Female Reproductive System

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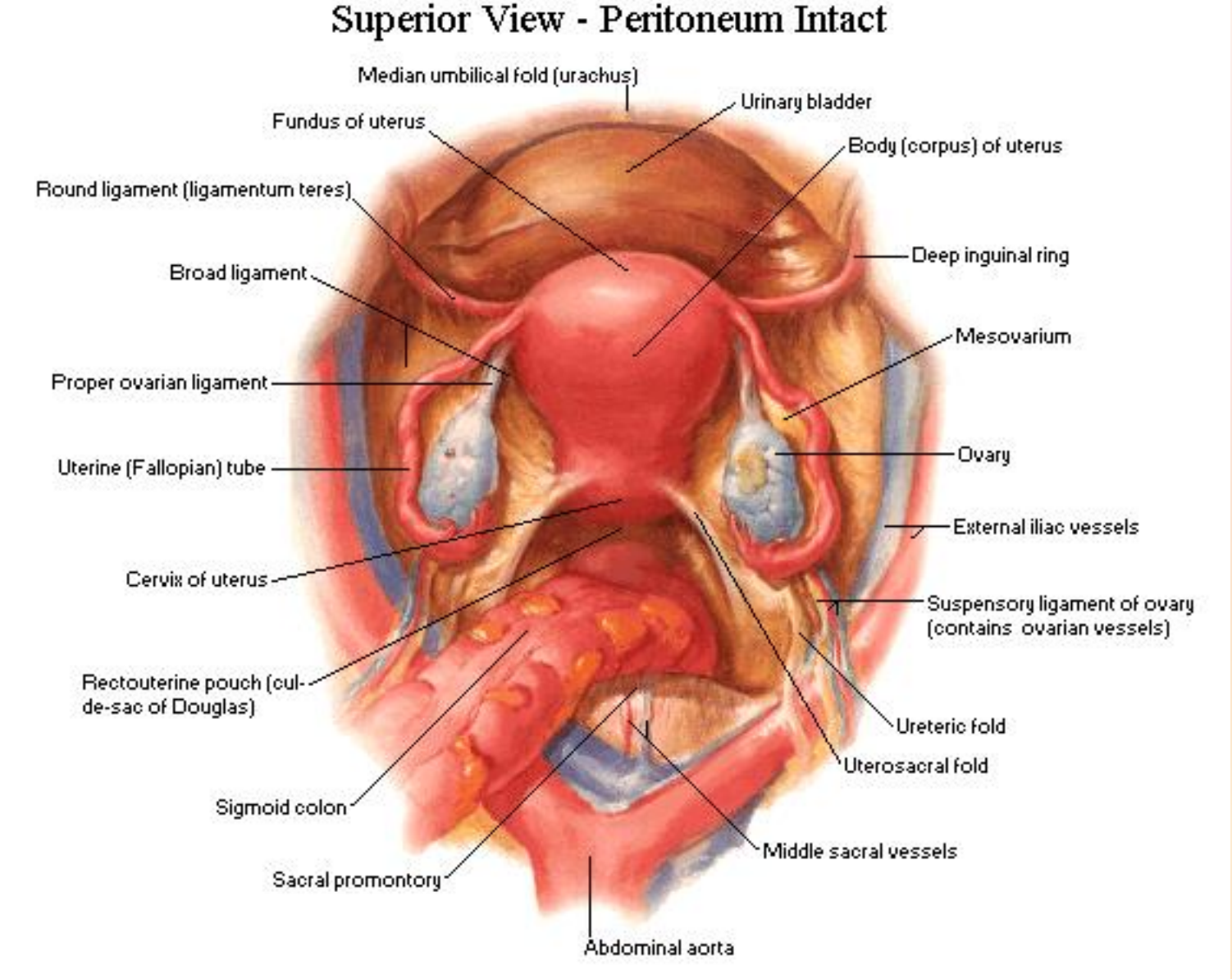
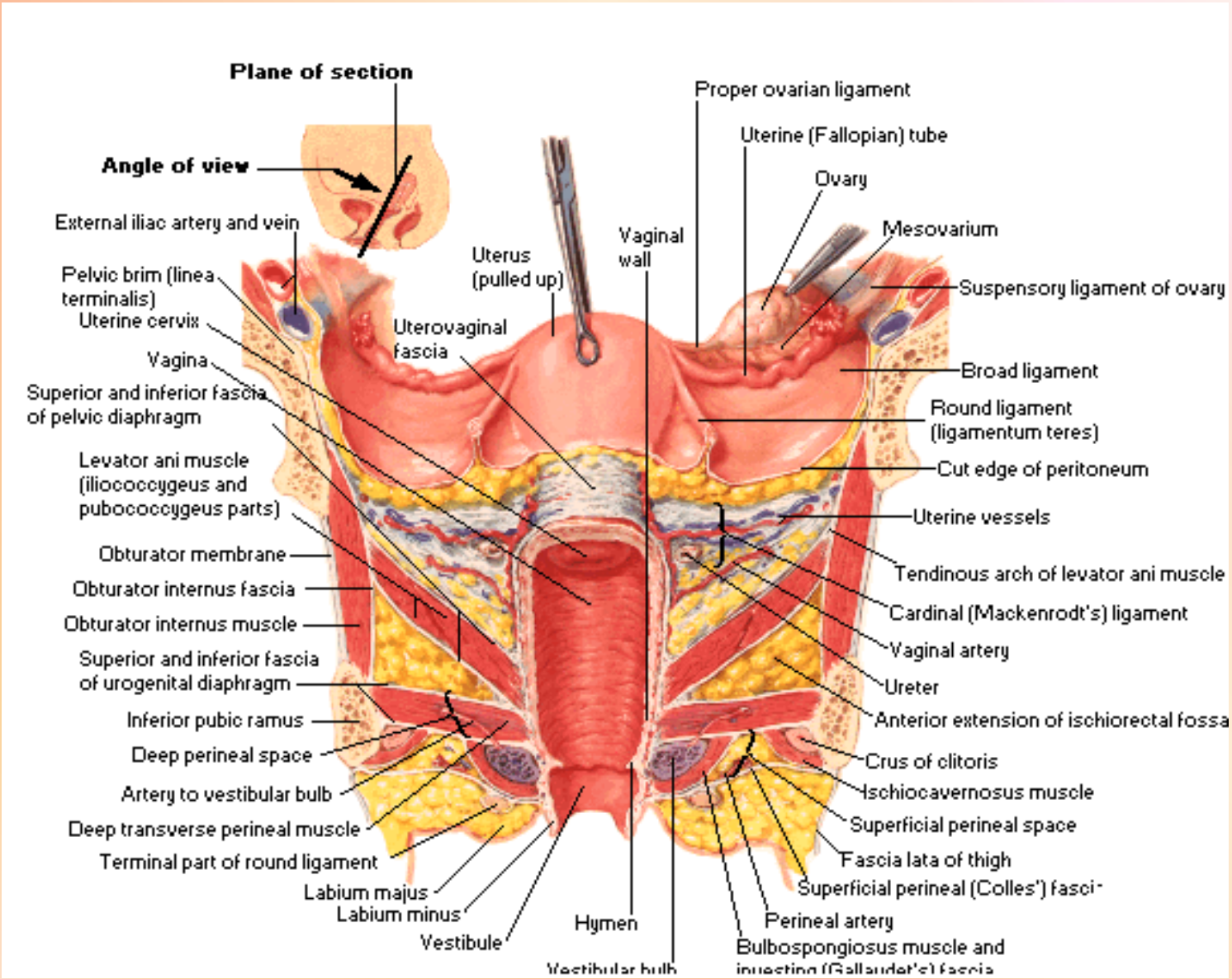
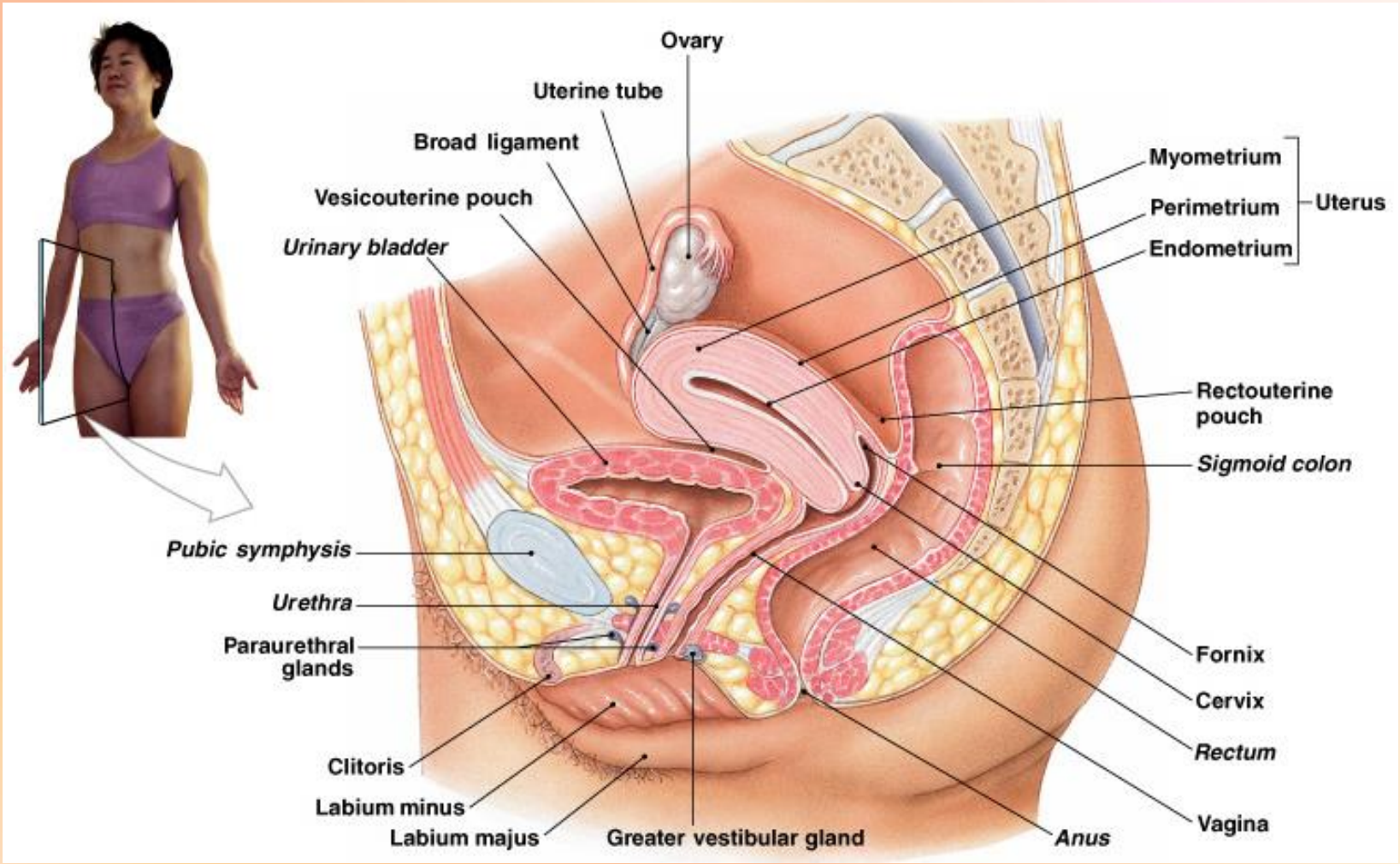


Female Reproductive System



Female Reproductive System



Lateral view

Female Reproductive System

Functions:

1. production the female sex cells (egg cells or ova),
2. transport these cells to a site where they may be fertilized by sperm,
3. providing of a favorable environment for the developing fetus,
4. movement the fetus to the outside at the end of the pregnancy,
5. production of the female sex hormones.

The female reproductive system includes

Internal organs

- ovaries,
- uterine tubes,
- uterus,
- vagina.

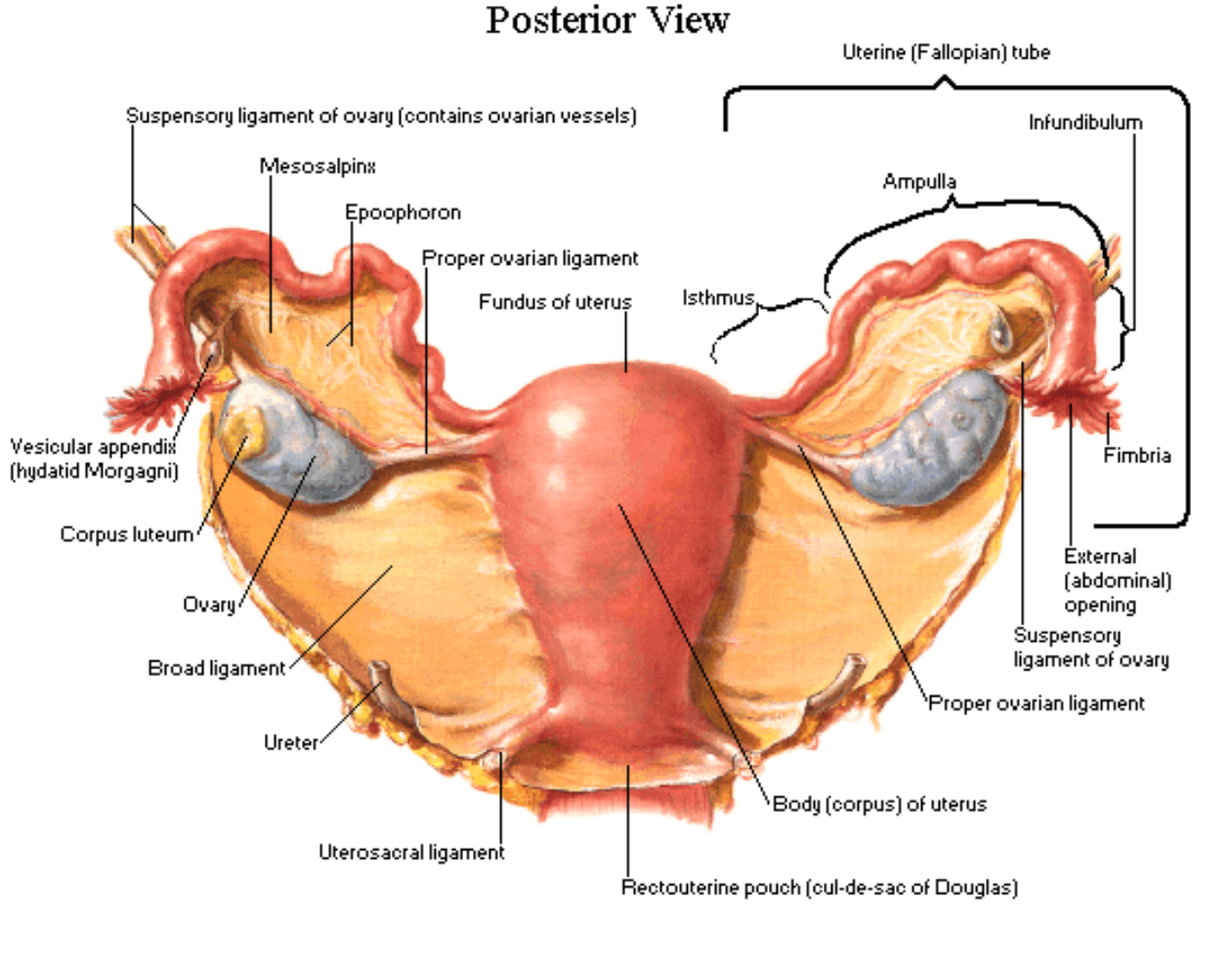
External organs

- majus and minus labiums
- clitoris
- vagina vestibule
- greater vestibular glands

Ovarium=Oophoron=Яичник

The ovary is female sexual gland of the mixed secretion.

External secret is ovum. Internal – female sexual hormons.



Each ovary has

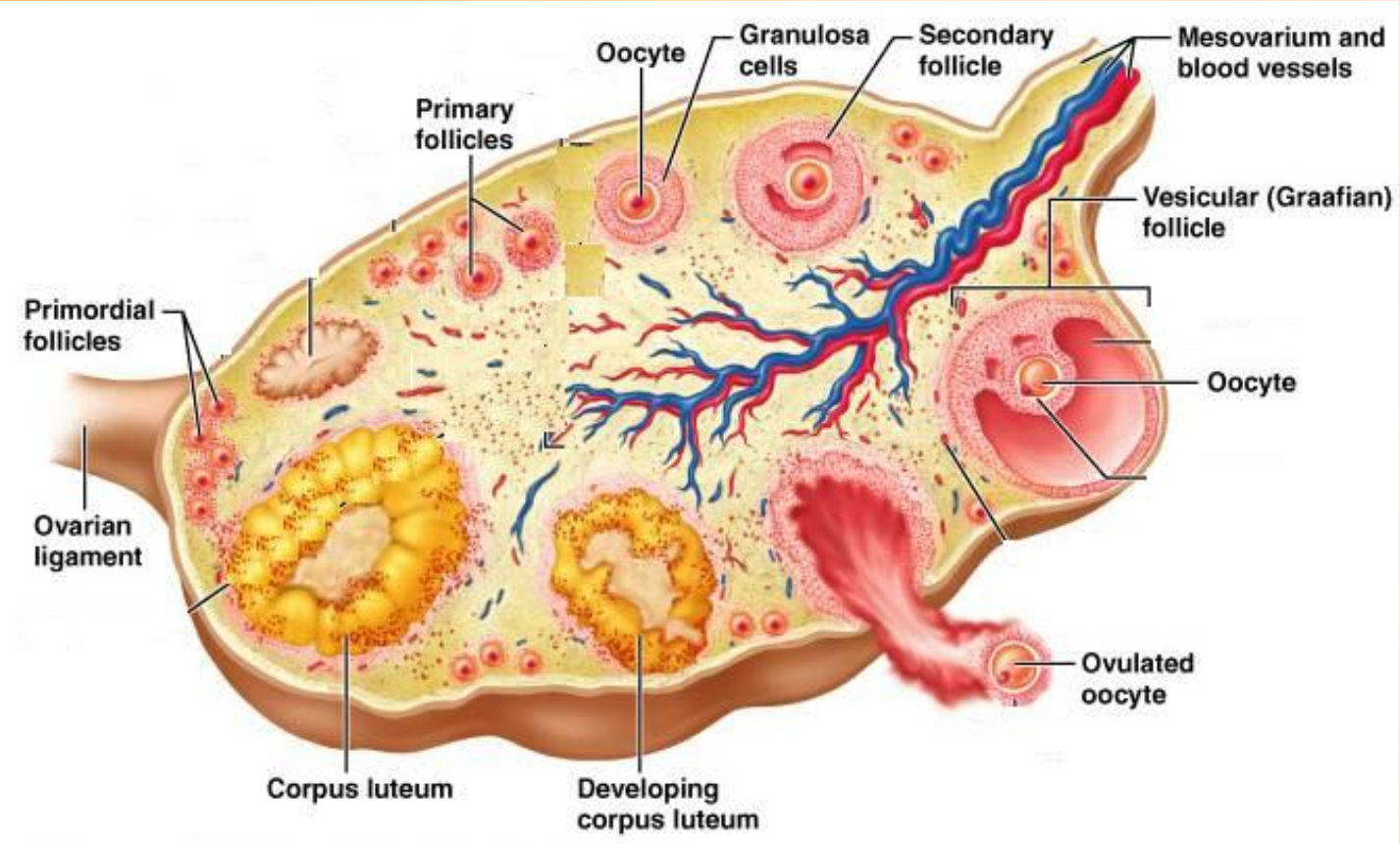
two ends - upper (tubal) and lower (uterine),

two surfaces - lateral and medial

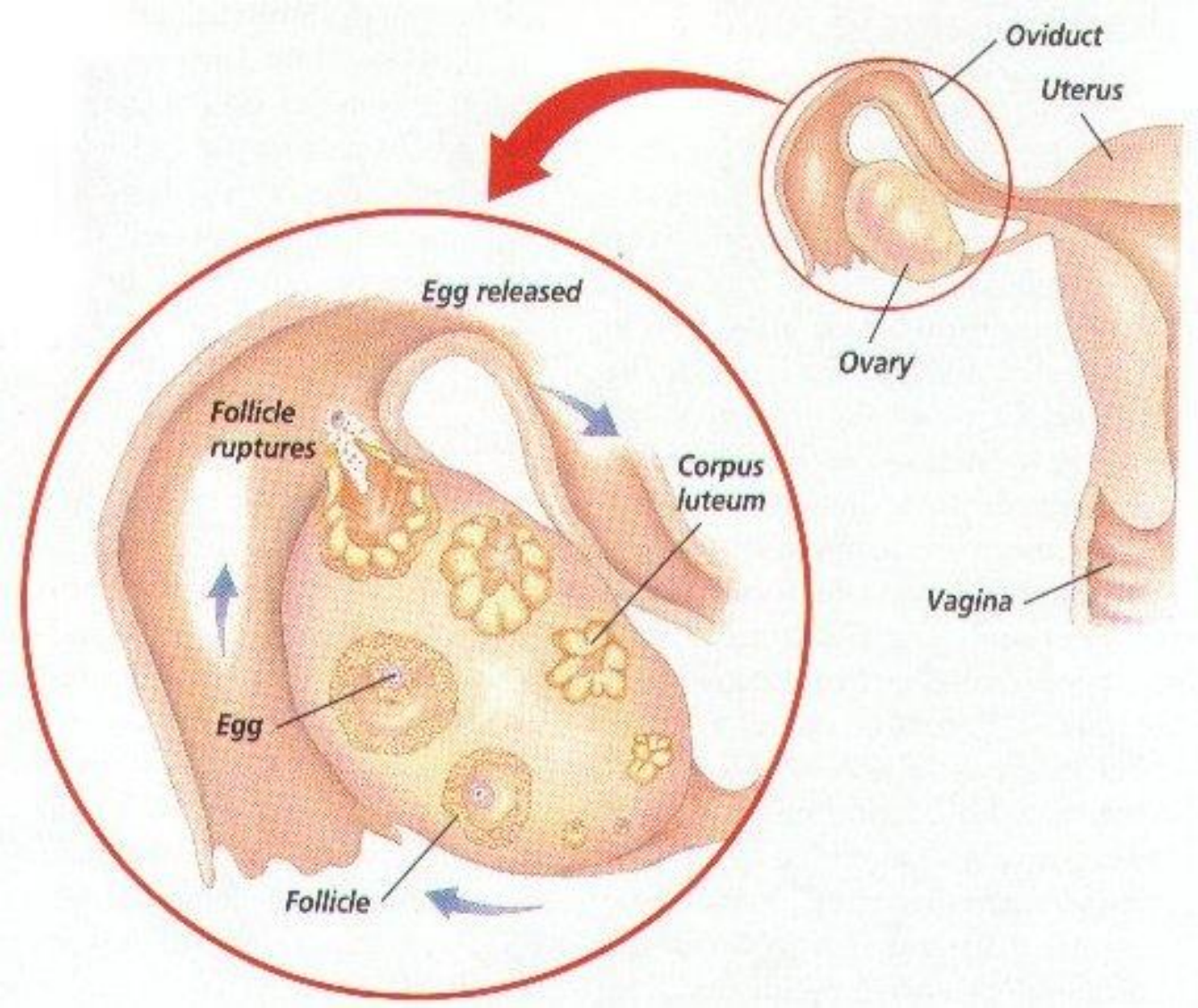
two borders – anterior (mesovarium) and posterior (free).

Internal structure:

The ovaries are covered by a germinal (ovarian) **epithelium**. Ovary is **<u>uncovered</u>** by peritoneum!!!!!

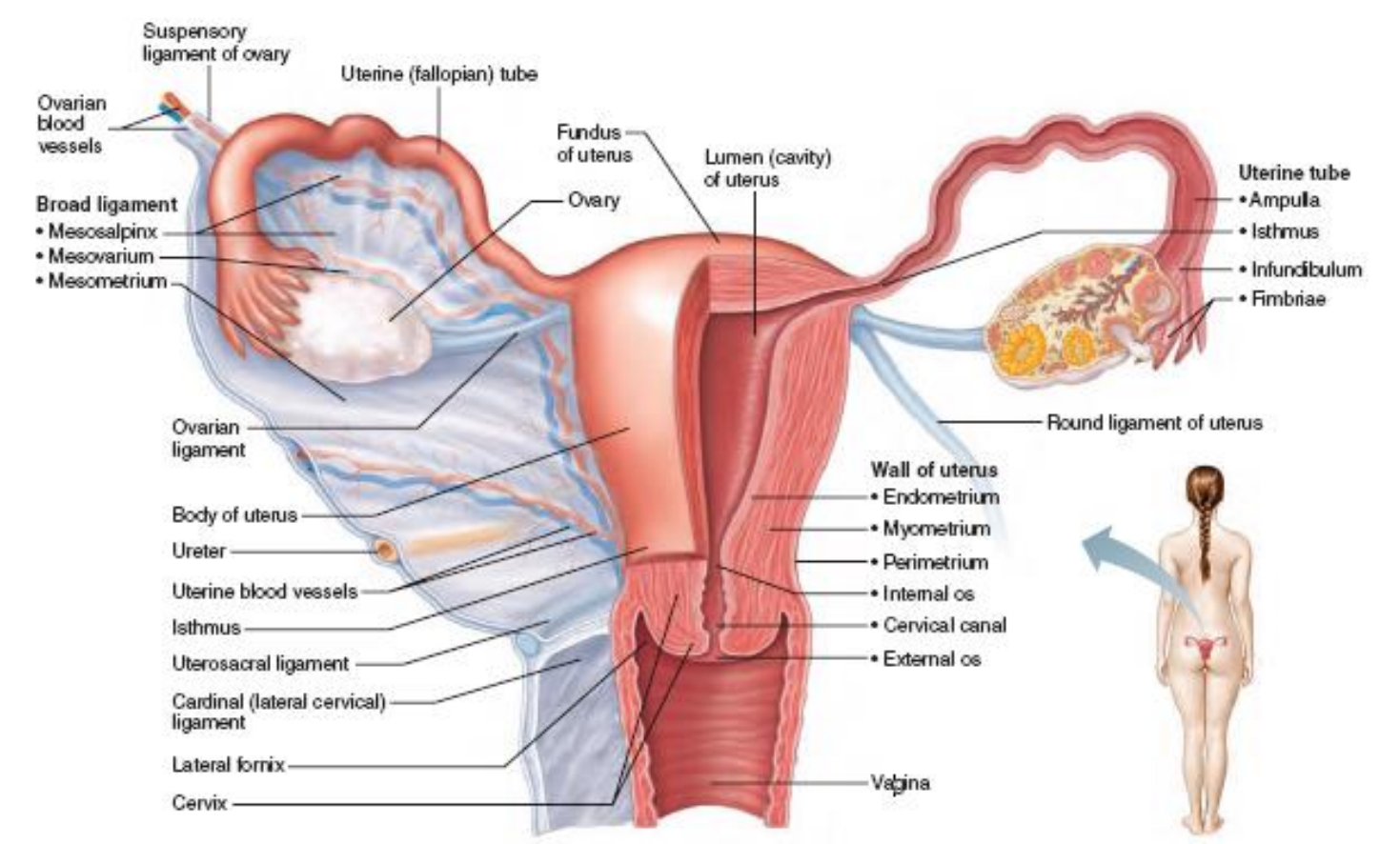


Relationship of an ovary and uterine tube



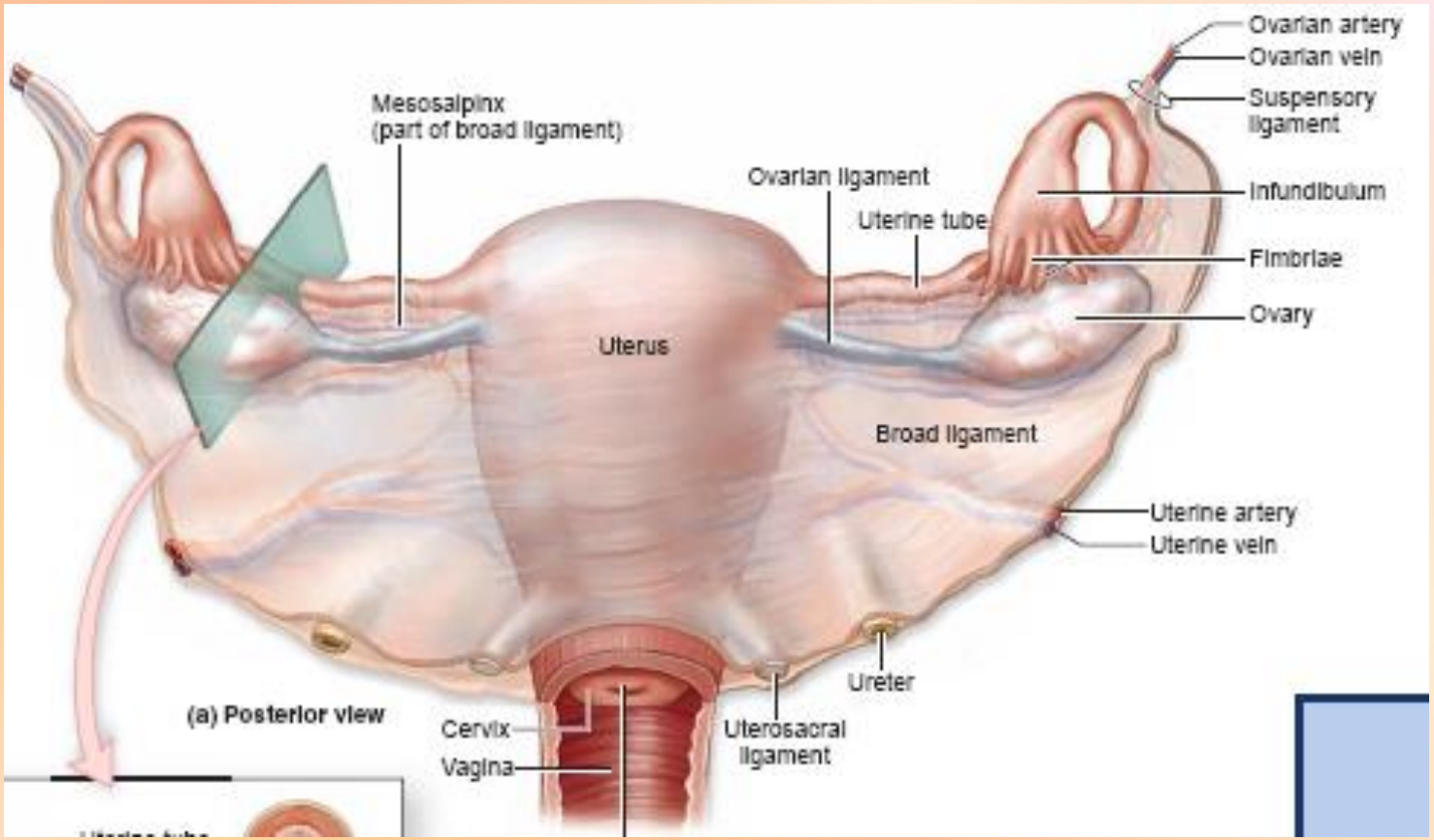
The elements fixing an ovary:

- the mesovarium
- the proper ovarian ligament
- the suspensory ligament



Uterine tube = Маточная труба= Tuba Uterina= Fallopian Tube= Salpinx= Overducts

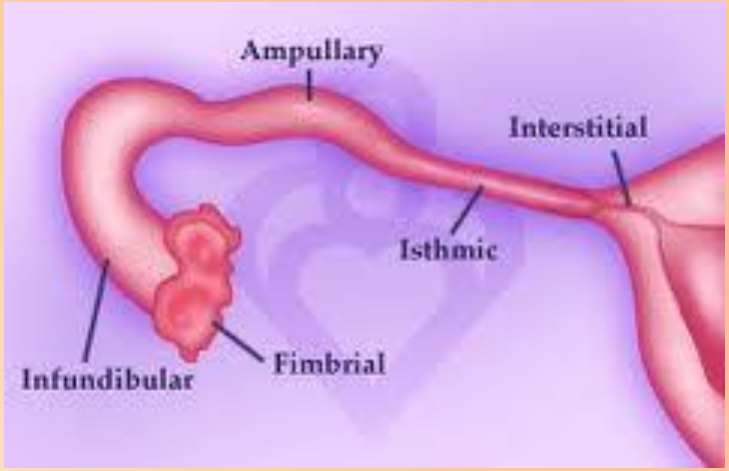
<u>Function of uterine tubes</u> is fertilization of an ovum and its movement to a uterus cavity.

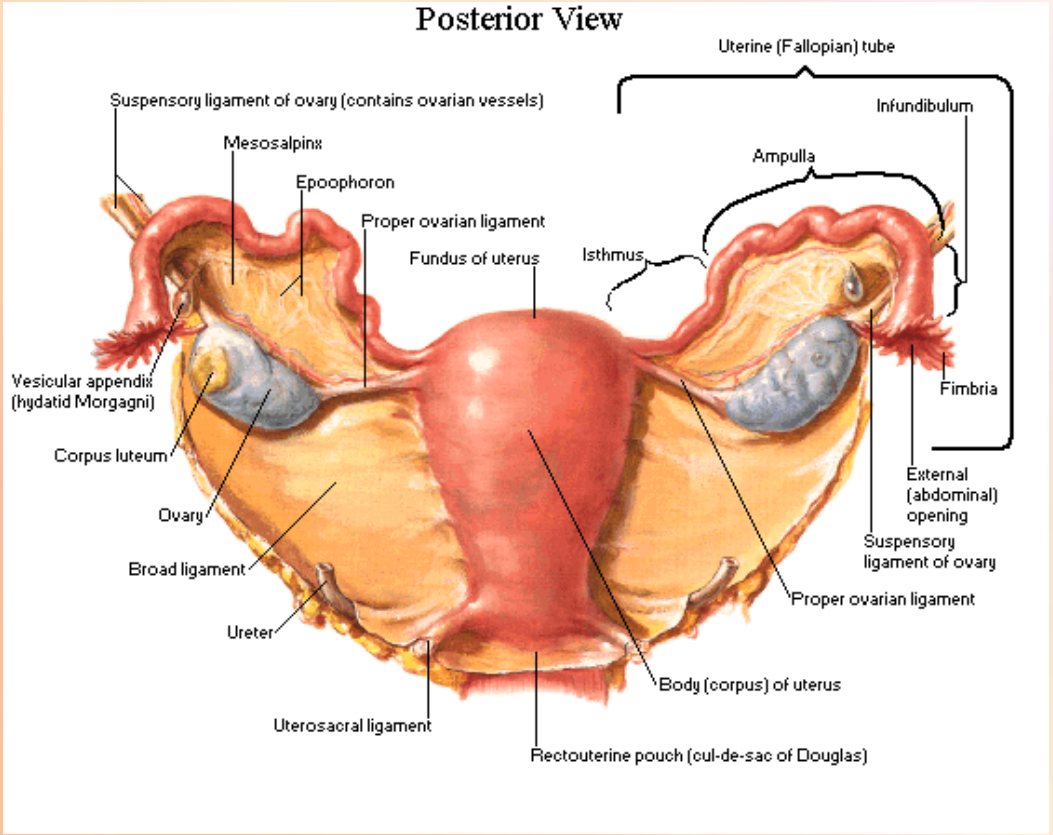


Uterine tube

Each uterine tube has four parts:

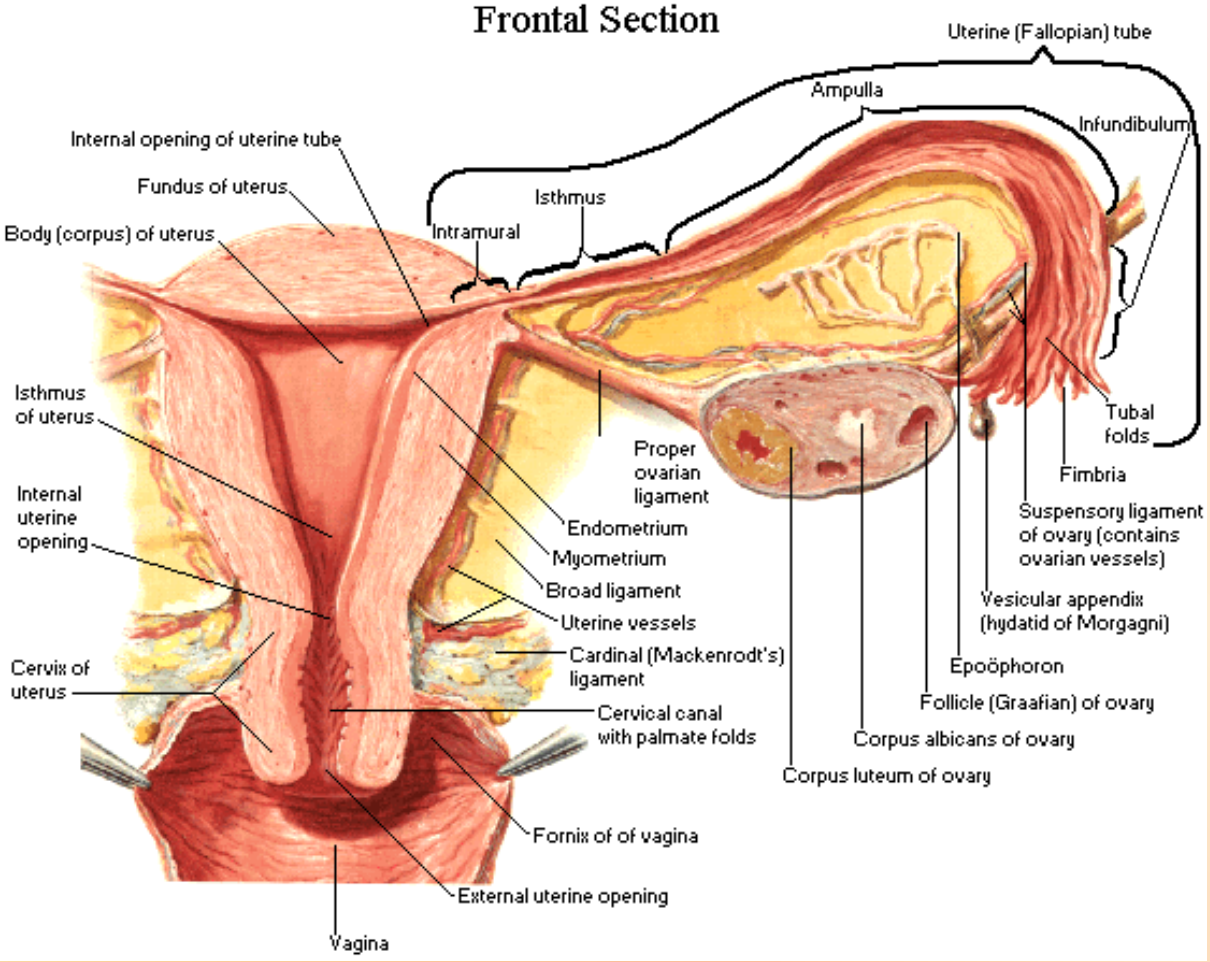
- Uterine (intramural)
- Isthmus
- Ampulla
- Infundibulum





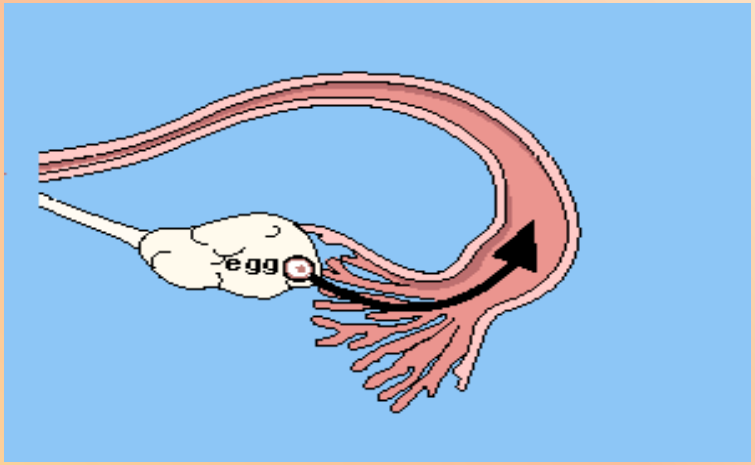
Internal structure

The uterine tube wall consists of three coats: serous, muscular, and mucous.



<u>Location.</u> The uterine tube settles down in the upper border of a broad ligament of an uteres. Part of this ligament from a tube to a mesoovarium received the name a **mesosalpinx.**

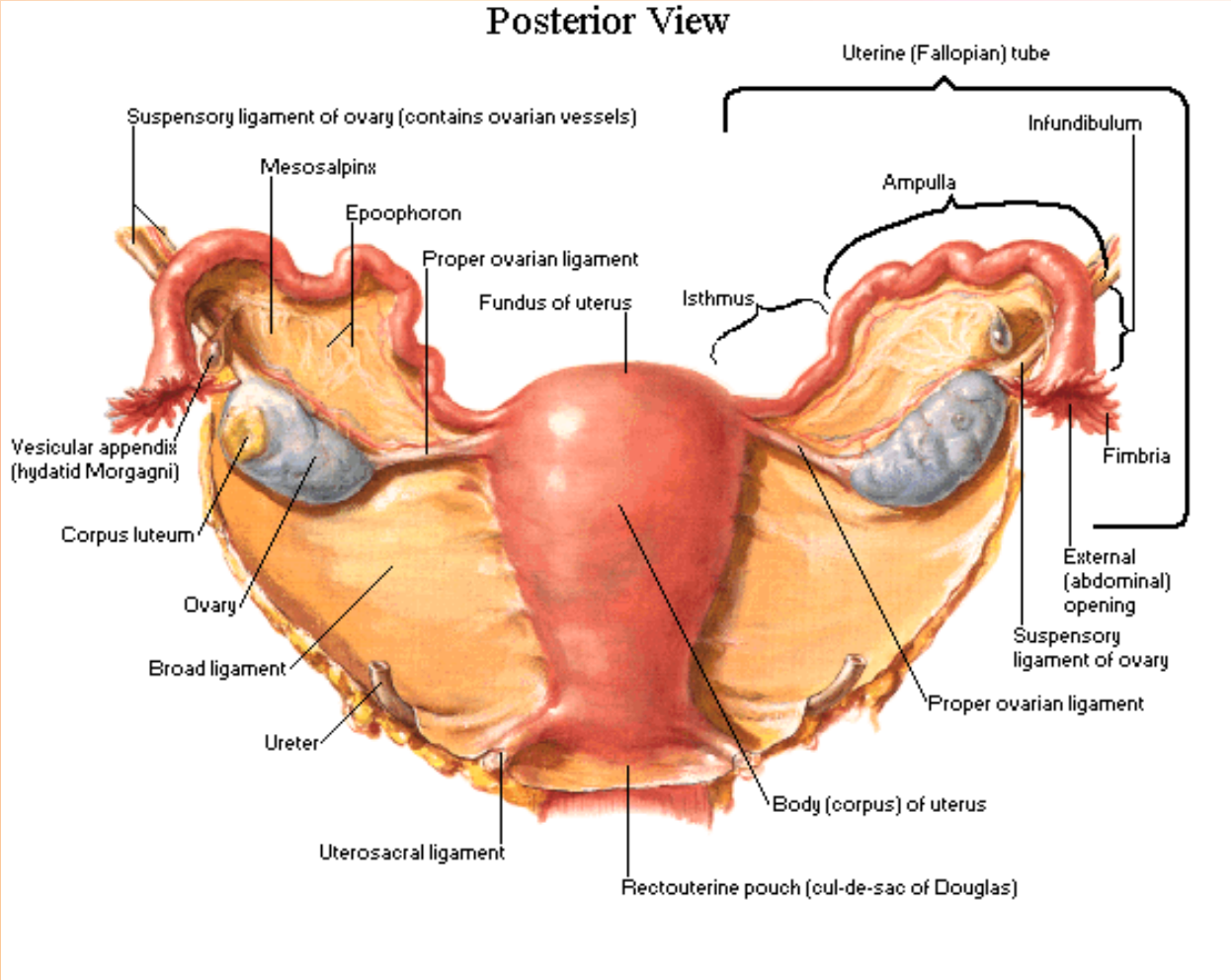
Pay attention (!!!) that in clinic ovaries and uterine tubes unite under the name **uterus appendages** or **adnexa**



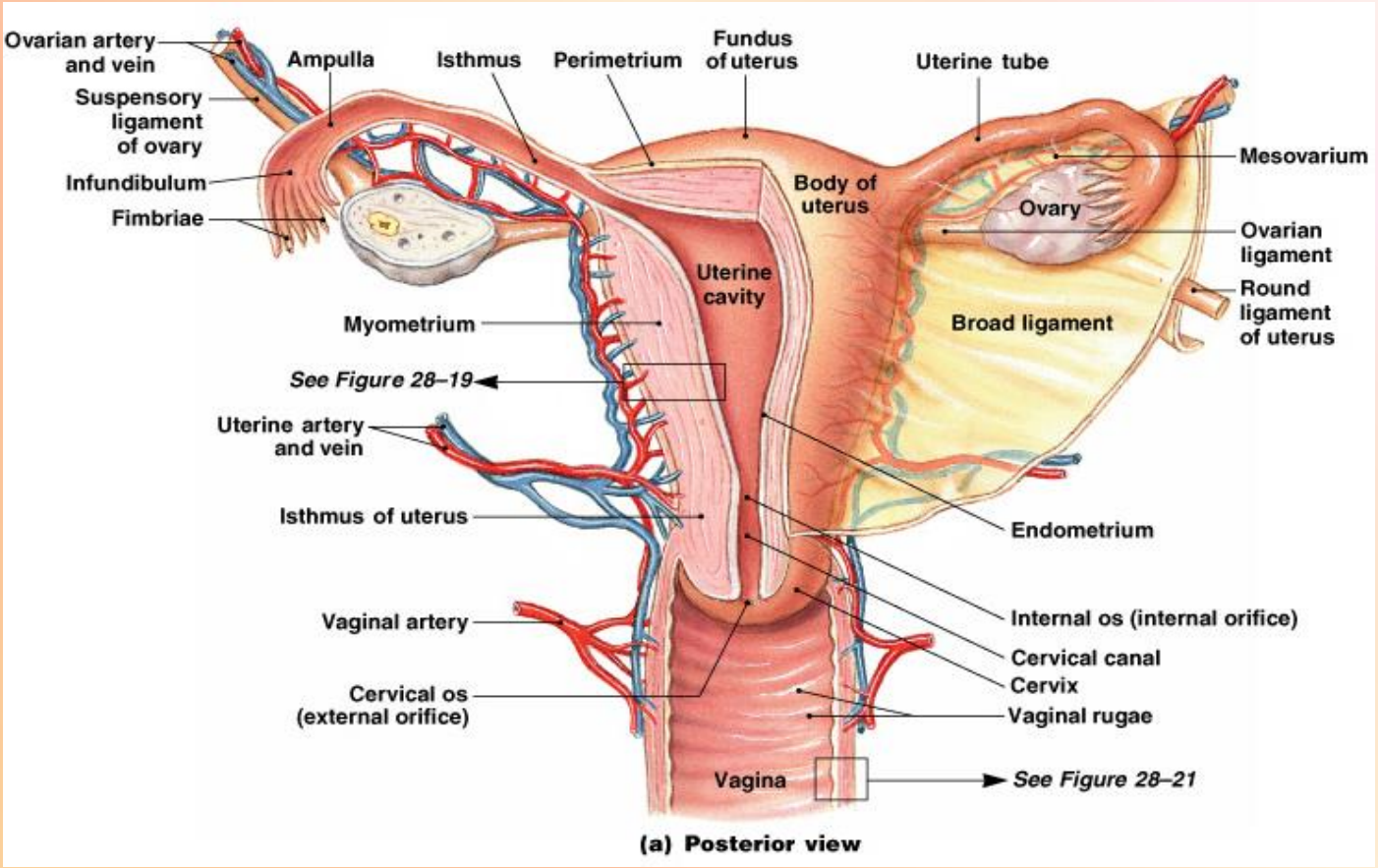
Uterus=Матка=Metra=Gistera

Uterus functions:

1. **menstrual function.**
2. incubation of pregnancy



Uterus=Матка



The uterus has

-vesical (anterior) and **intestinal** (posterior) **surfaces**

- left and right two margins

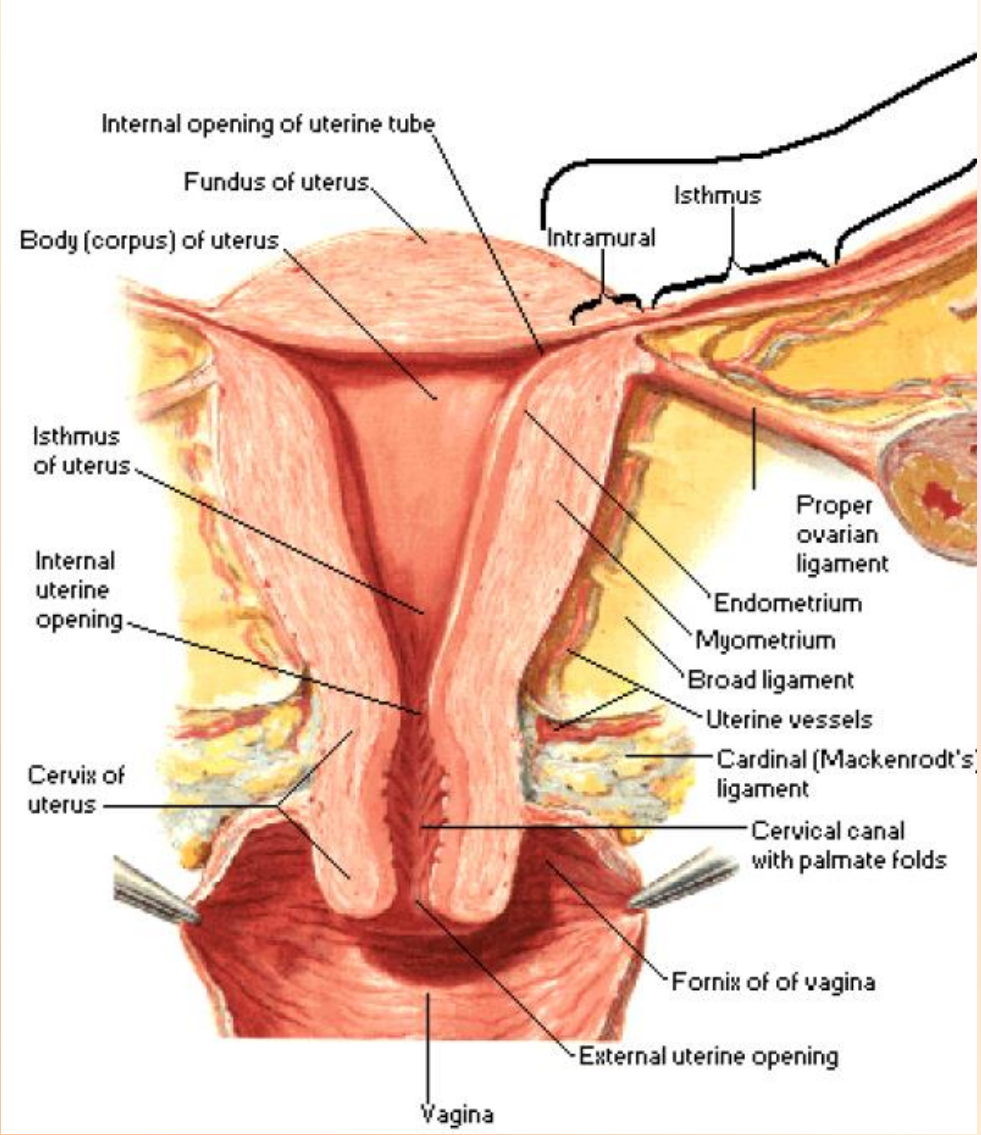
- a cavity

Uterus=Матка

The uterus has some parts:

- **fundus,**
- **body,**
- **isthmus**
- **cervix.**

The **cervix** divides into a **supravaginal portion** and **vaginal portion**



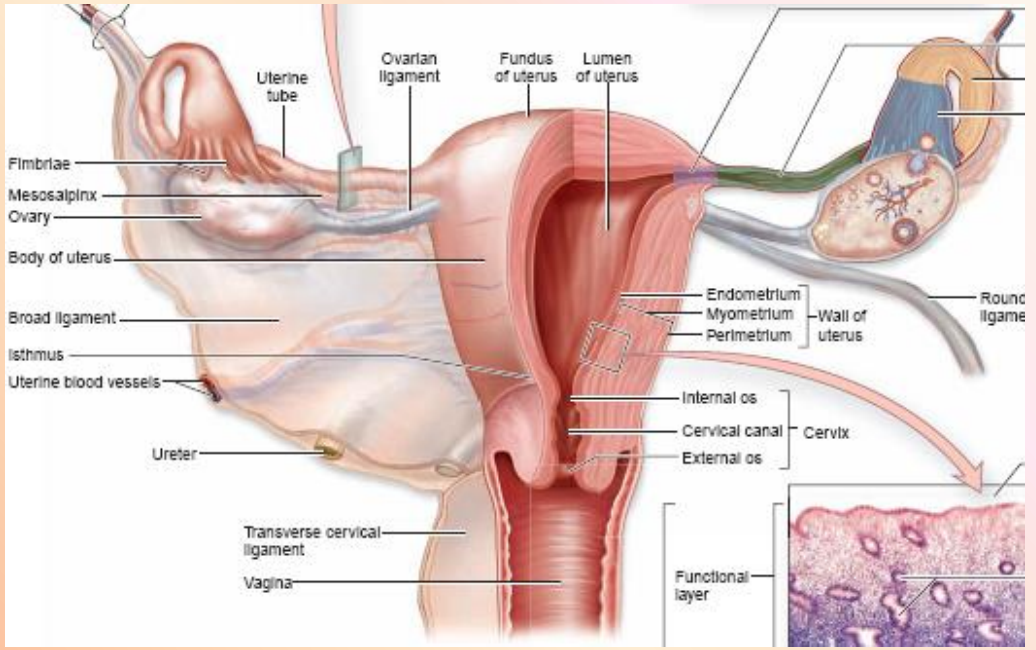
Uterus=Матка

Internal structure. The uterus is composed of three coats:

-internal = **Endometrium** (has two layers -stratum basalis and stratum functionalis)

-middle = **Myometrium** (is formed of three muscular layers: external, middle and internal)

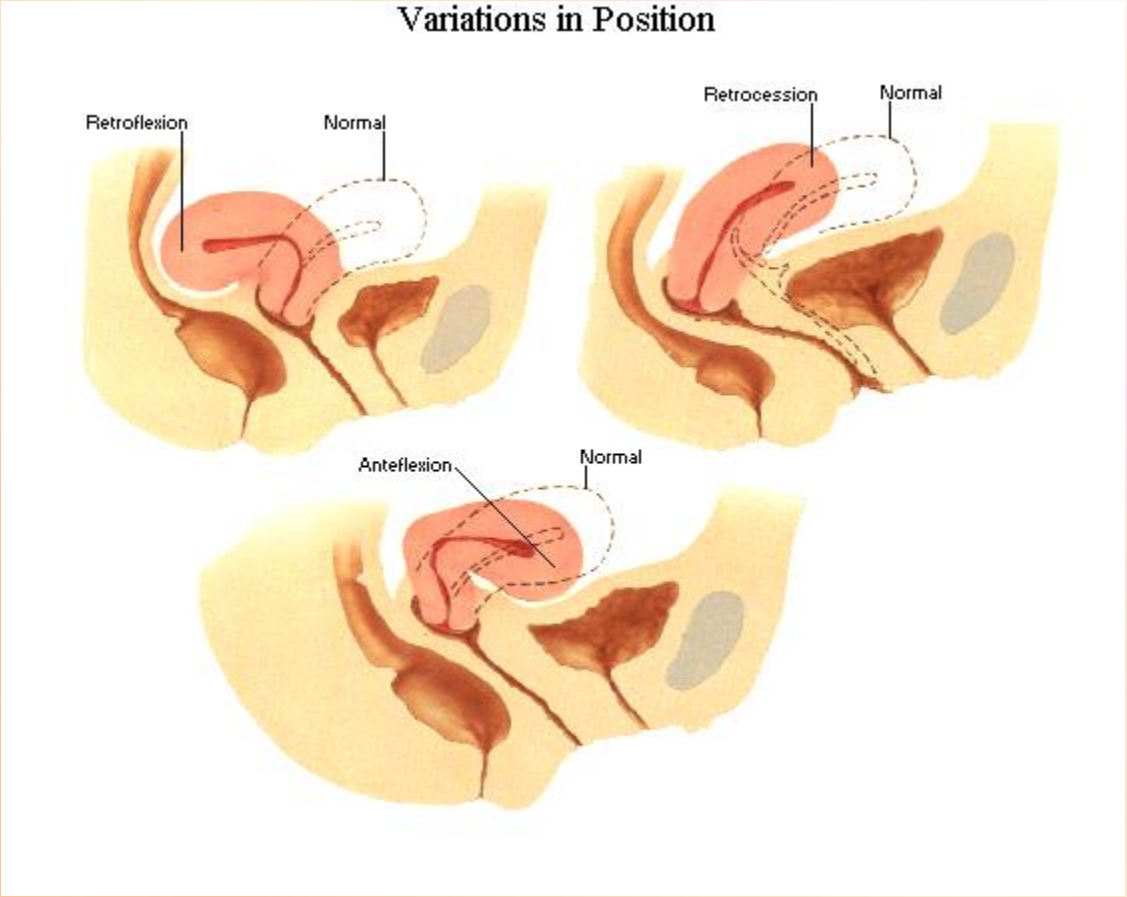
-external = **Perimetrium**



NB!!!! Basic feature of a uterus mucous membrane: <u>its structure changes throughout a menstruation.</u>

Position of the uterus

Anteflexion - In **norm** the uterus in the isthmus is bent with formation of the corner opened forward (the corner is formed between a body and a uterus cervix).



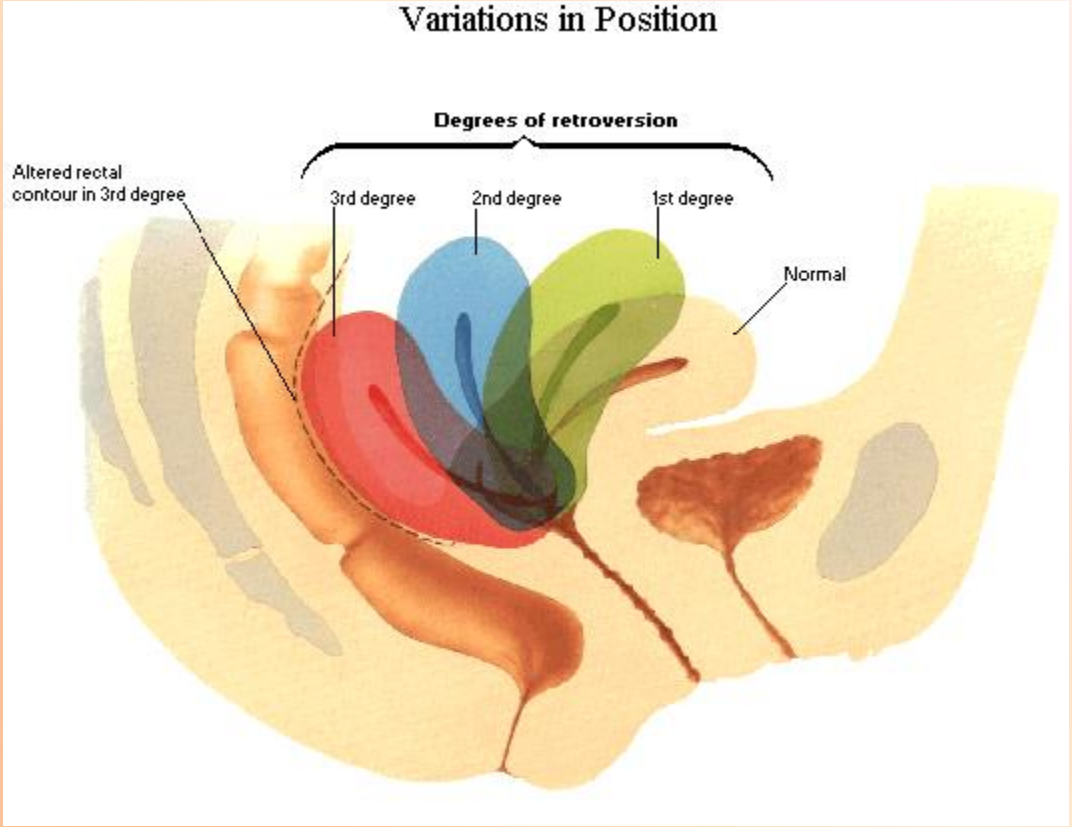
When the uterus is straightened or the corner is open back, it is **pathology** which is called **retroflexion**.

Position of the uterus

Position of a uterus in a lesser pelvic changes depending on extent of filling of a urinary bladder or a rectum. Distinguish two possible provisions **(inclination)** of a uterus:

•**Anteversion** - uterus inclination forward, thus a corner between an uterus axis and a vagina axis less than 90 degrees. Such situation is observed at an empty urinary bladder.

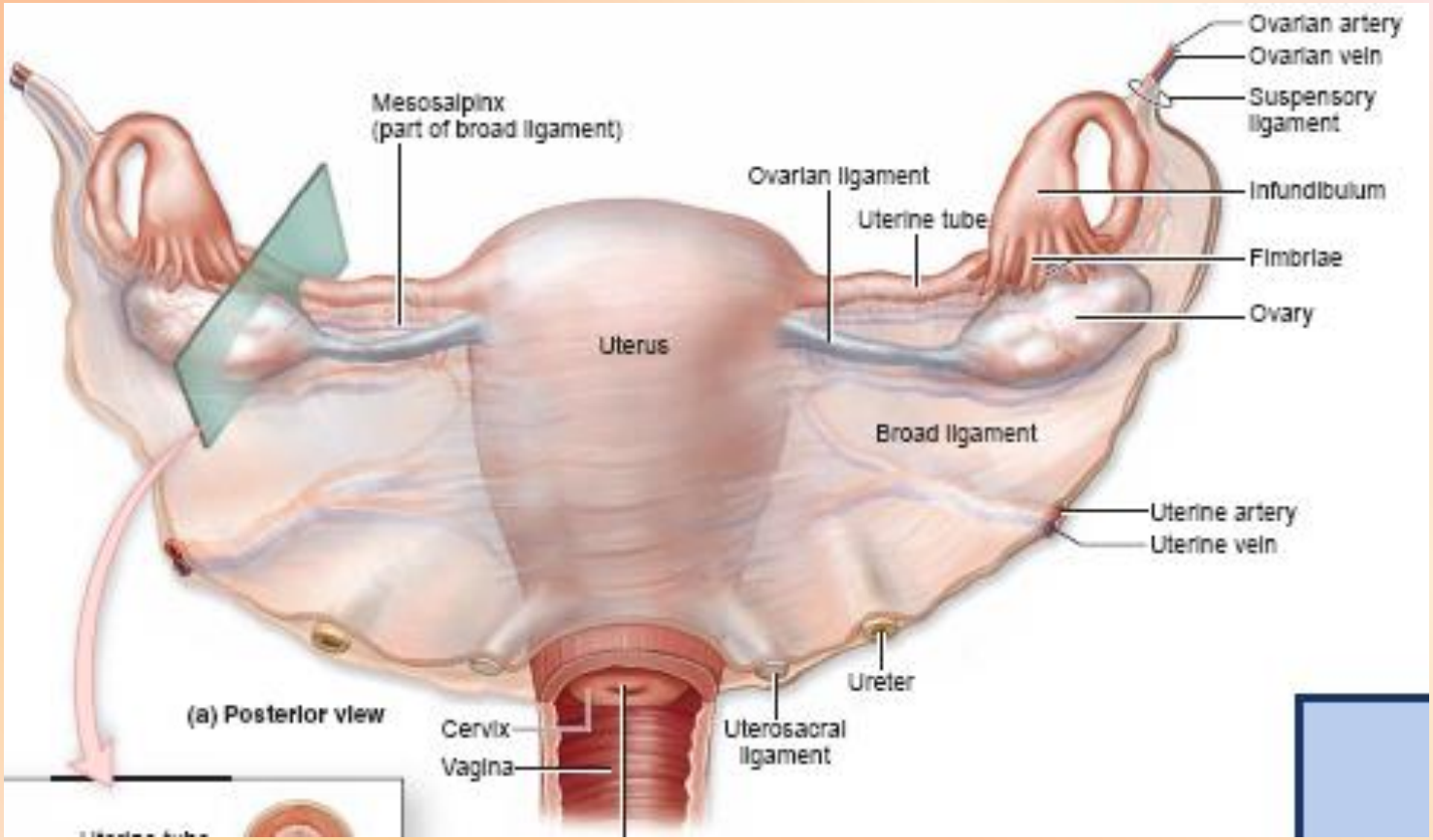
•In a case of **retroversion** a corner between an uterus axis and a vagina axis more than 90 degrees. Such situation is observed at the full urinary bladder.



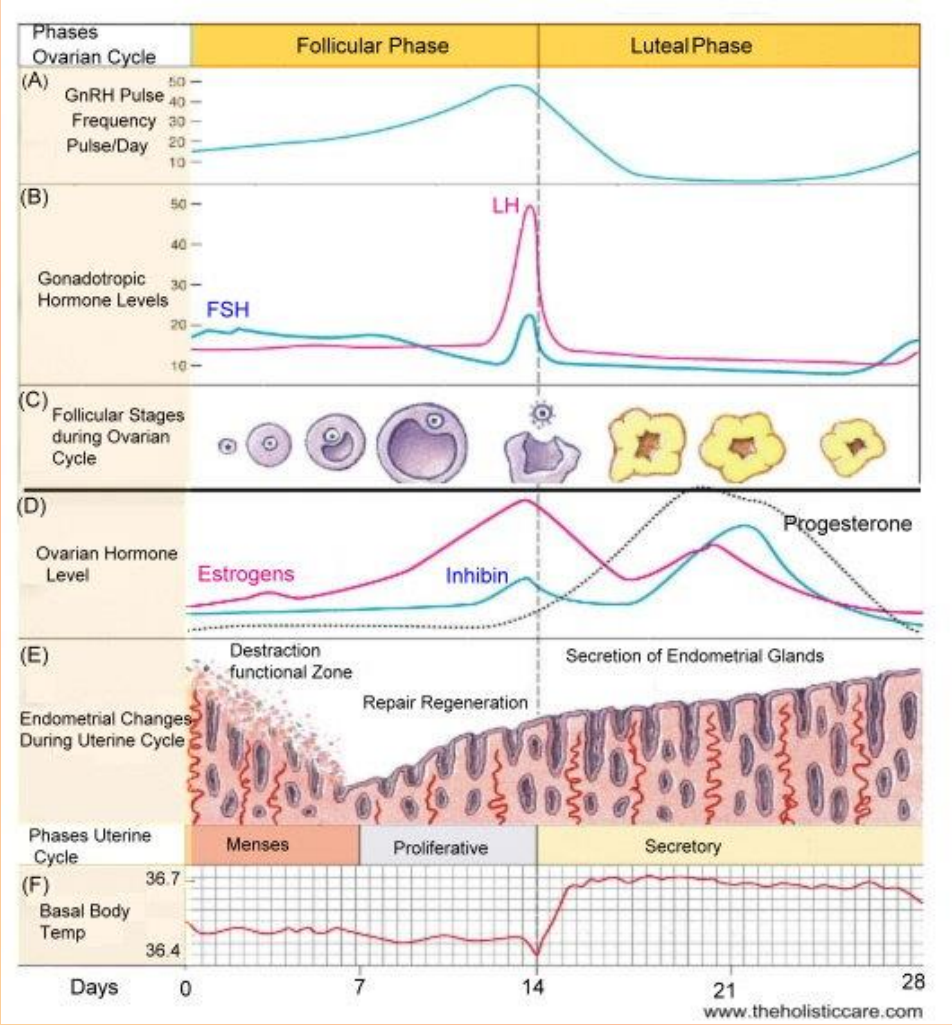
Both anteversion and retroversion - normal variants!

The fixing apparatus of a uterus (ligaments)

Some various ligaments are allocated at a uterus:
-The **two lateral or broad** ligaments (ligamentum latum uteri)
-The **transverse cervical ligaments (or cardinal ligaments)** (Mackenrodt's)
-The **round ligaments** (ligamentum teres uteri)
-The **anterior ligament**
- The **posterior ligament**



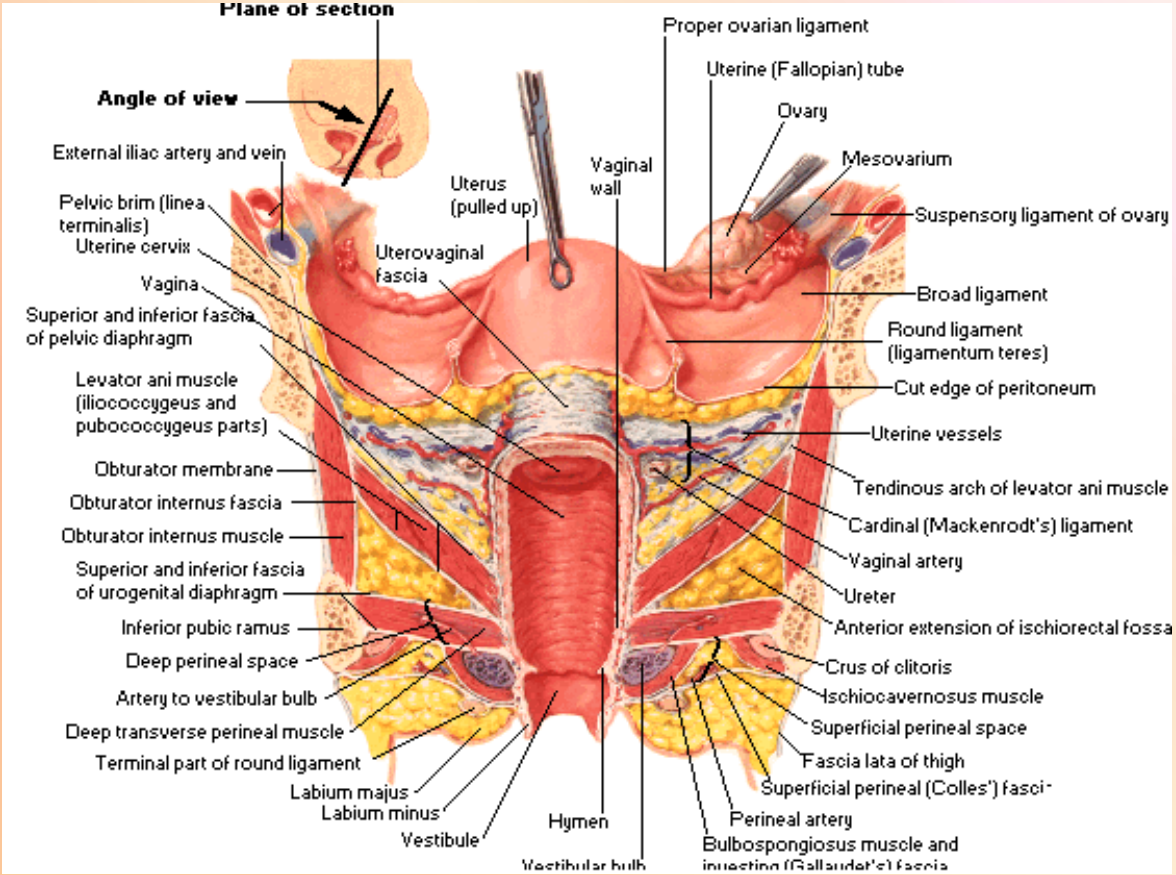
Ovarian and Uterine Cycles



Vagina=Влагалище=Colpos

Functions. The vagina serves as a passageway for menstrual flow, receives the erect penis during intercourse, and is the birth canal during childbirth.

The vagina is a fibromuscular tube, about 10 cm long, that extends from the cervix of the uterus to the outside. It is located between the rectum and the urinary bladder.



External female genitalia

They include

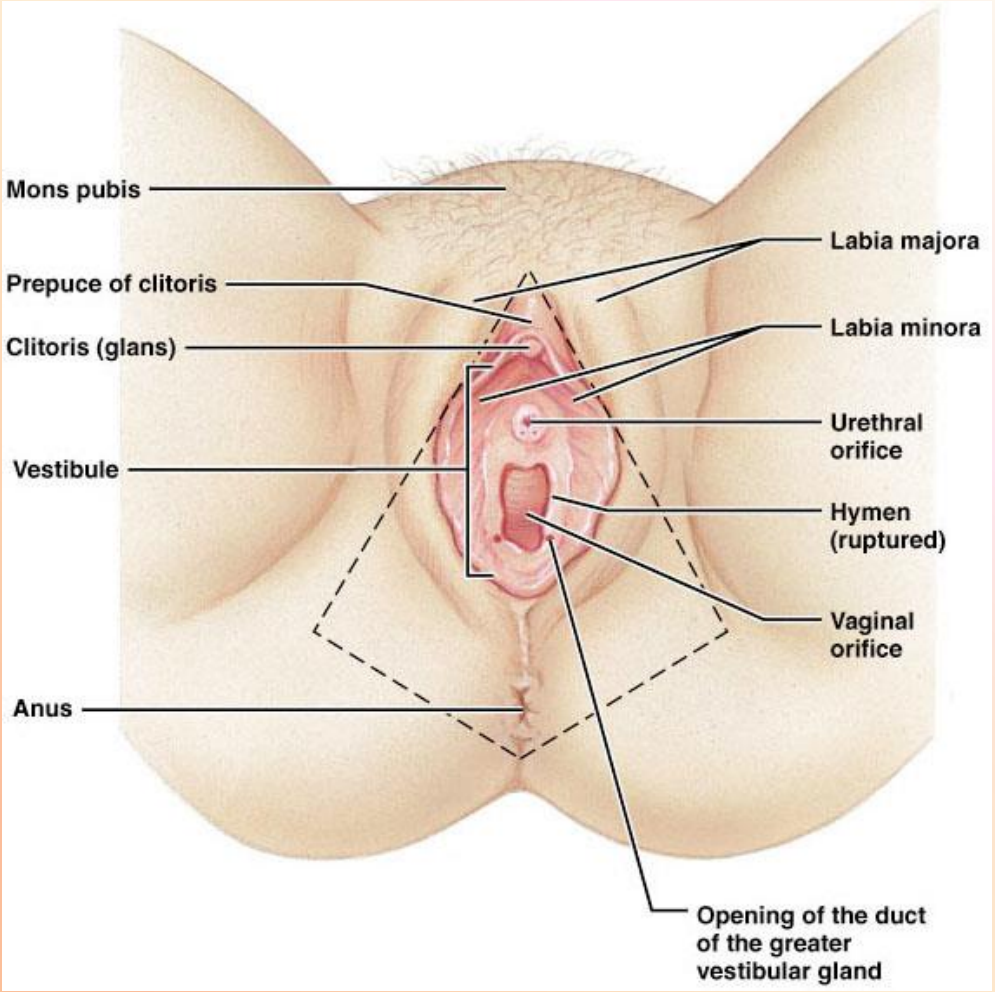
- majus and minus labia
- clitoris
- vagina vestibule
- greater vestibular glands

Female External Genitalia

The **labia majora** are paired, thickened folds of skin and connective tissue. The labia majora limit **a pudendal cleft.**

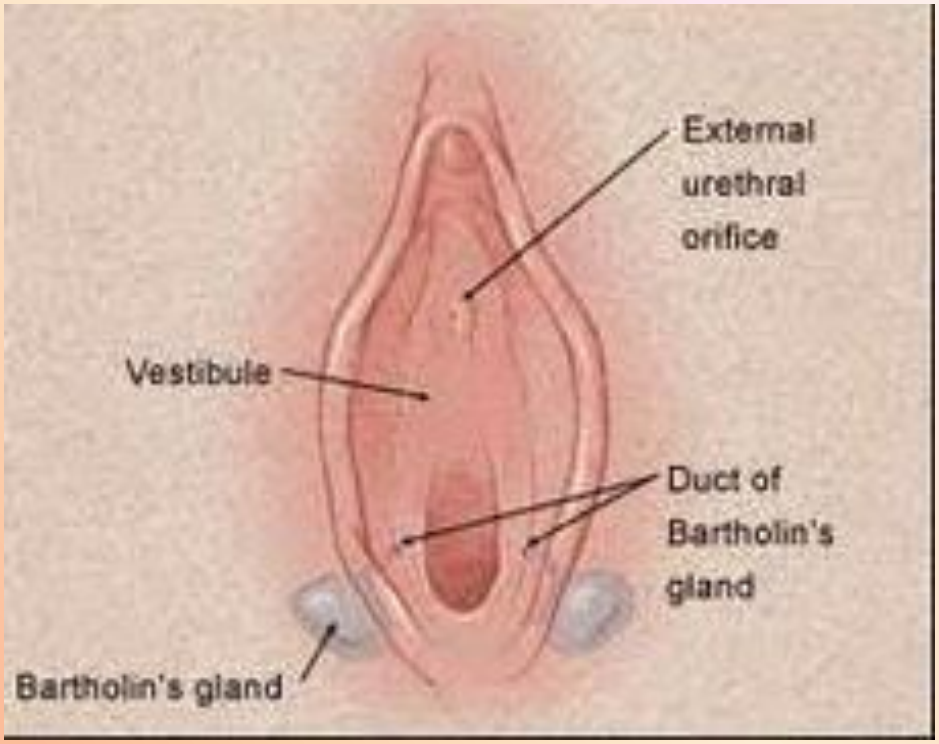
The **labia minora** are paired folds immediately internal to the labia majora.
The space between the labia minora is called the **vagina vestibule.**

The **clitoris** is a small erectile body, located at the anterior regions of the labia minora. It is homologous to the penis of the male.



Greater vestibular glands (Bartholin's Glands)

- The Bartholin's glands are located on each side of the vaginal opening.
- They secrete fluid that helps lubricate the vagina.



Review: Introduction to the Reproductive System

The four functions of the reproductive system are:
-To produce egg and sperm cells
-To transport and sustain these cells
-To nurture the developing fetus
-To produce hormones

The primary reproductive organs are the gonads, which produce the gametes and hormones. **The secondary, or accessory, structures** transport and sustain the gametes and nurture the developing offspring.

The male reproductive system consists of the testes, duct system, accessory glands, and penis. The male gonads are the testes. Their location within the scrotum is necessary for the production of viable sperm.

The female reproductive system includes the ovaries, uterine tubes, uterus, vagina, accessory glands, and external genital organs. The female gonads are the ovaries, which are located on each side of the uterus in the pelvic cavity. Estrogen and progesterone stimulate the development of glandular tissue and ducts in the breast. Prolactin stimulates the production of milk, and oxytocin causes the ejection of milk.

Perineum = Промежность

Perineum is a complex of the soft tissues forming a floor of a lesser pelvic.

The perineum has a roof formed by the pelvic diaphragm and a floor of fascia and skin. It also contains the muscles and neurovasculature associated with urogenital structures and the anus.

Boundaries:

- Anteriorly: Pubic symphysis
- Posteriorly: Inferior sacrum and coccyx
- Laterally: Ischial Tuberosities
- Posterolaterally: Sacrotuberous ligaments.

A line drawn transversely across in front of the ischial tuberosities divides the space into two triangles:

- -Posteriorly is **anal triangle (Pelvic diaphragm)**
- -Anteriorly is **urogenital triangle (Urogenital diaphragm)**

Perineum = Промежность

1. Contents of Anal Triangle (Pelvic diaphragm)

-Anal canal and anus

-External and internal anal sphincters

-Ischiorectal fossa

Anal triangle (Pelvic diaphragm) has no sexual differences. Through it at men and women passes the anal canal. The basis it is made by a levator ani muscle. The coccygeal muscle supplements a pelvic diaphragm. These muscles begin from pubic and sciatic bones, cover a rectum, attache to a sacrum and a tailbone (forming the funnel opened up).

The part of fibres of the levator ani muscle stands apart round a rectum in the field of an anus, forming an **external sphincter of a rectum (voluntary!!!).** Between these muscles and pelvic walls is formed of a basin deepening which is called **Ischiorectal fossa**. It is filled with fatty cellulose **(Paraproctos).**

Perineum = Промежность

2. Contents of Urogenital Triangle (Urogenital diaphragm)

-Membranous and spongy urethra (males); distal urethra (females)

-Vagina (females)

Urogenital diaphragm has sexual features. The basis of an urinogenital diaphragm is made a triangular form muscle - a musculus perineum transversi profundus. Where it is passed by the urethra, fibres of a this muscle get a circular course and form an **external sphincter of an urethra (voluntary!!!**). This diaphragm is supplemented with several more muscles:

- mm. perineum transversi superficialis,
- mm. bulbospongiosus (at women share, covering a vagina. At men these muscles approach, covering a penis bulb),
- mm. ischiocavernosus (At men are attached to cavernous bodies of a penis, at women - to clitoris legs).

Perineum = Промежность

Cellulose spaces of the lesser pelvic

Cellulose spaces of a lesser pelvic include:

- **Pararectum** is a cellulose round a rectum **within** a lesser pelvic.
- **Paravesical** is a cellulose round a urinary bladder.
- **Paraproctos** is a cellulose round a rectum **outside** a lesser pelvic**.**
- At women **Parametrium** is a cellulose between lies of broad ligaments of a uterus.

Perineum = Промежность