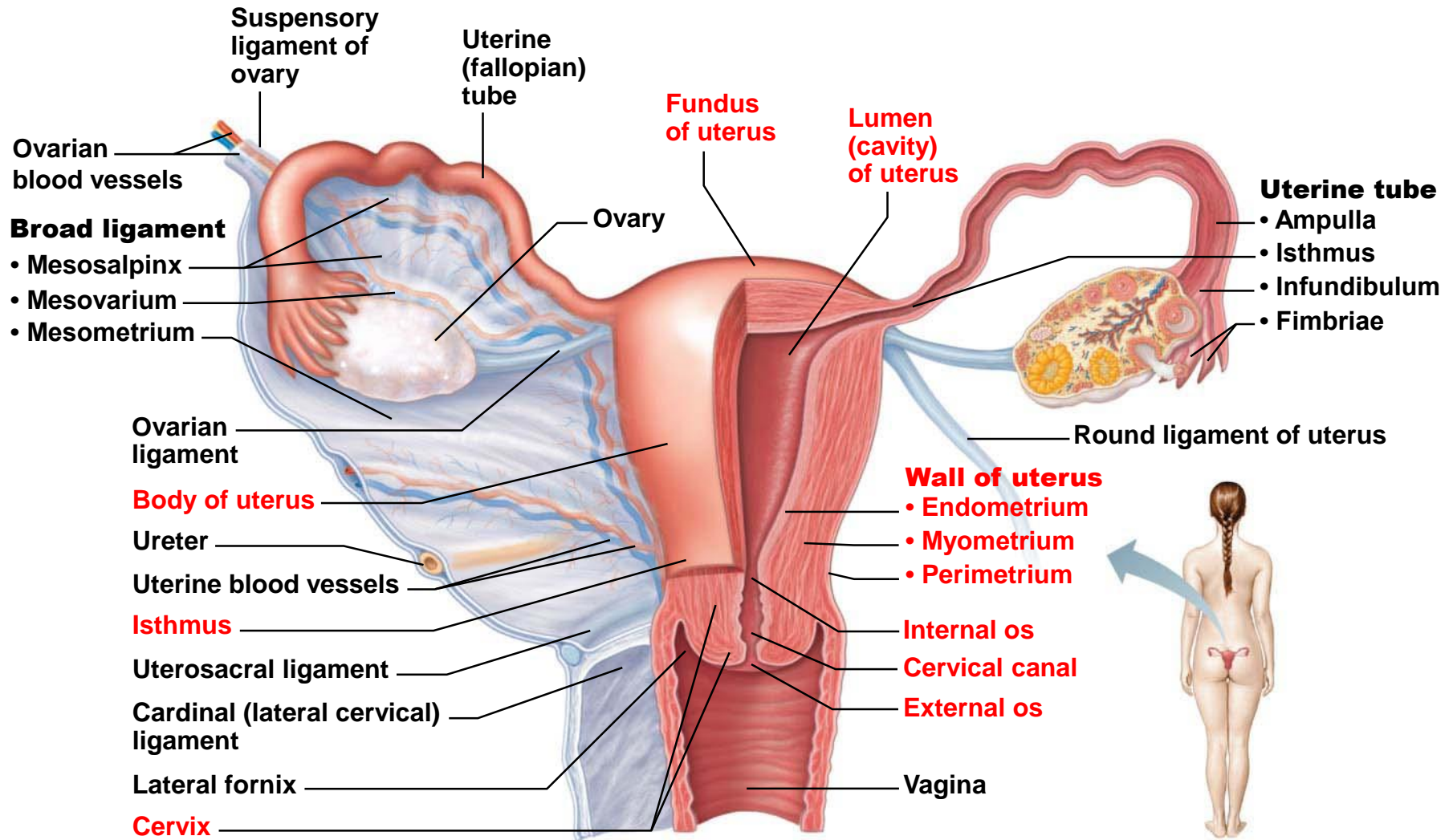
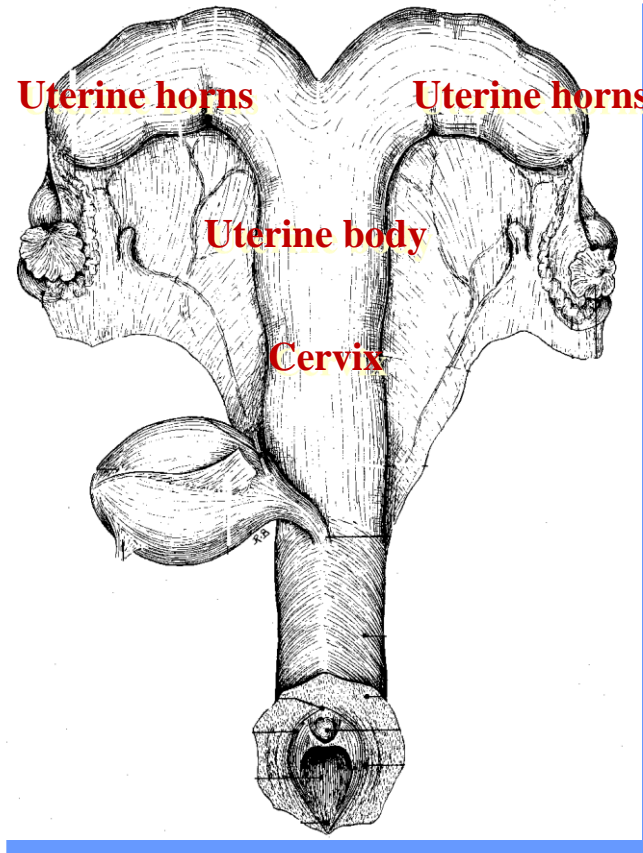


# The Uterus



**(a) Posterior view**

# The uterus: domestic animals



# Functions

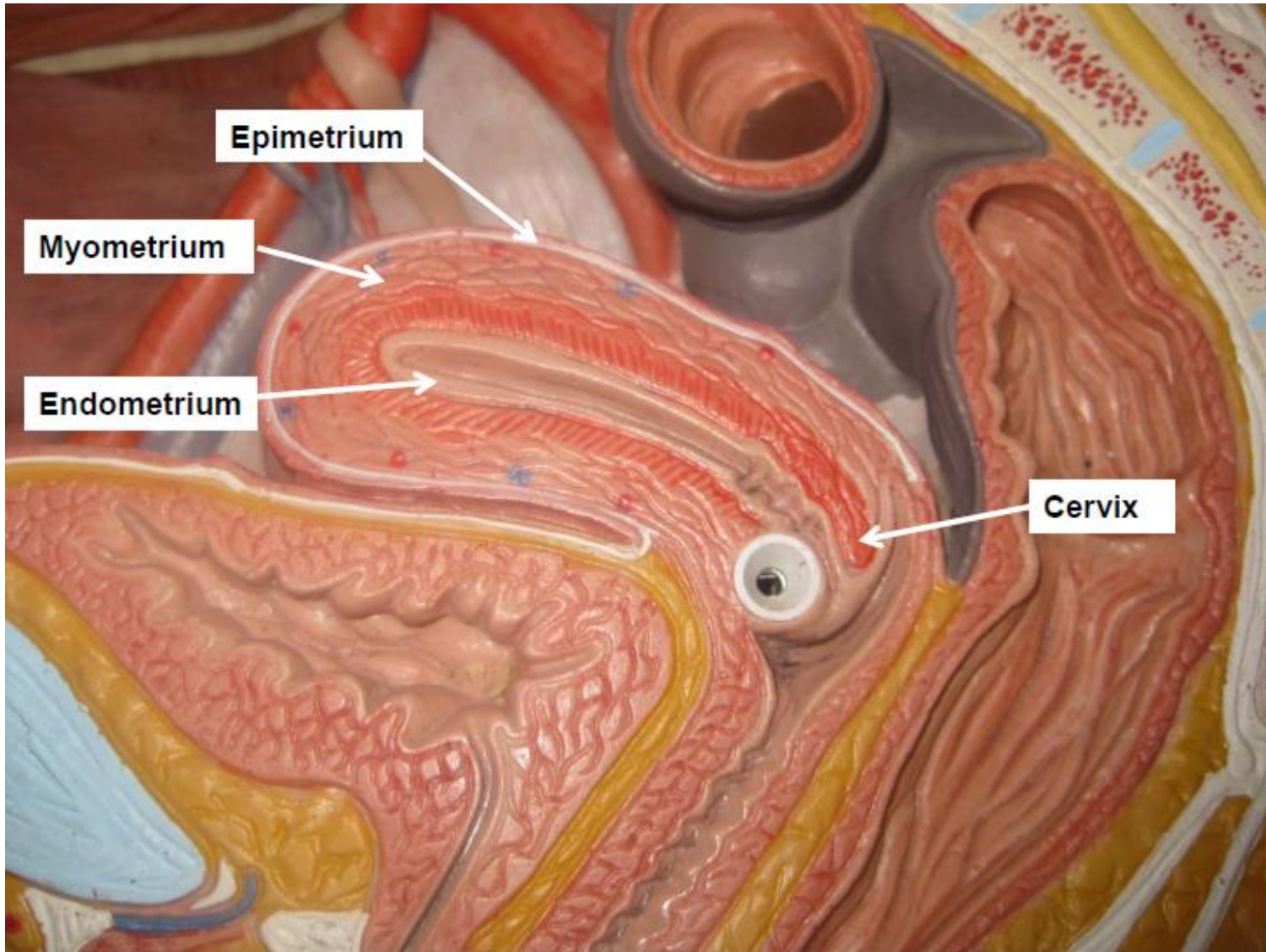
1. serves to receive the sperm in mares, sow, bitch
2. transports sperm from site of deposition to uterine tubes for fertilization
3. provides suitable environment for:
  - a. implantation of the embryo
  - b. nourishment of the embryo & fetus during pregnancy
4. provides mechanical protection of the fetus
5. expels the mature fetus at the end of pregnancy

In the fundus and body of the uterus, the wall is divided into the:

– Three layers of **Uterine wall**

- **Perimetrium:** tunica serosa
- **Myometrium:** tunica muscularis
- **Endometrium:** tunica mucosa and tunica submucosa

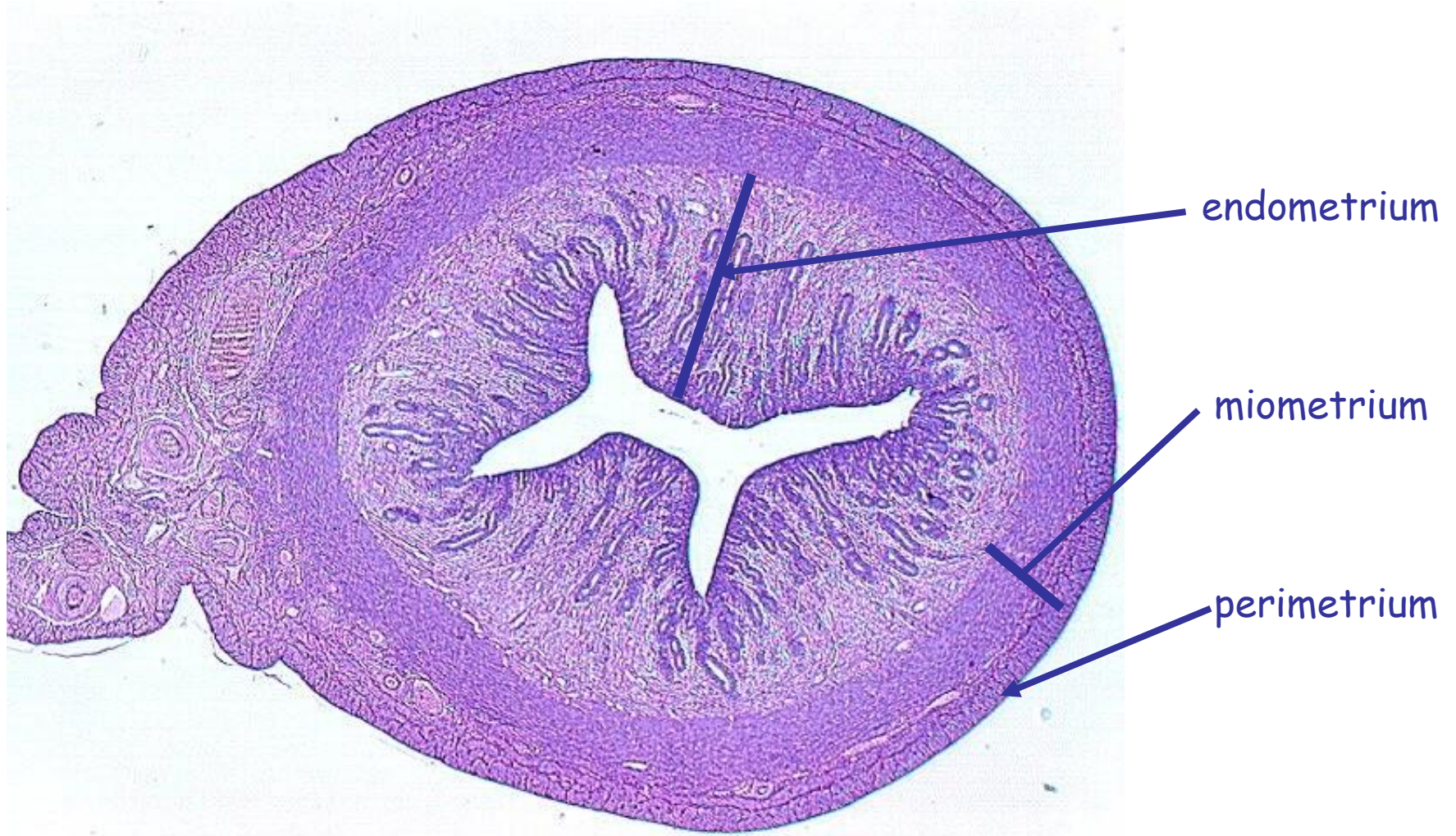
# The Uterine wall



## – Three layers of **Uterine wall**

- **Perimetrium**: outermost serous layer (visceral peritoneum)
- **Myometrium**: large middle layer consisting of smooth muscle layers
  - Contracts rhythmically during childbirth
- **Endometrium**: mucosal lining
  - Simple columnar epithelium on top of a thick lamina propria
  - Embryo burrows into endometrium and resides there during development

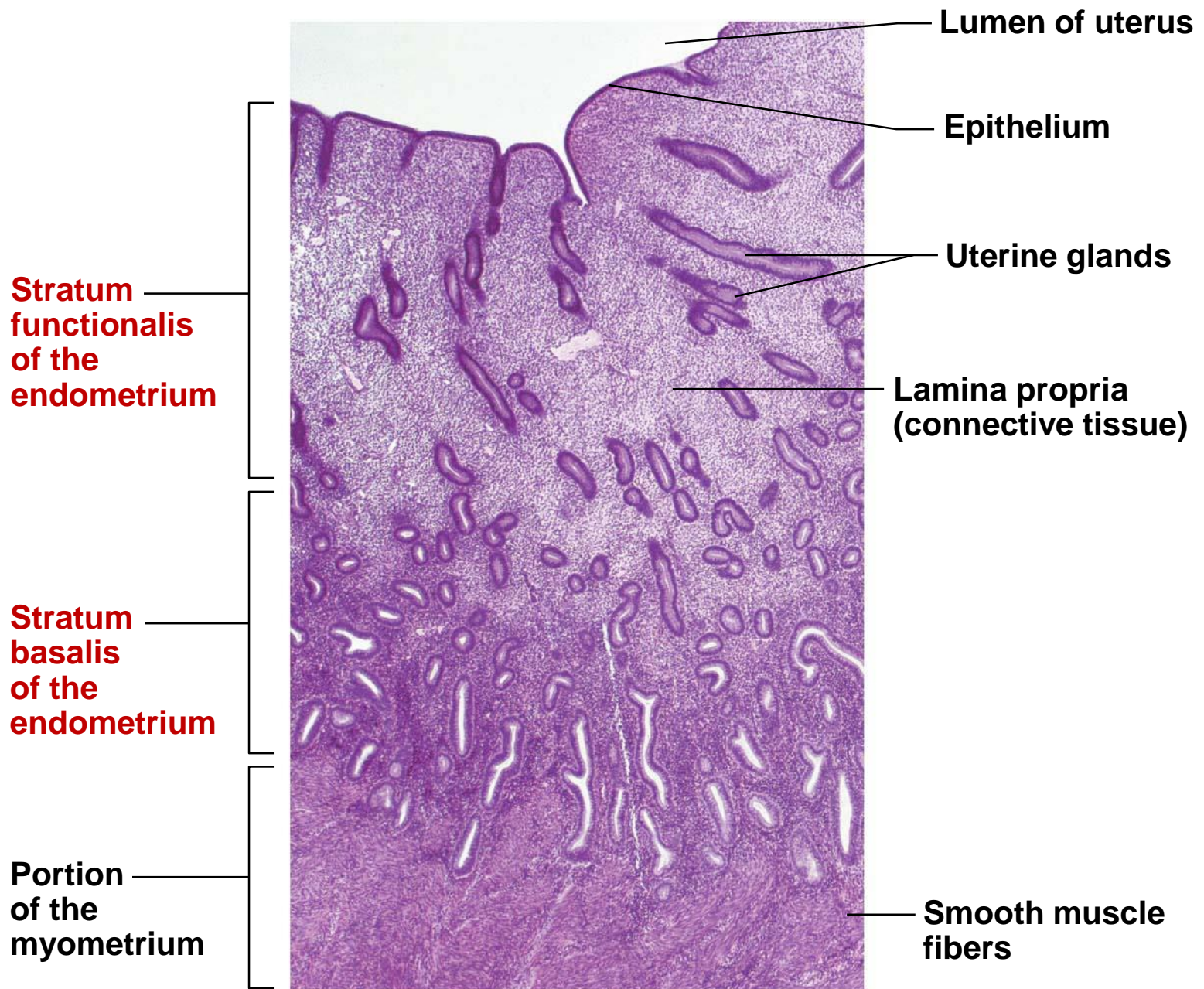
# UTERUS: STRUCTURE



# The Endometrium

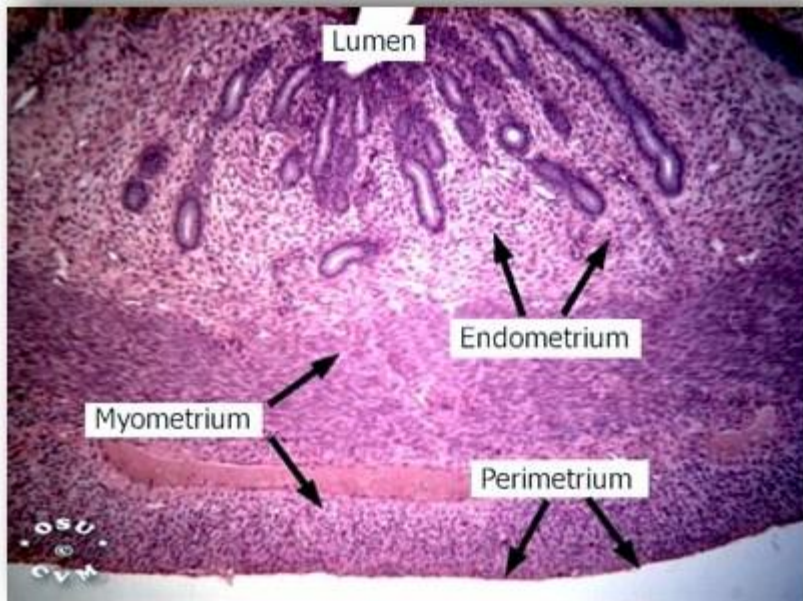
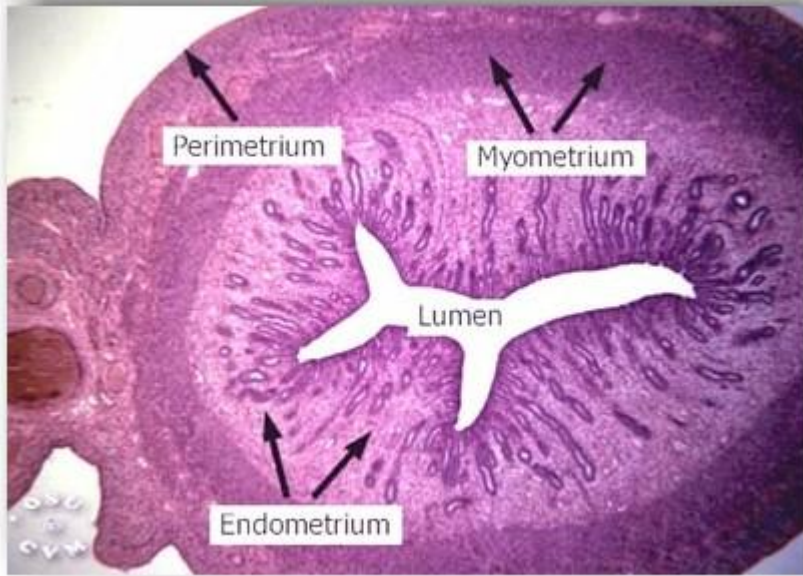
- Endometrium has two chief layers (*strata*)
  - **Stratum functionalis (functional layer)**
    - Changes in response to ovarian hormone cycles
    - Shed during menstruation
  - **Stratum basalis (basal layer)**
    - Forms new stratum functionalis after menstruation
    - Unresponsive to ovarian hormones



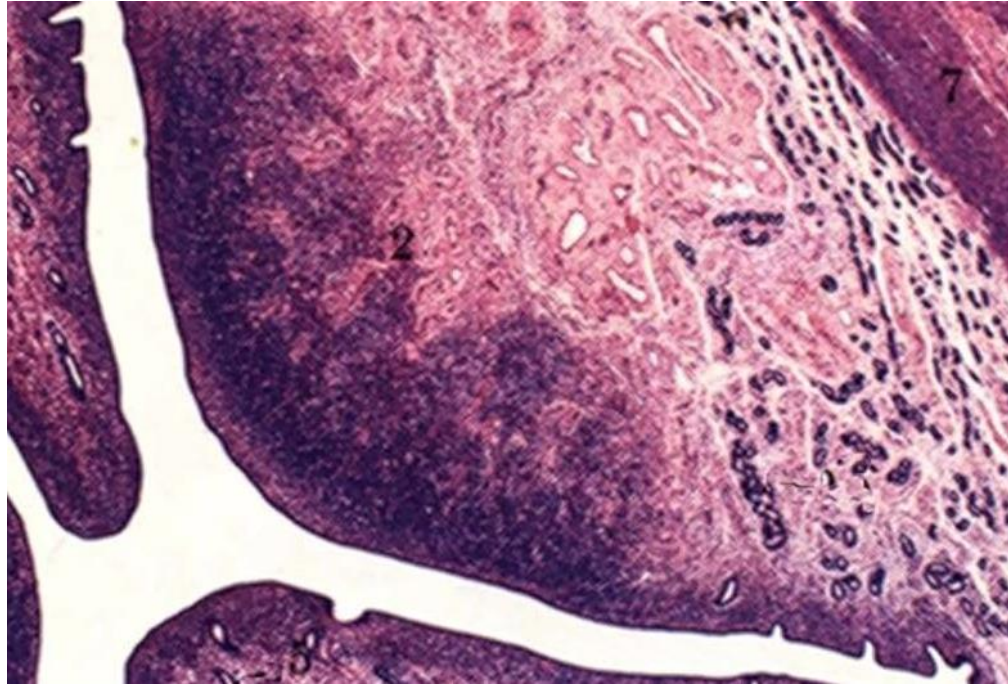


**(a)**

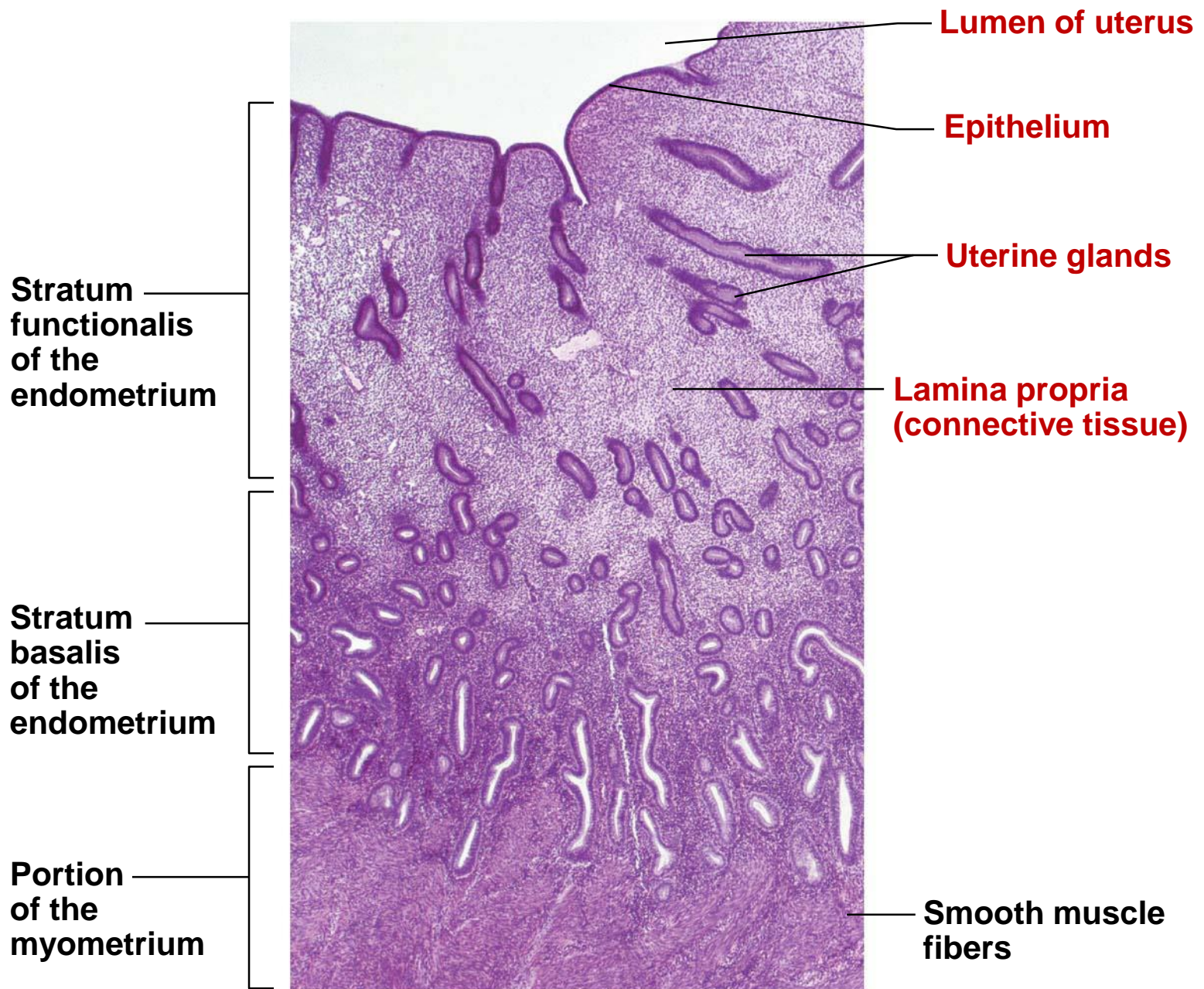
# Endometrium: uterine glands



# Caruncles

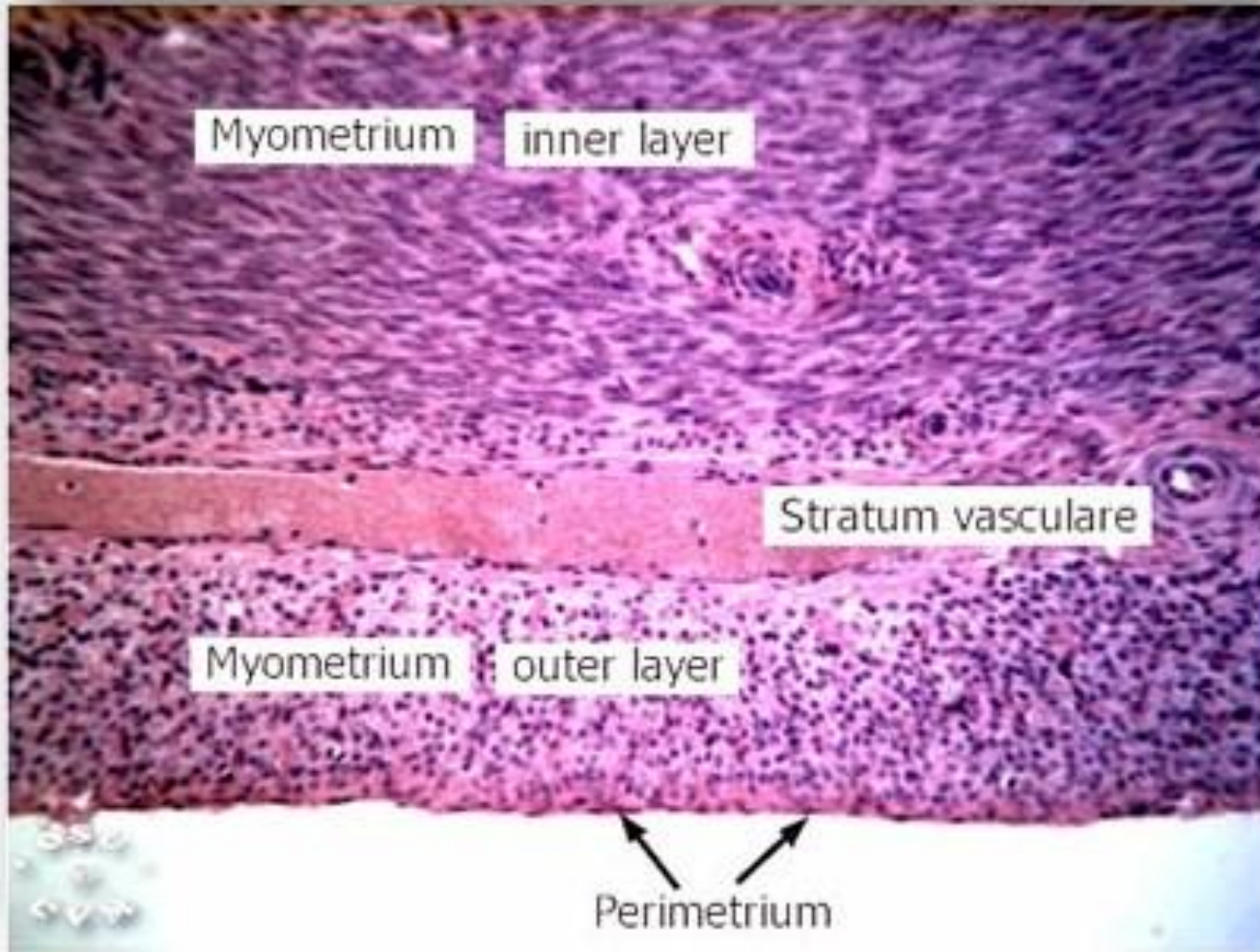


Some regions of the endometrium in ruminants are void of glands and are highly vascular. It is in these regions, called **caruncles**, that contacts between the uterus and the extraembryonic membranes are made.



**(a)**

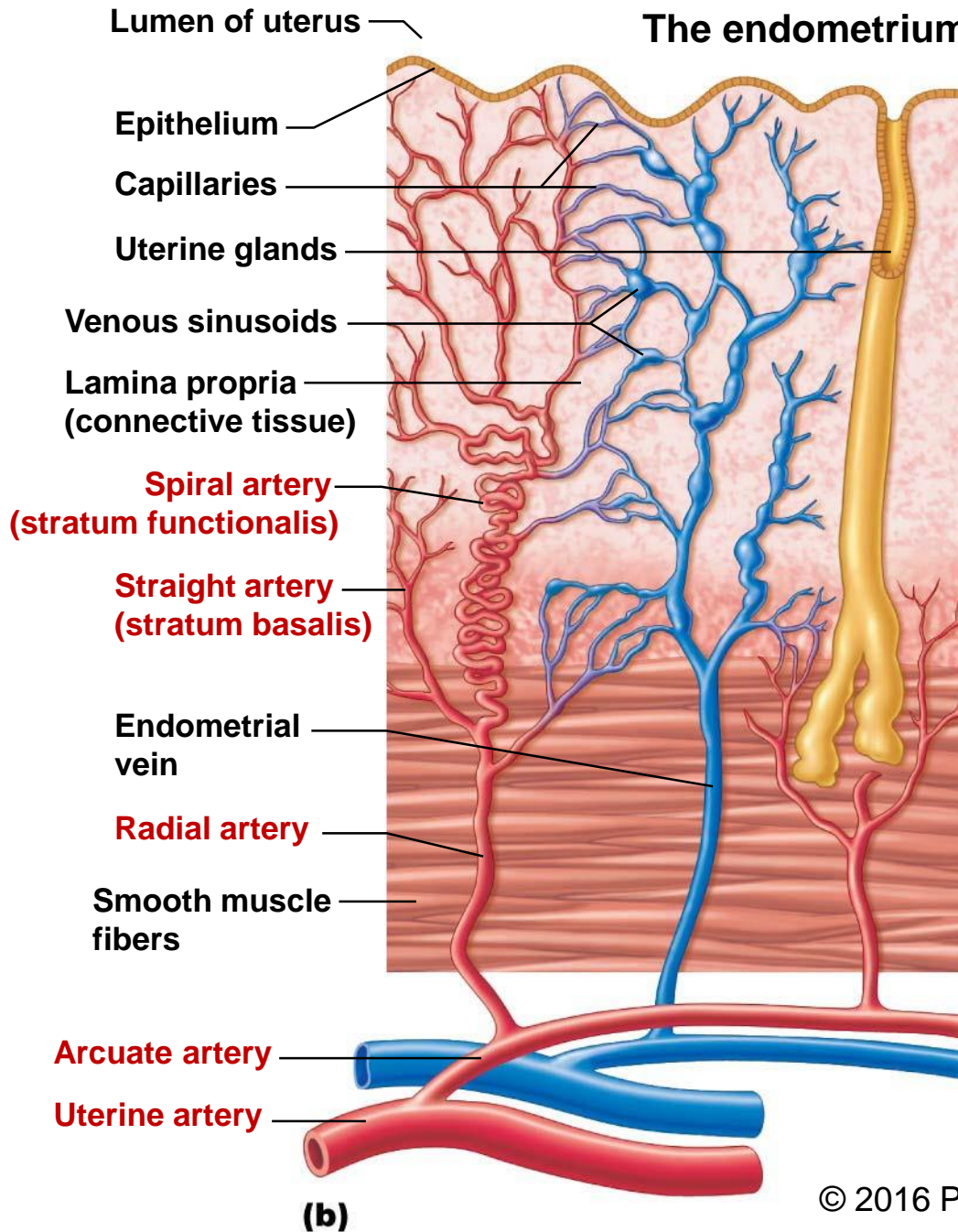
# Myometrium, stratum vasculare, Perimetrium



# The Uterus

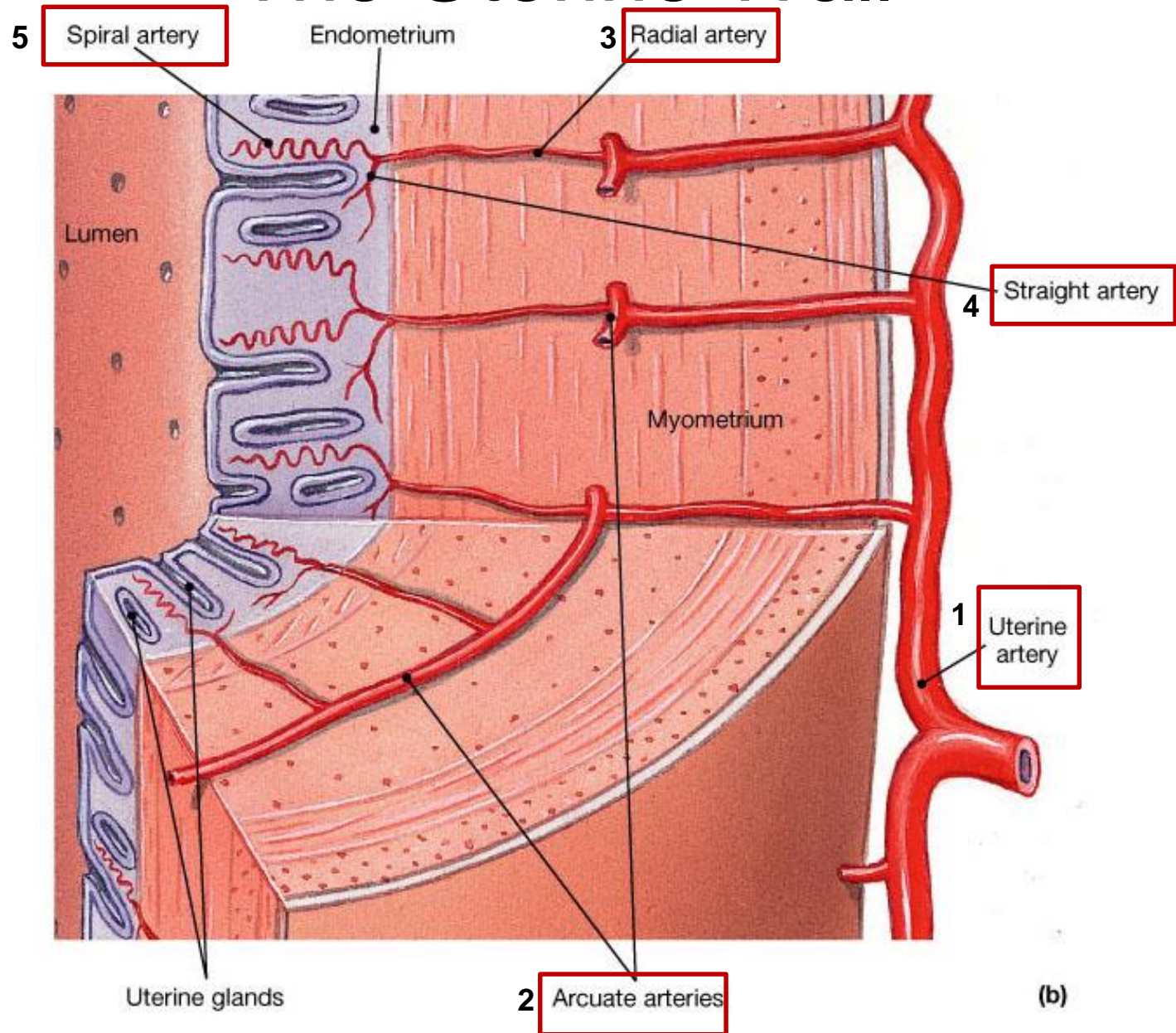
- Vascular supply plays key role in cyclic changes
  - **Uterine arteries** arise from *internal iliacs* and branch into:
  - **Arcuate arteries** in myometrium; branch into:
  - **Radial arteries** in endometrium; branch into:
    - **Straight arteries** in stratum basalis and
    - **Spiral arteries** in stratum functionalis
      - » Degenerate and regenerate
      - » Spasms cause shedding of functionalis layer during menstruation

# The endometrium and its blood supply.



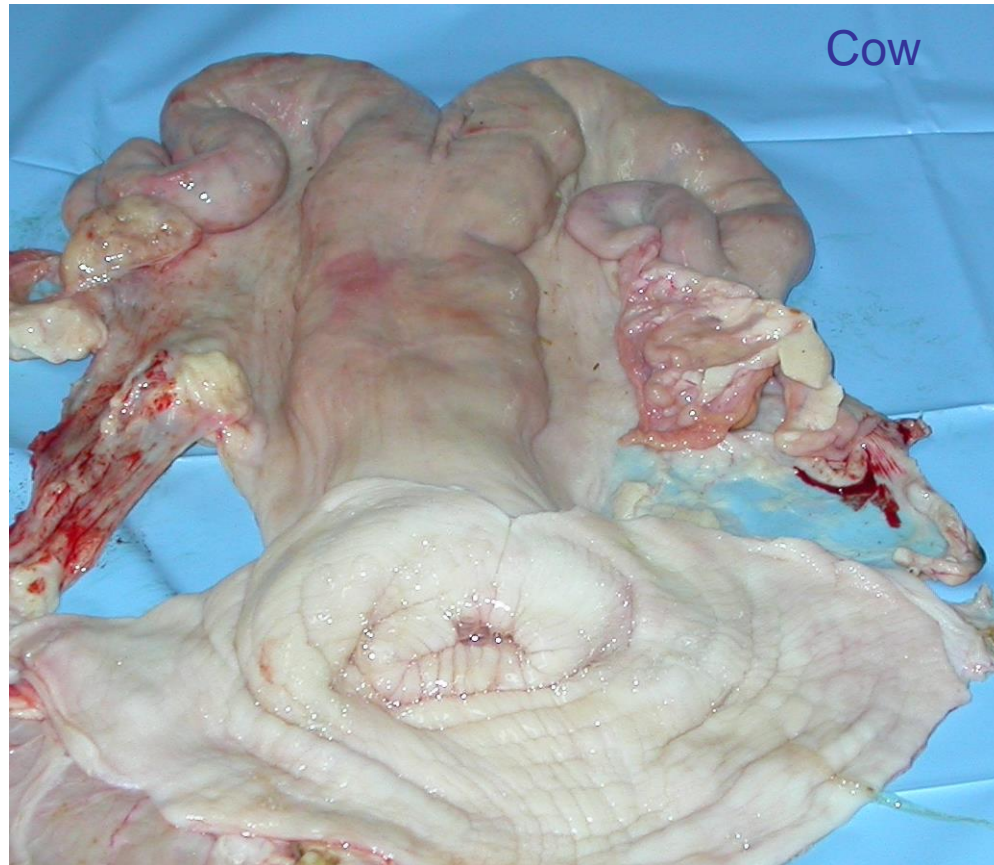
(b)

# The Uterine Wall



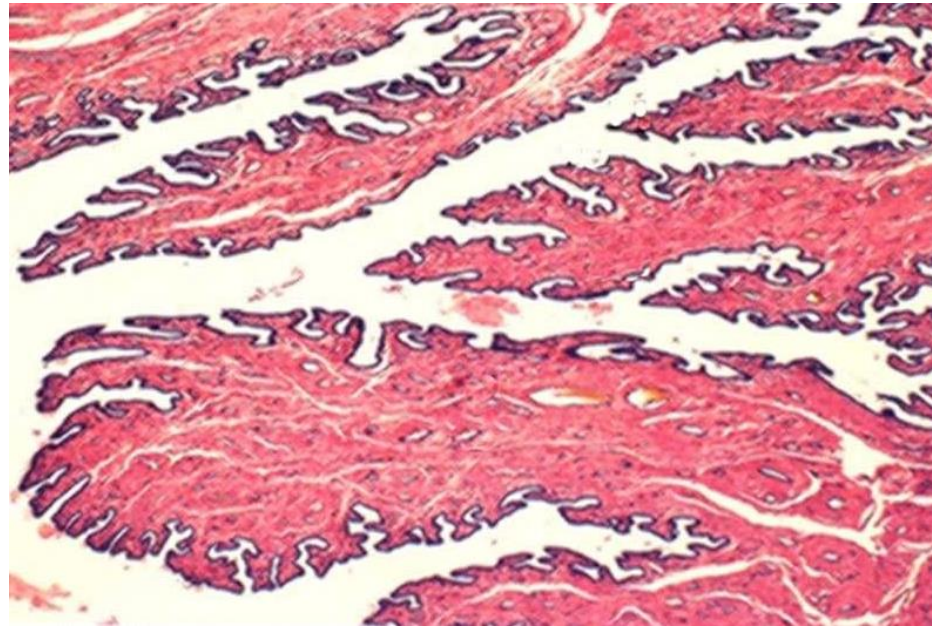
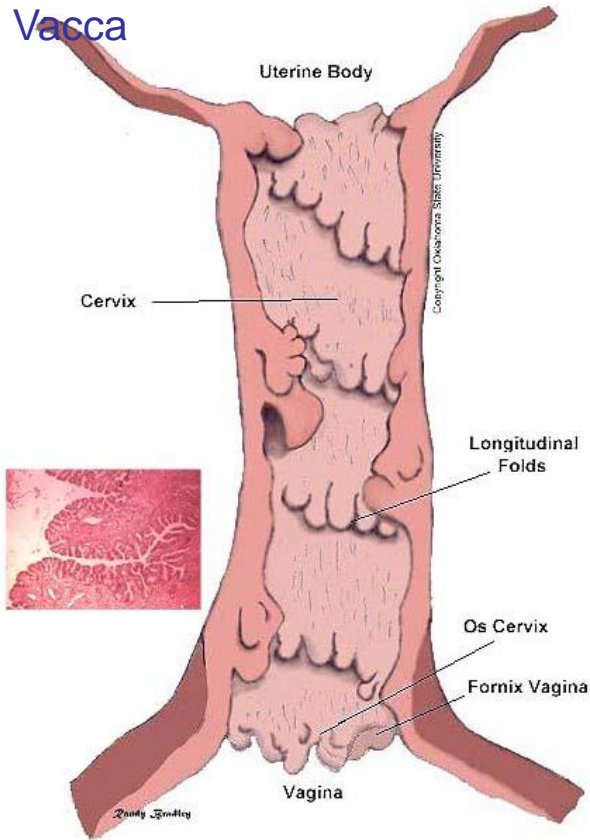


# CERVIX



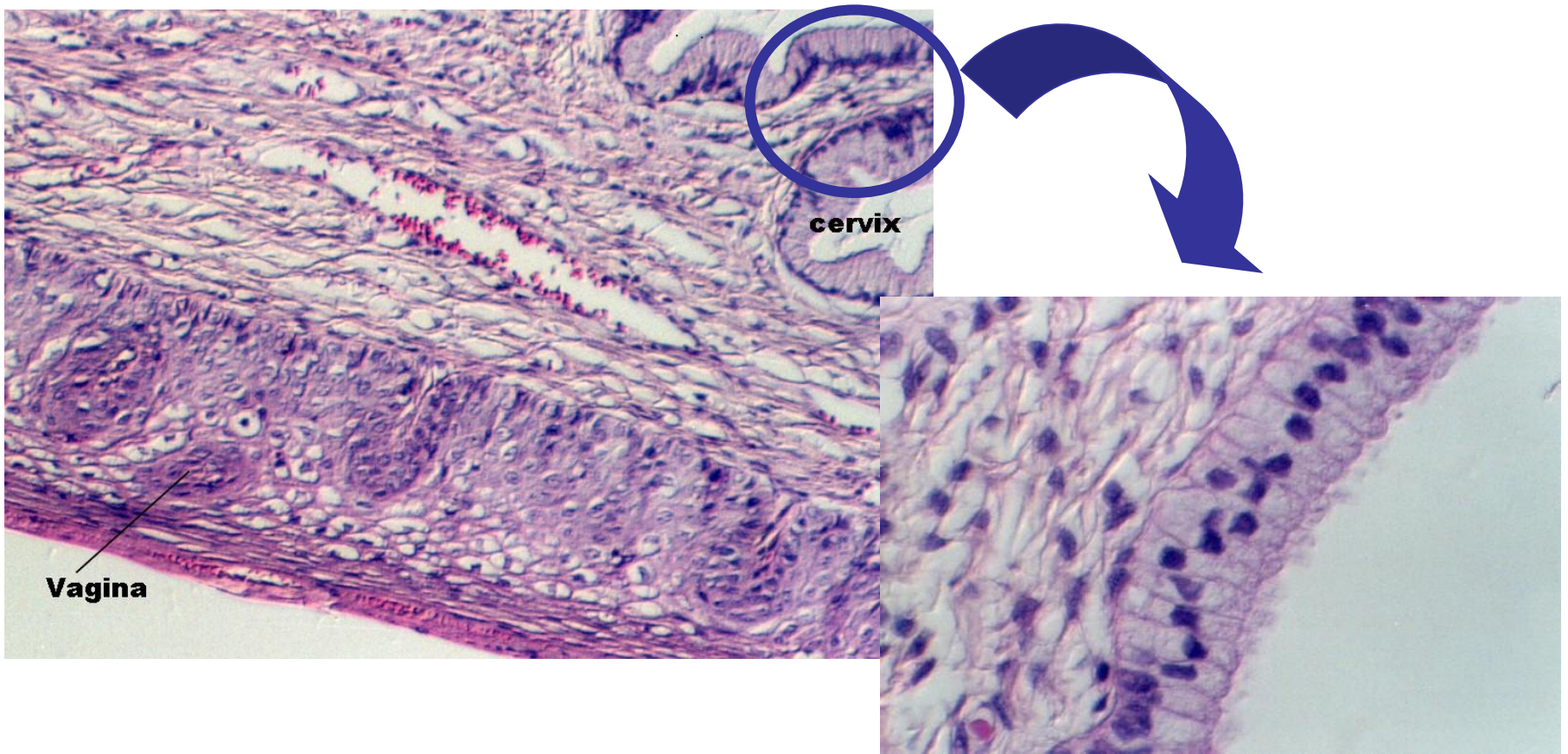
Neck of the uterus

# CERVIX: structure



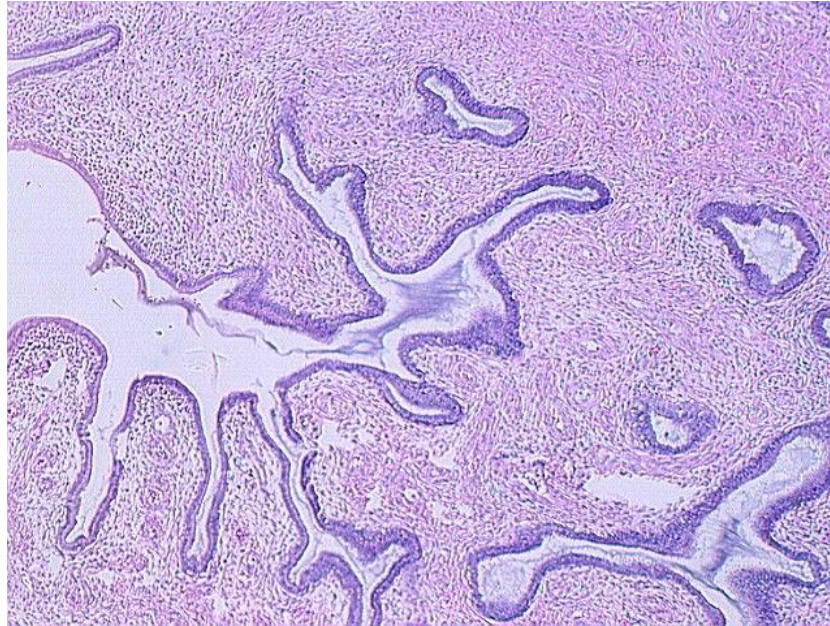
It has repetead folds

# CERVIX: mucosa



The epithelium of the upper two-thirds is **cylindrical** and **ciliated**, but below this it loses its cilia, and gradually changes to **stratified squamous epithelium** close to the external orifice.

# CERVIX: mucosa



In the upper two-thirds of the canal, the mucous membrane is provided with numerous deep glandular follicles, which secrete a clear viscid alkaline mucus.