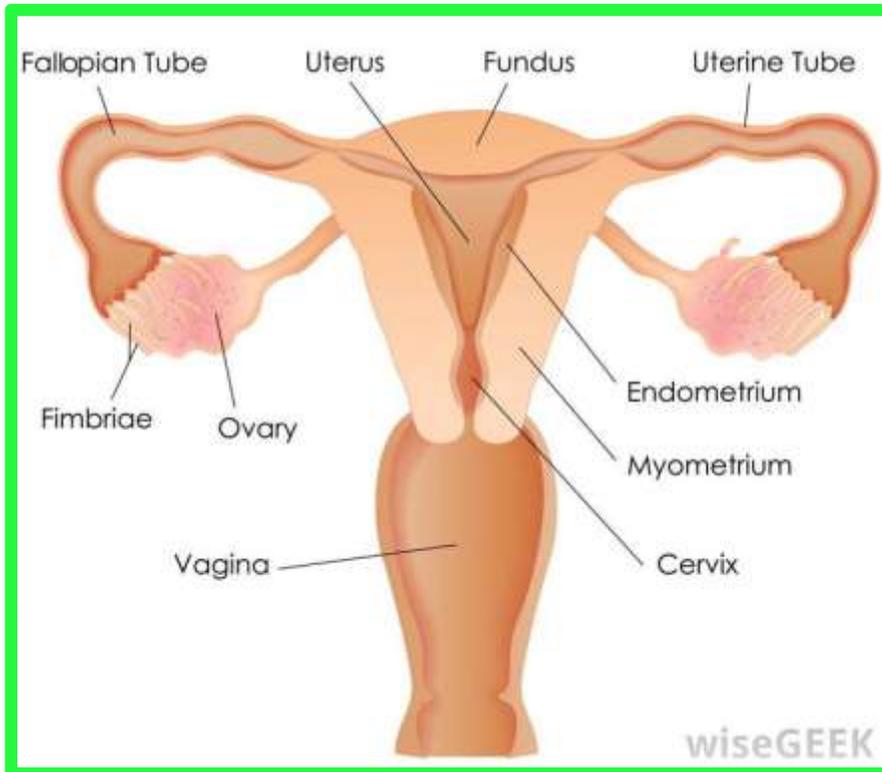
- It appears as a slit like in sagittal section but triangular in coronal sections.

2- Cavity of the cervix (cervical canal):

- It is a fusiform canal and communicates

a- Above with the cavity of the body through **the internal Os.**

b- Below with the vagina through **the external Os.**



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** Anatomical Position of the uterus: (Anteflexed anteverted)

A- Anteflexed: The body of the uterus is bent forwards on the cervix.

- The **long axis of the body** forms an angle about **170 degree** with the long axis of the **cervix**.

B- Anteverted: The cervix is bent forwards on the anterior wall of the vagina.

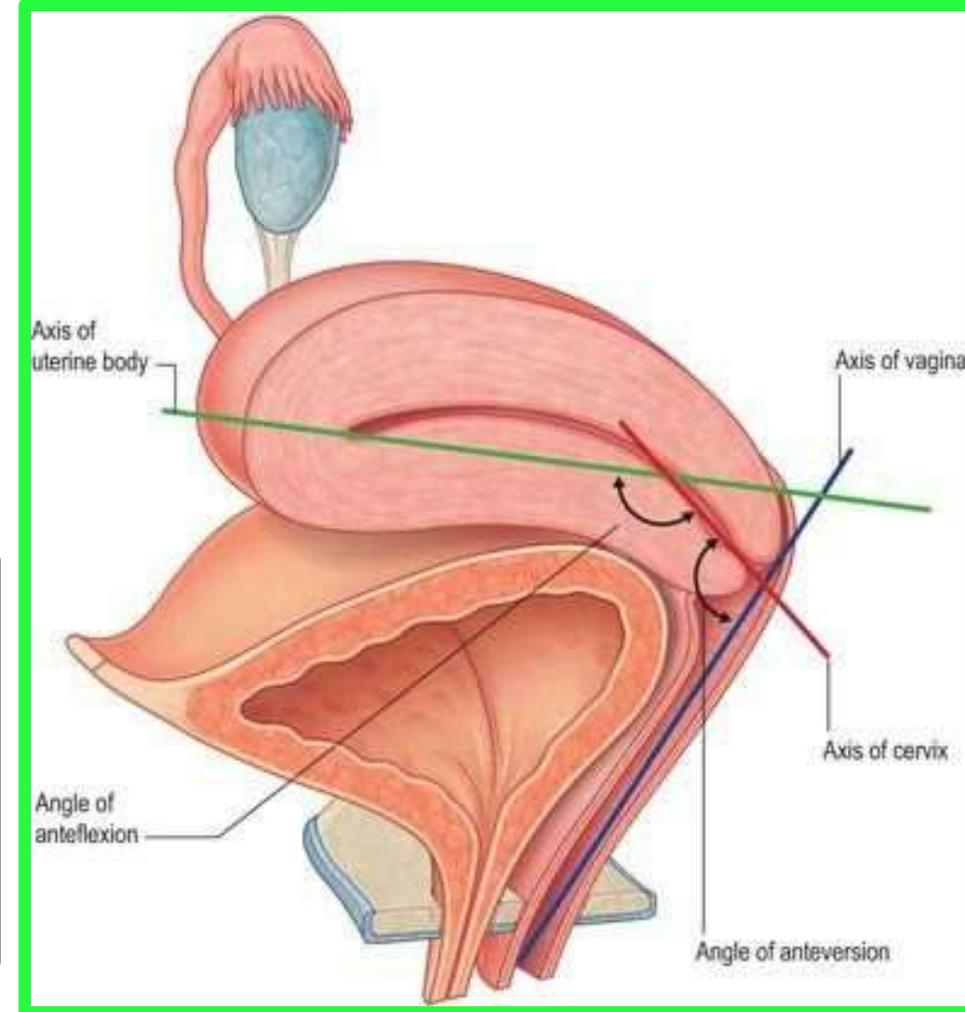
- The longitudinal axis makes an angle about **90 degree** with the long axis of the vagina.

N.B;

- An abnormal position of the uterus is called

retroflexed retroverted:

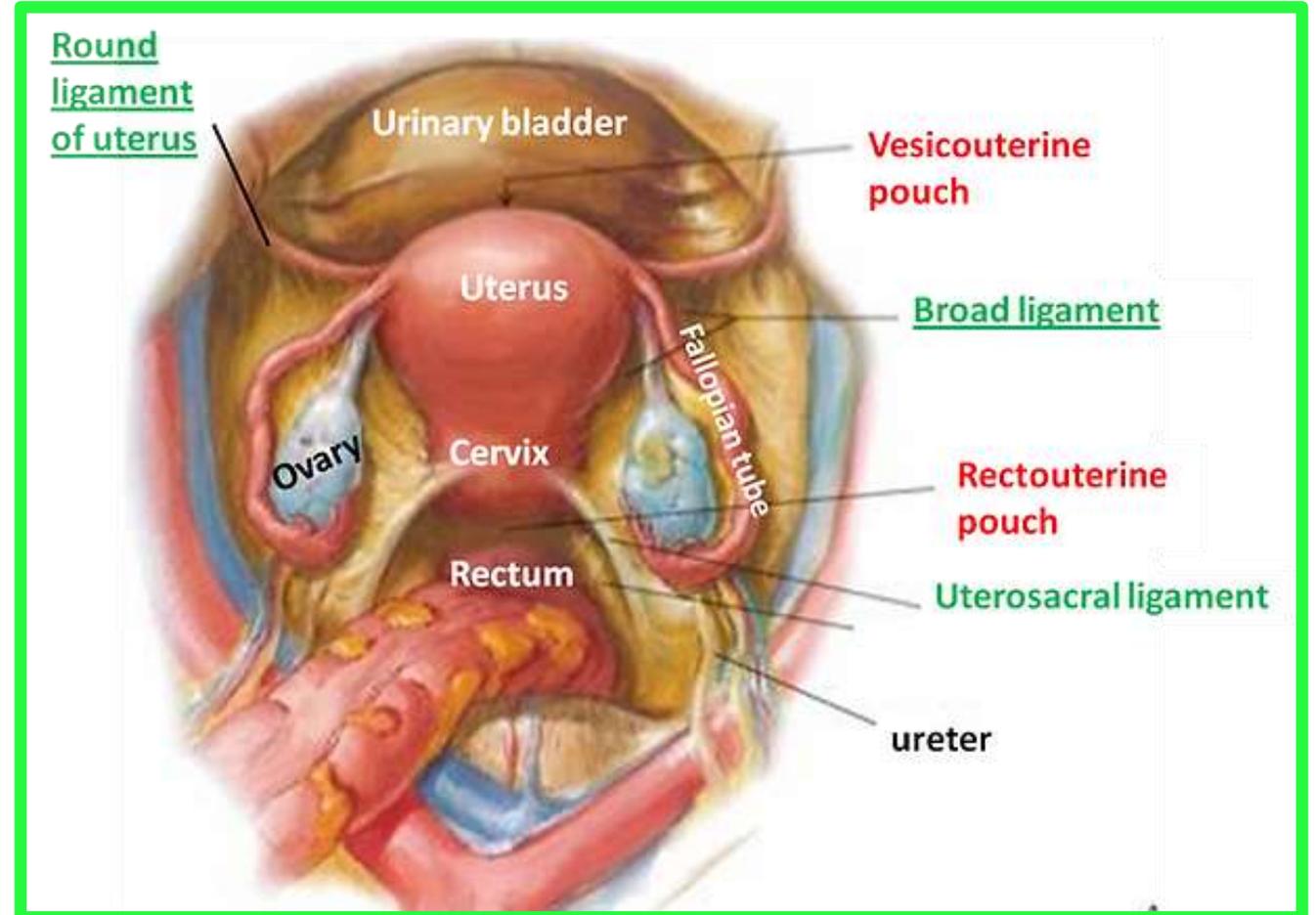
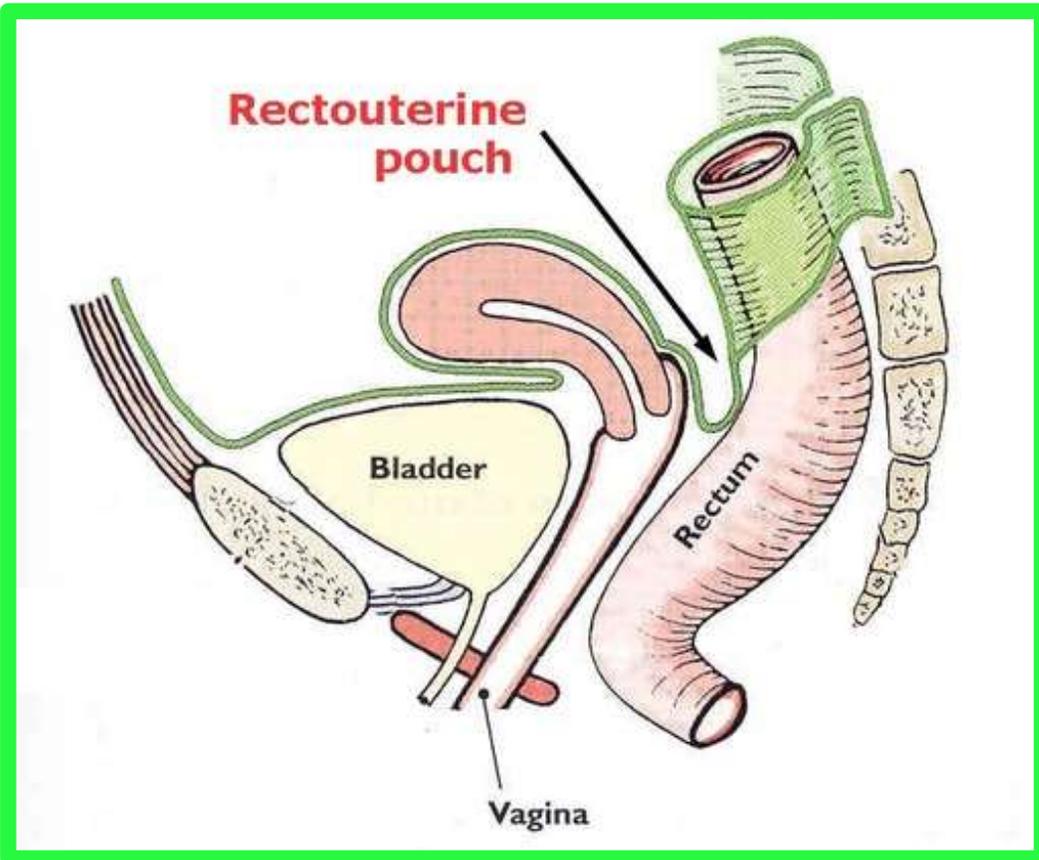
- The body is bent back on the cervix and the whole uterus is bent back on the vagina.



• Ligaments of the uterus

A- Peritoneal folds:

- 1- Anterior ligament is formed by uterovesical fold.
- 2- Posterior ligament is formed by rectovaginal fold.



• Ligaments of the uterus:

3- Broad ligament of the uterus

- This is a wide fold of peritoneum which extends from the lateral borders of the uterus to the lateral wall of the pelvis on each side.

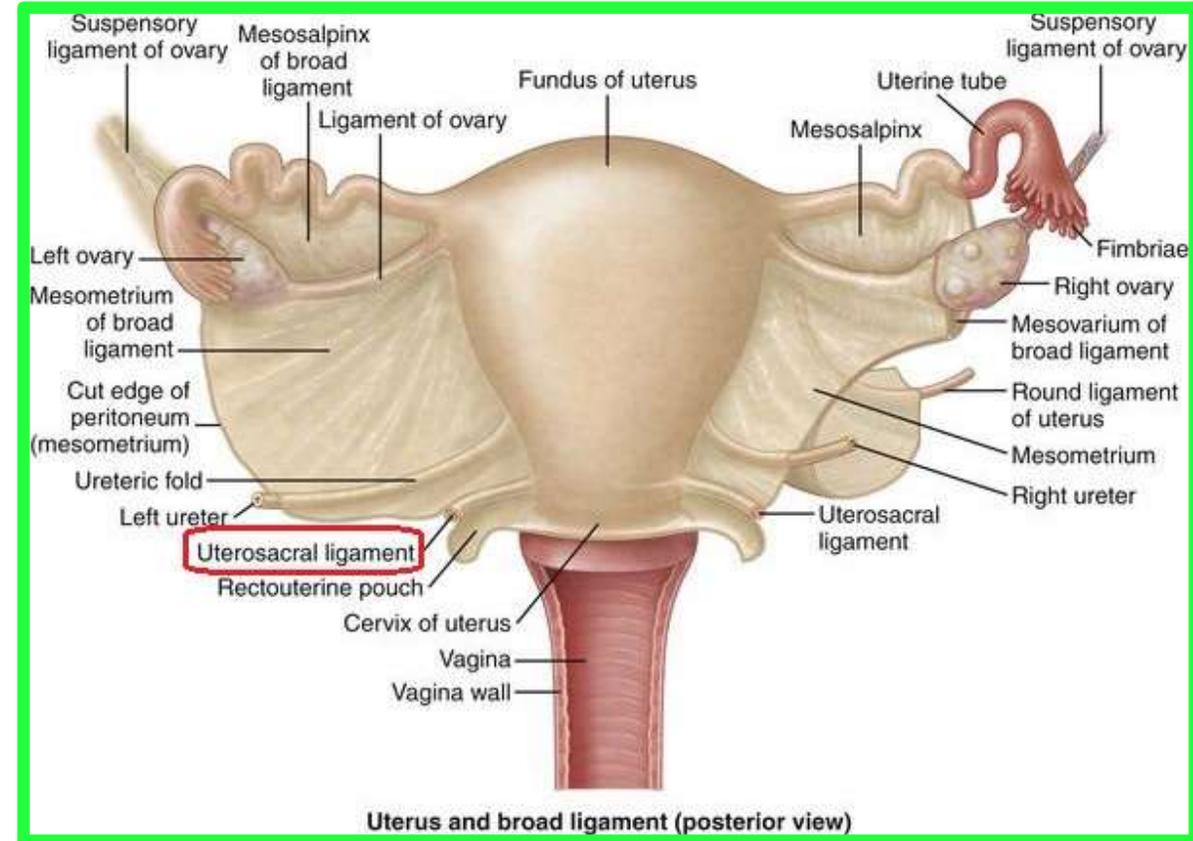
** Attachment (4 borders):

A- Anterior border; free containing **uterine tube**.

B- Posterior border (attached border), attached to **the floor of the pelvis**.

C- Medial border attached to the **lateral border of the uterus**.

D- Lateral border attached to the **lateral wall of the pelvis**.



** Parts of the broad ligament:

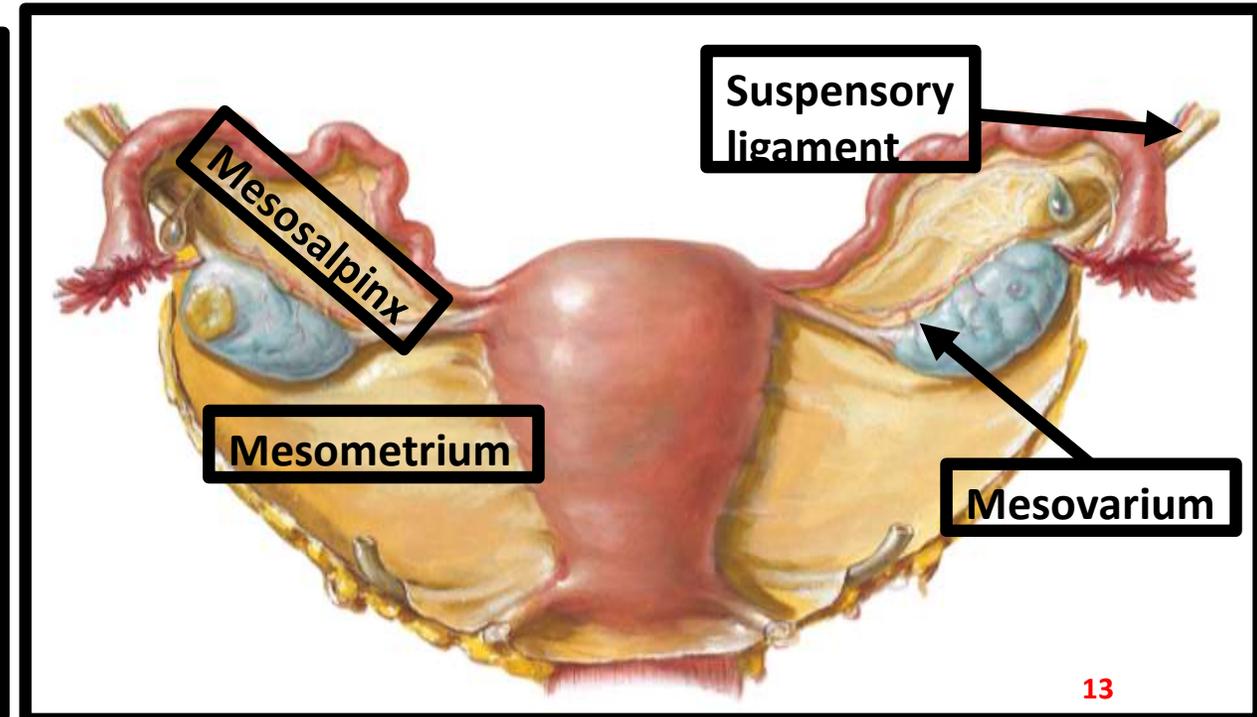
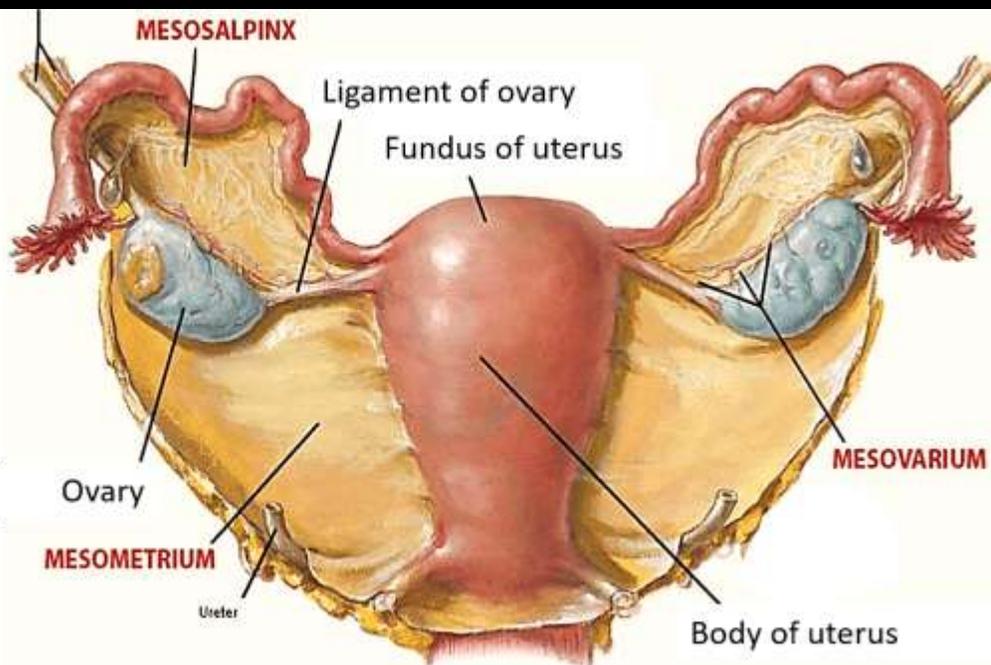
1- **Mesovarium:** it is the part connecting the ovary to the ligament.

2- **Mesosalpinx:** is the part between the uterine tube, mesovarium and ligament of the ovary.

3- **Suspensory ligament of the ovary (Infundibulo-pelvic ligament):**

- This is the lateral part which extends from the infundibulum of the uterine tube and mesovarium to the lateral wall of the pelvis.

4- **Mesometrium:** Is the remaining part of the ligament.



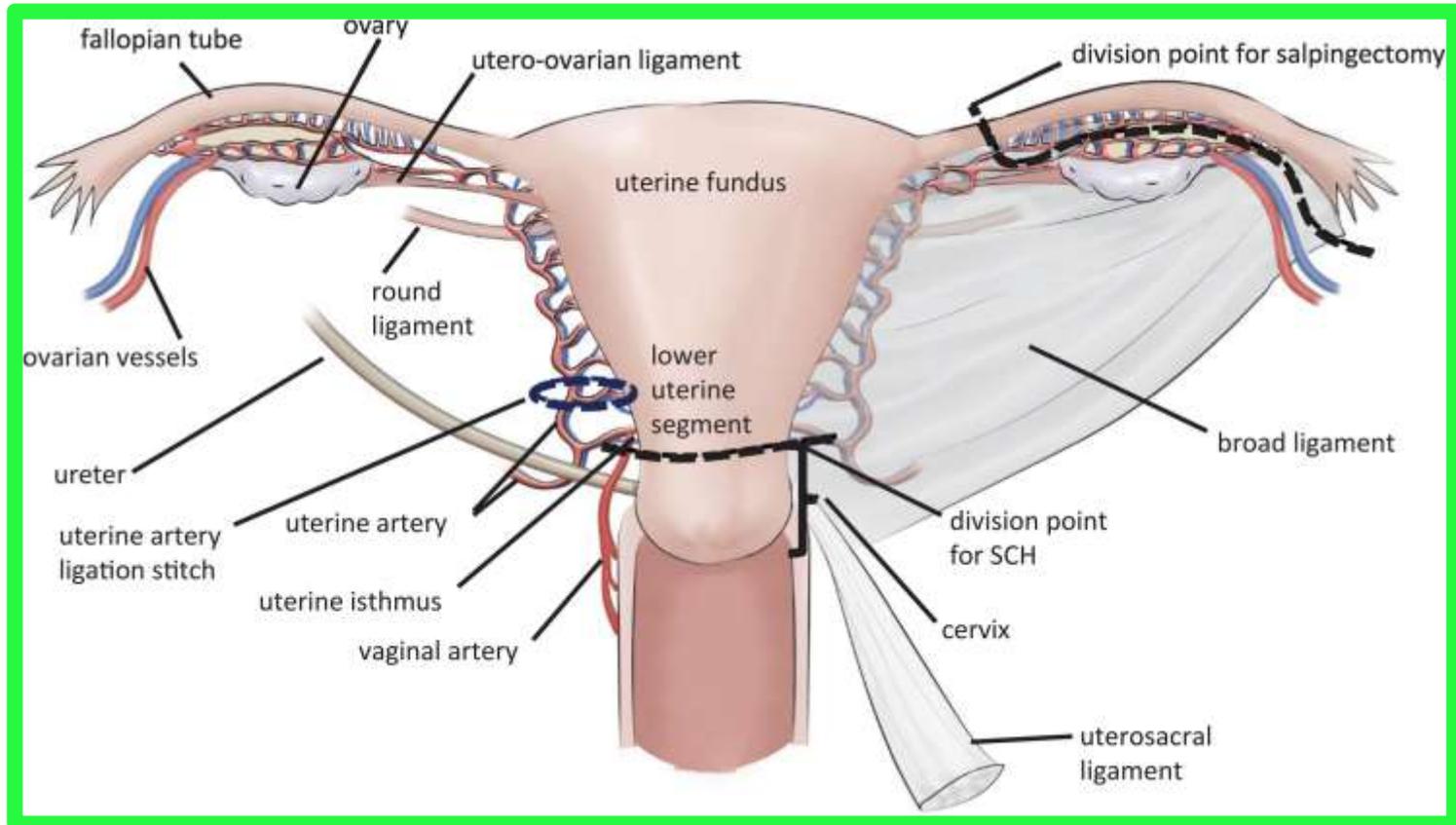
**** Contents of the broad ligament (between the 2 layers):**

1- Uterine (Fallopian) tube: it runs in the medial part of the free border.

2- 2 vessels

1- The uterine artery : runs along the lateral border of the uterus. It anastomosis with the ovarian artery.

2- The ovarian artery : passes through the suspensory ligament of the ovary. It anastomosis with the uterine artery.

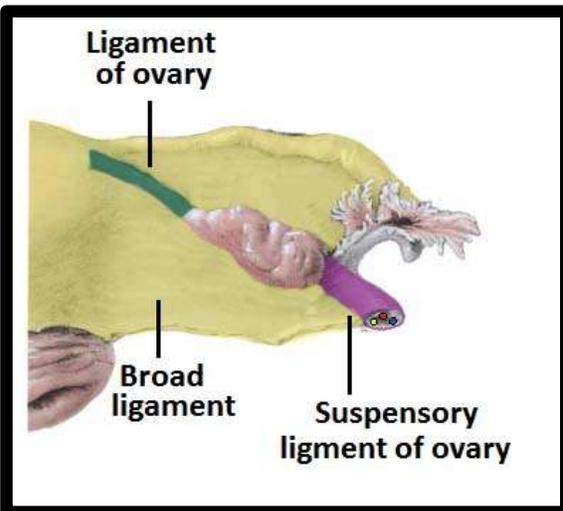
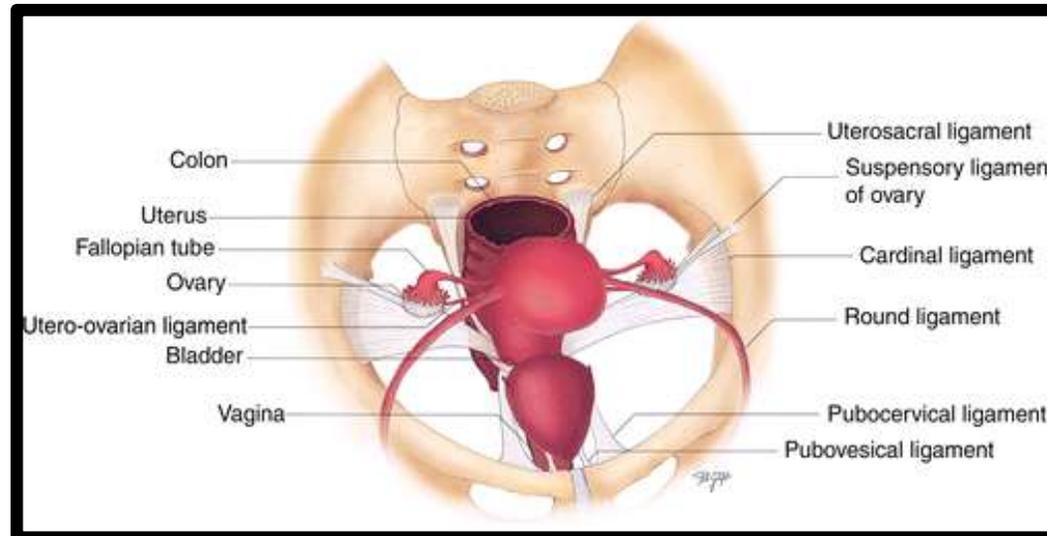
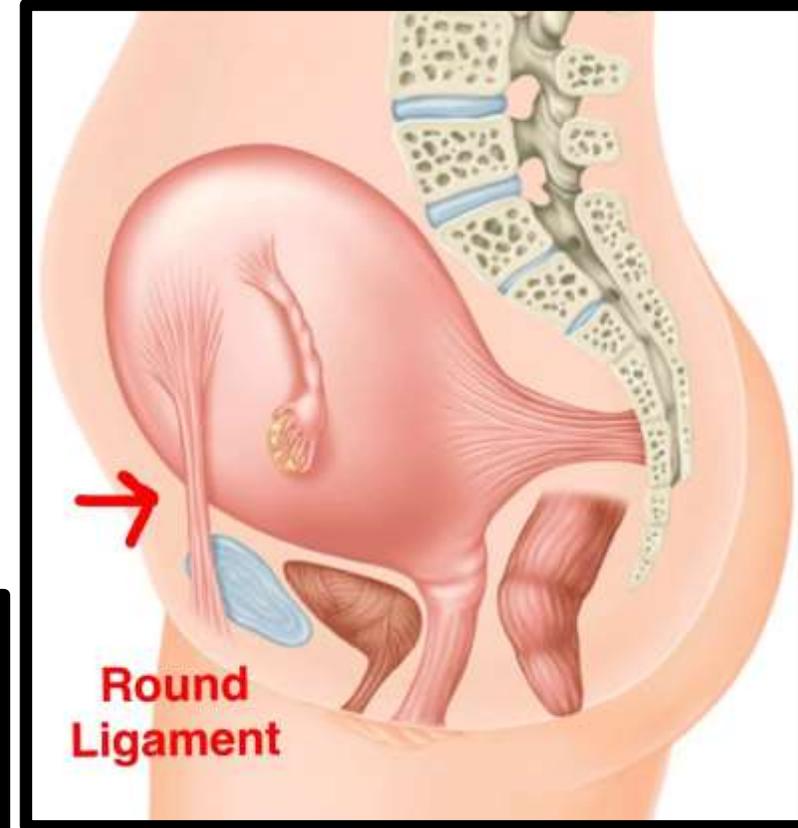


3- 2 ligaments;

- 1- **Ligament of the Ovary** connects the uterine end of the ovary with the uterus.
- 2- **Round ligament of the uterus** connects the uterus with the labia majora of the vulva through the inguinal canal

4- 2 embryonic remnants:

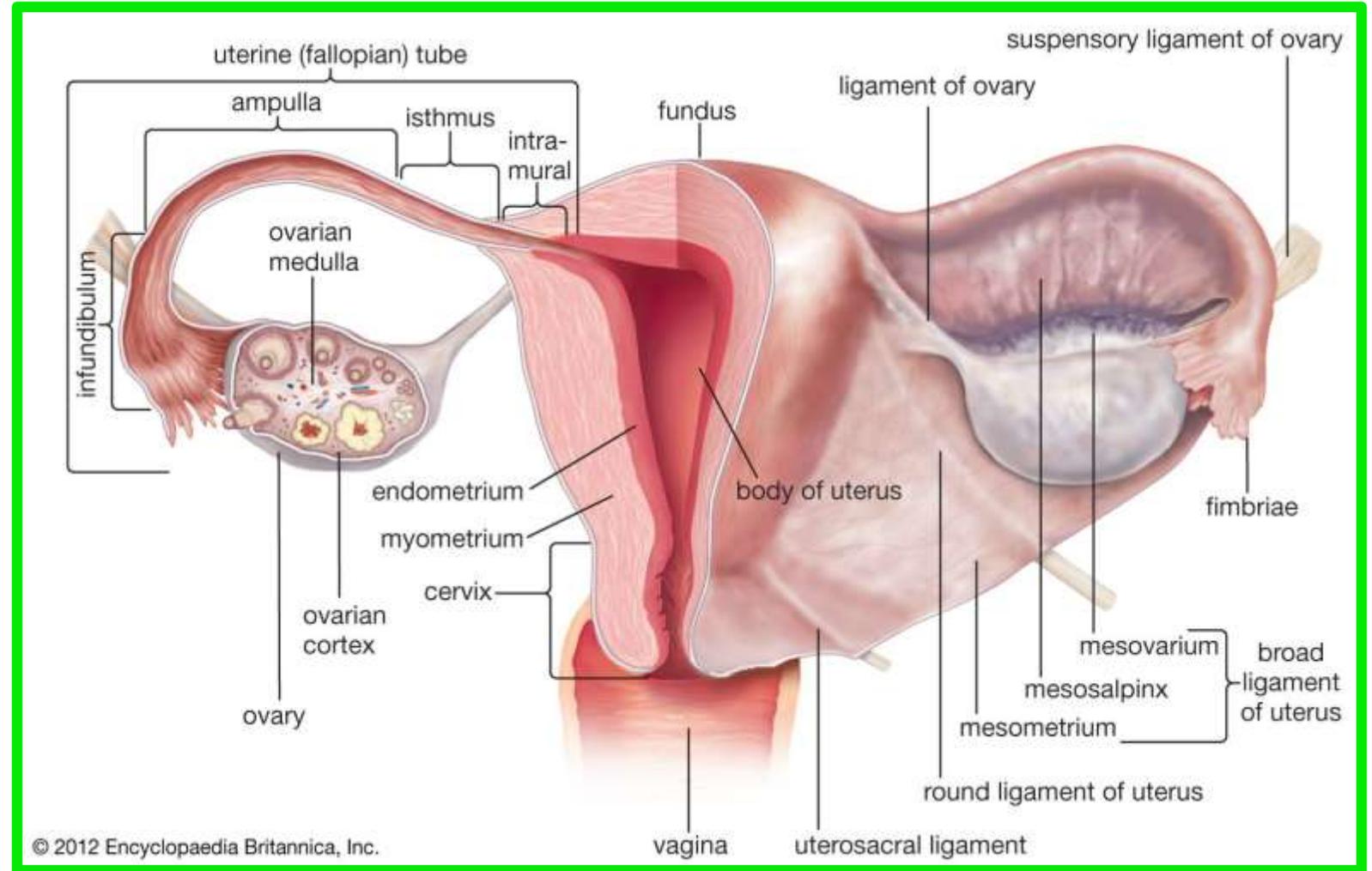
- 1- **Epoophoron.**
- 2- **Paroophoron.**
- 5- **Sympathetic and parasympathetic fibers.**
- 6- **Lymphatic vessels and lymph nodes.**
- 7- **Extraperitoneal connective tissue.**
- 8- **Non-striated muscles**



Other ligaments:

1- Ligament of the ovary:

2- Round ligament of the uterus



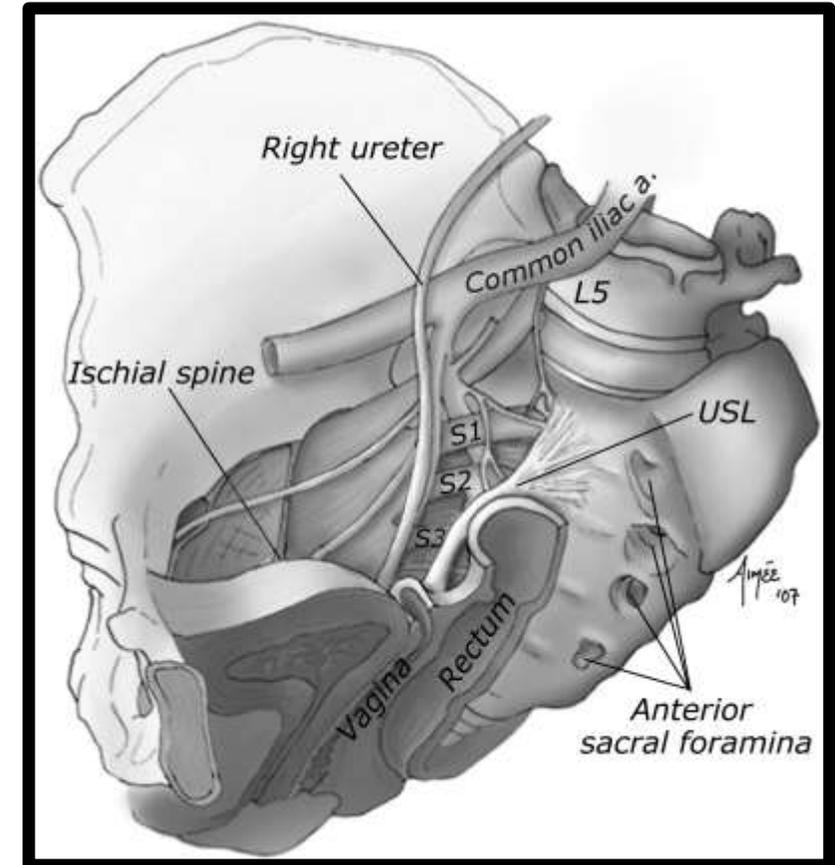
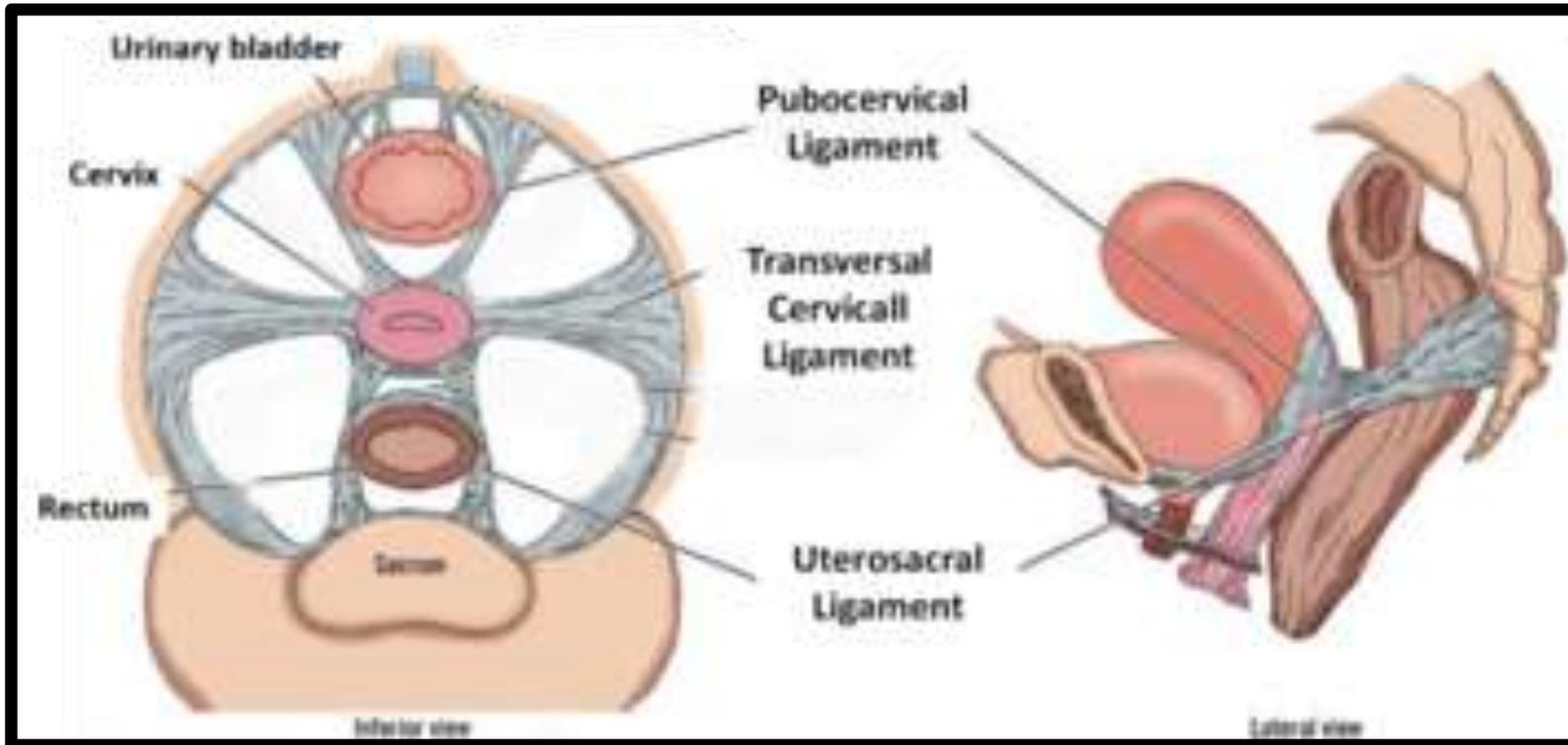
Other ligaments:

3- Transverse cervical ligaments (Mackenrodt's ligament) (Laterally)

- These are important ligaments for maintaining the position of the uterus.
- They extend from the cervix of the uterus to the side wall of the pelvis.

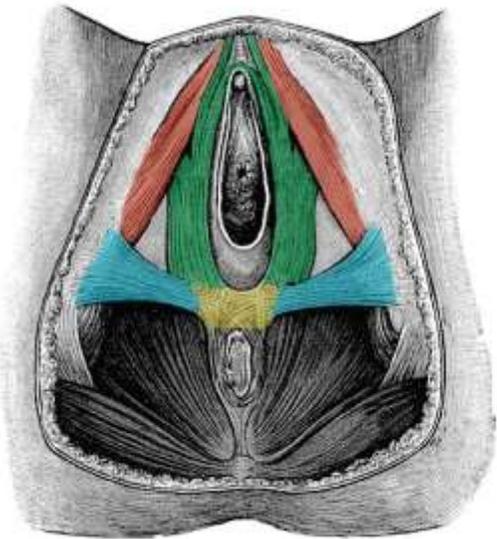
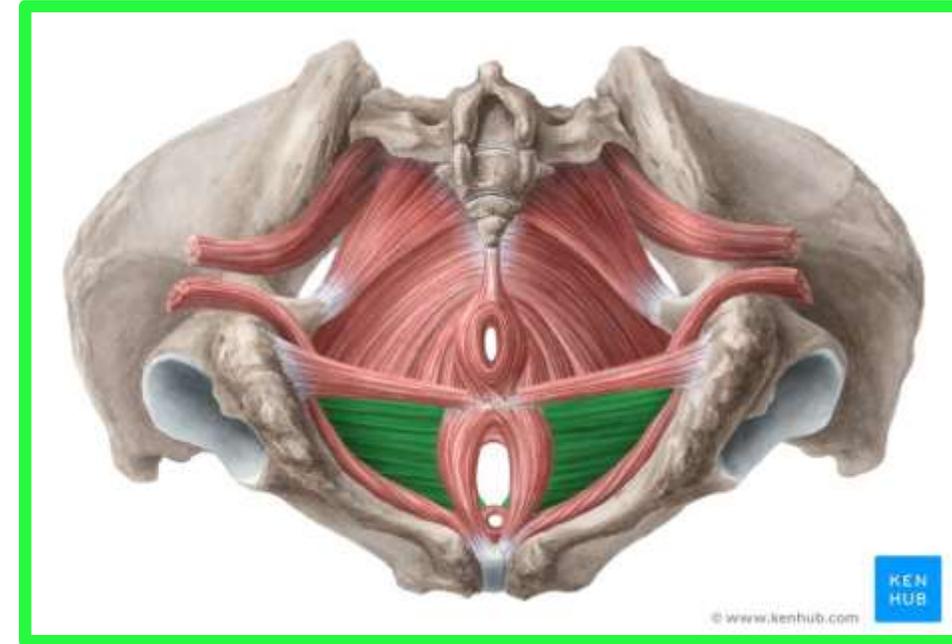
4- Uterosacral ligaments (posteriorly):

- They extend from the cervix of the uterus to the front of the sacrum on both sides of the rectum

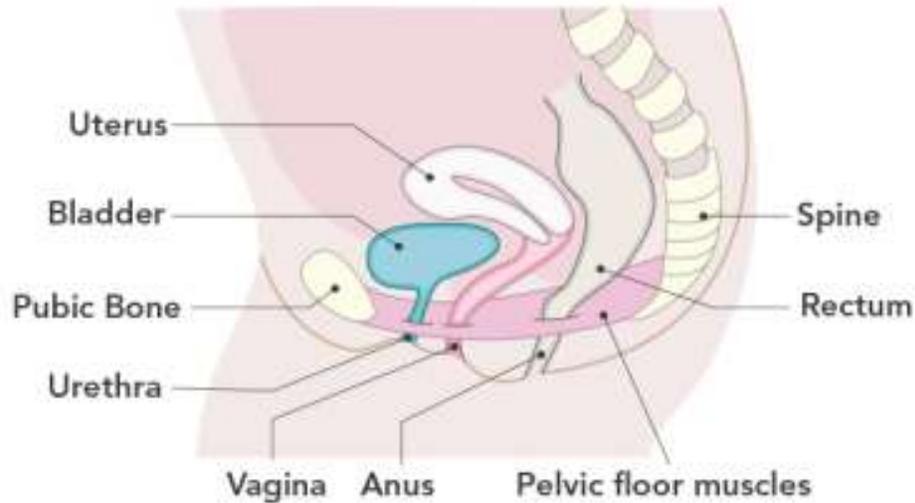


** Factors support the uterus

- 1- Ligaments of the uterus.
- 2- Plevic diaphragm (levator ani and coccygeus muscles).
- 3- Urogenital diaphragm.
- 4- Perineal body.
- 5- Position of the uterus.



- Perineal body
- Ischiocavernosus
- Bulbocavernosus
- Transverse perineal



** Arterial supply:

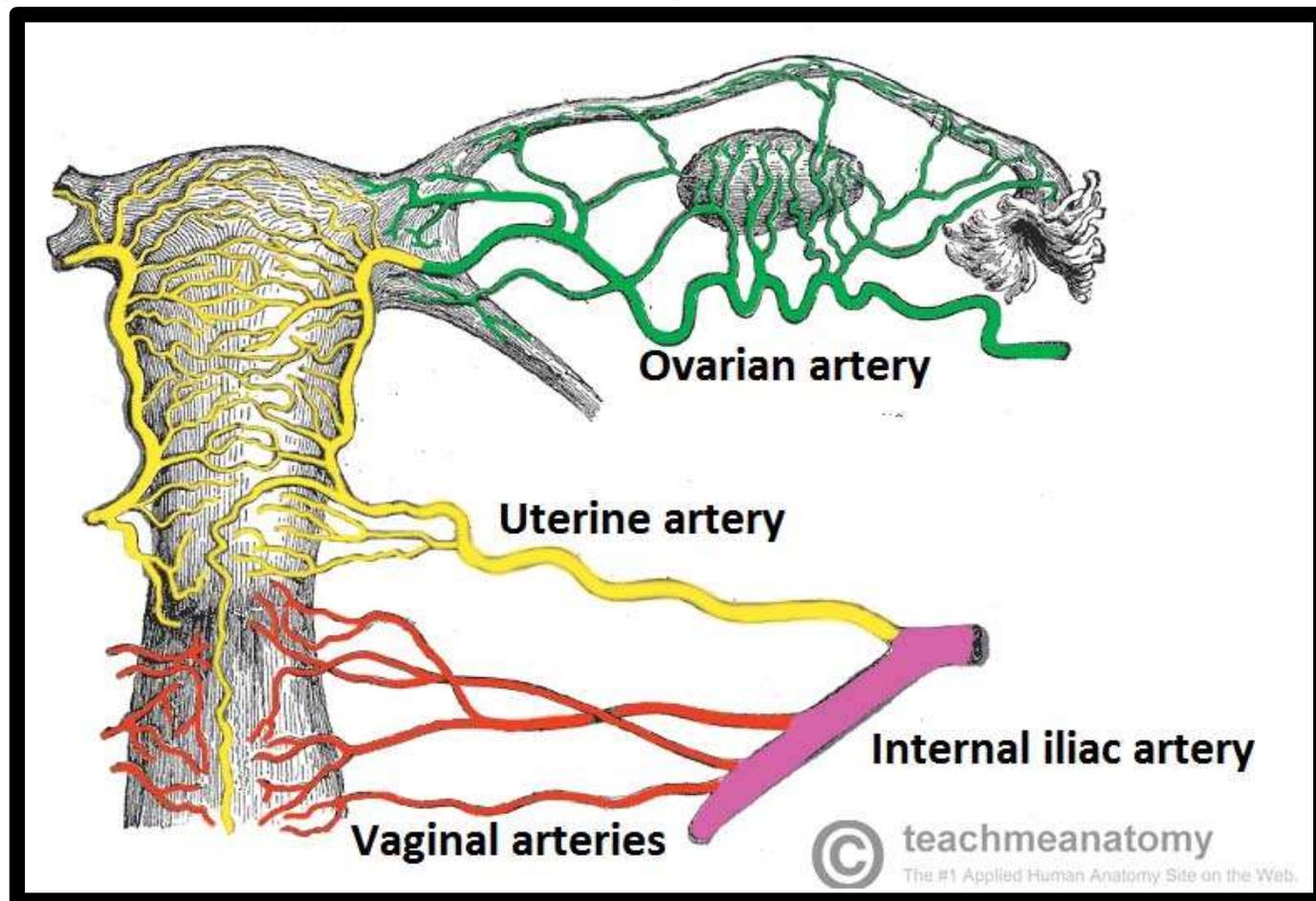
1- **The uterine artery:** from **anterior division of internal iliac artery.**

- It passes **in the root of the broad ligament** and then ascends along the lateral border of the uterus and turns laterally below the uterine tube to anastomosis with the ovarian artery. **It is a tortuous artery.**

2- **Vaginal artery.**

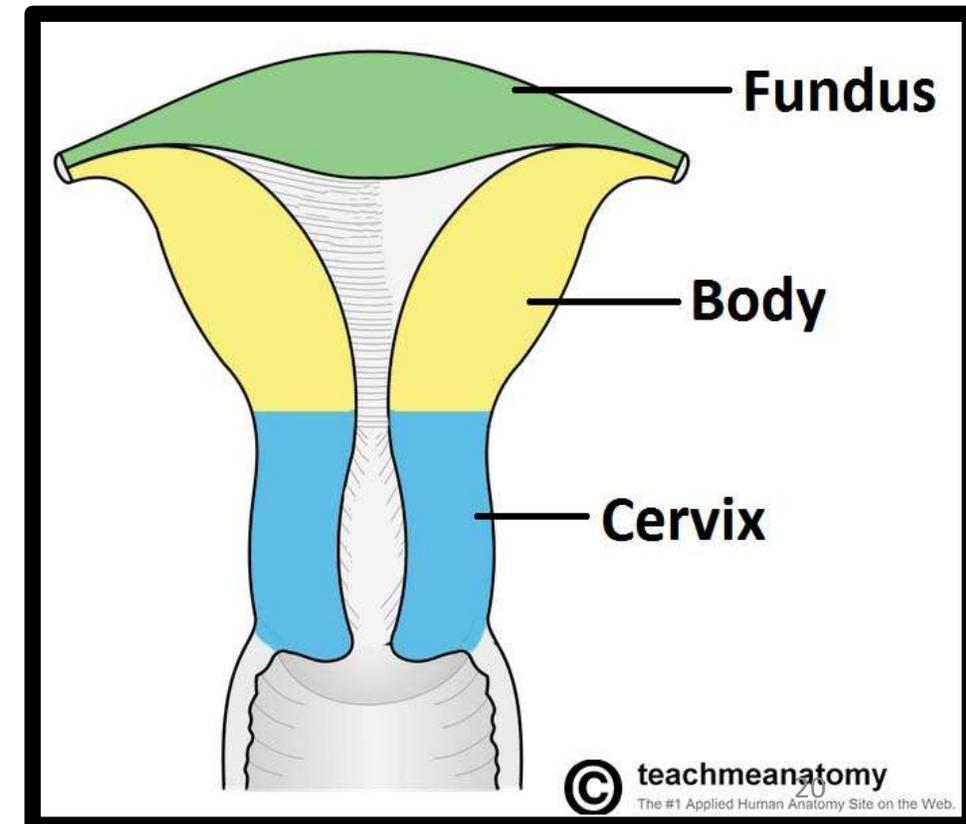
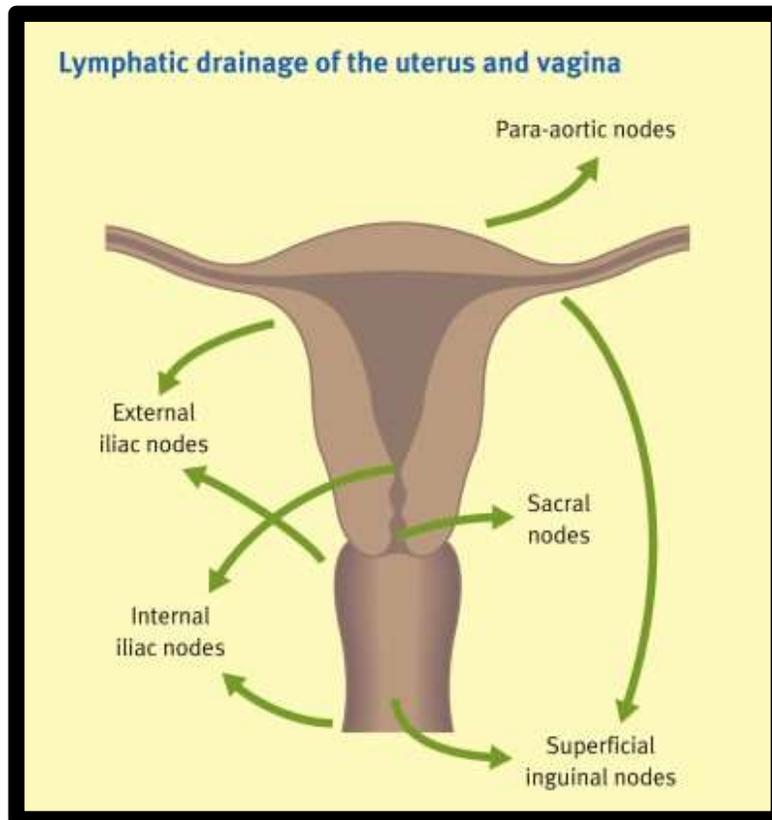
** Venous drainage:

- **Uterine venous plexus** → **uterine vein** which drains into the **internal iliac vein.**



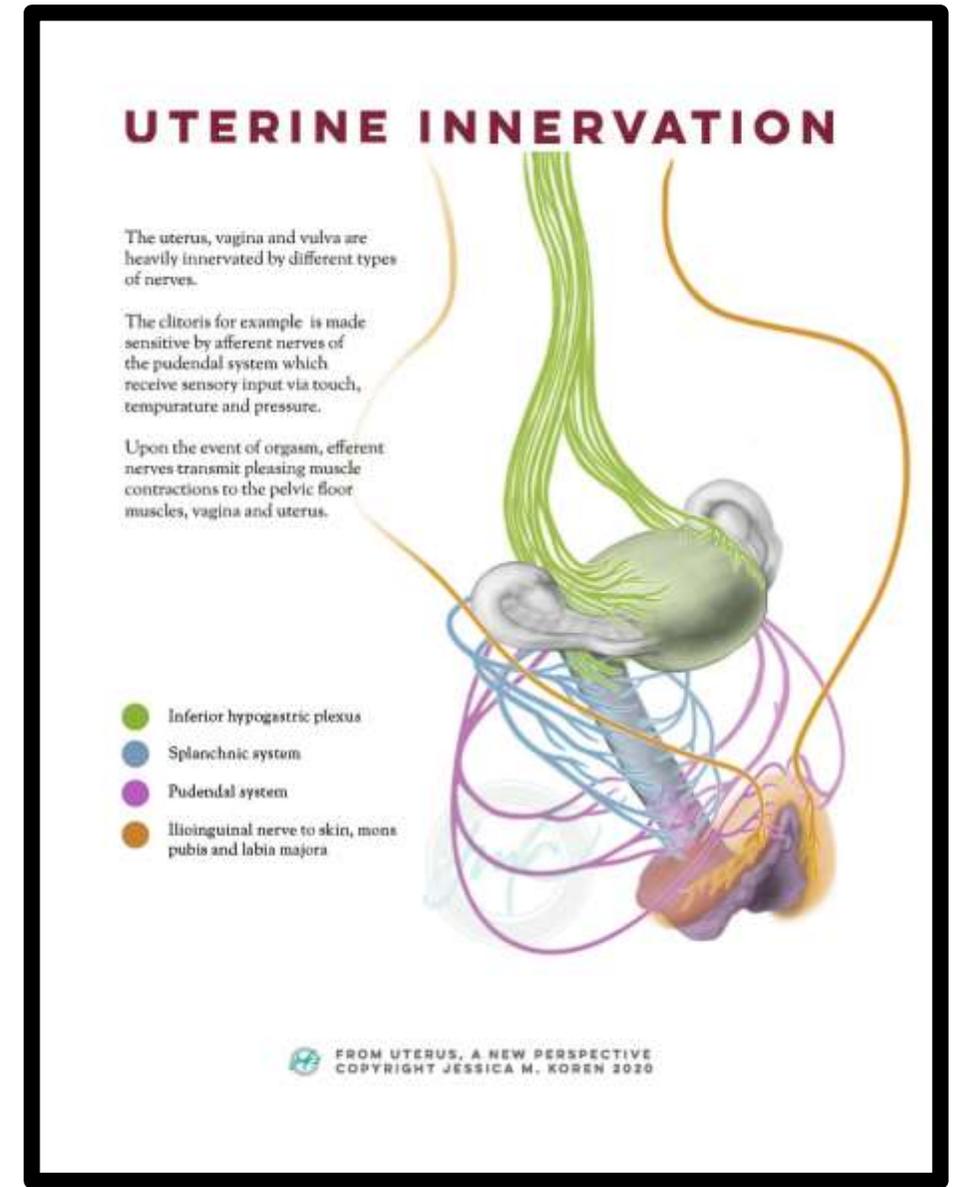
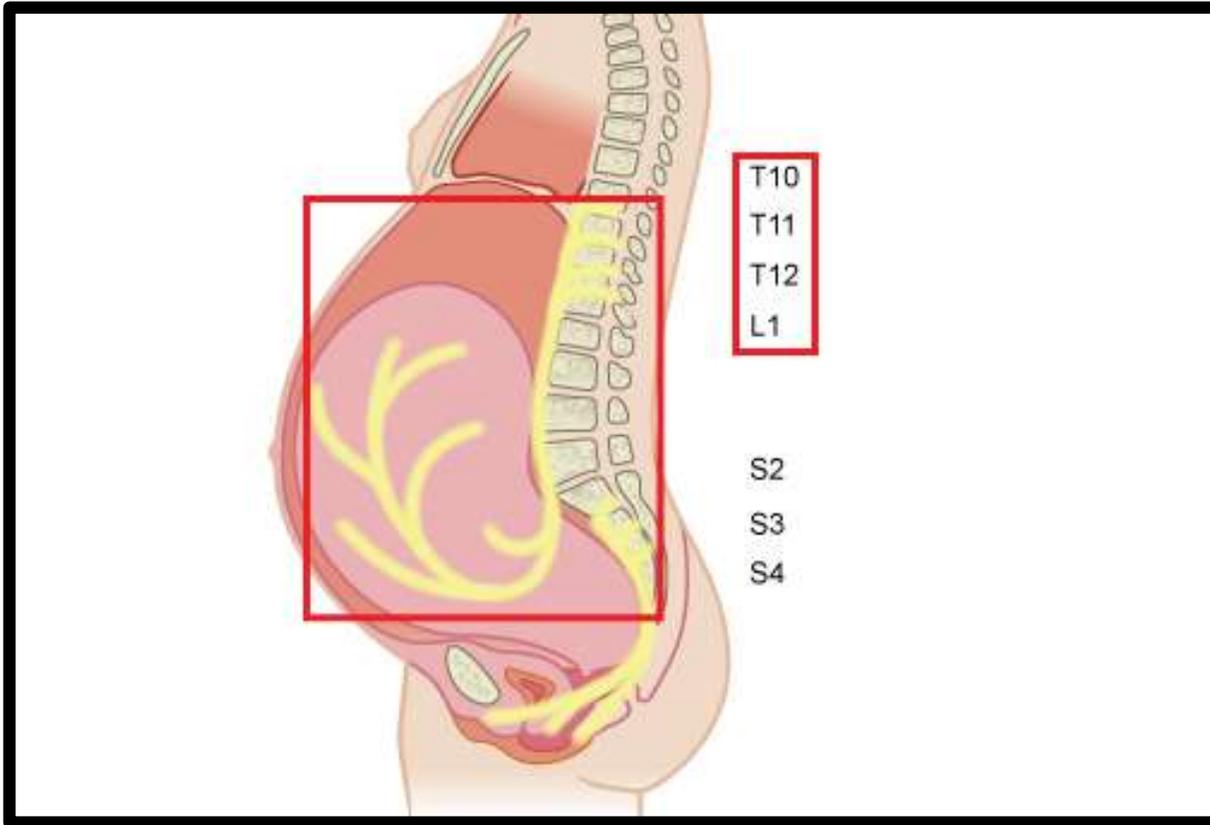
** Lymphatic drainage

- 1- Upper part of the body and fundus to the pre and para-aortic lymph nodes.
- 2- Lower part of the body to the external iliac lymph nodes.
- 3- Cervix to the external and internal iliac lymph nodes.
- 4- The region close to the medial end of uterine tube to the superficial inguinal lymph nodes (pass along the round ligament of the uterus).



** Nerve supply

- Sympathetic from T10 & L1.
- Parasympathetic fibers, from S2, 3, 4.



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