

# Practical lectures of female fertility

## lecture 1

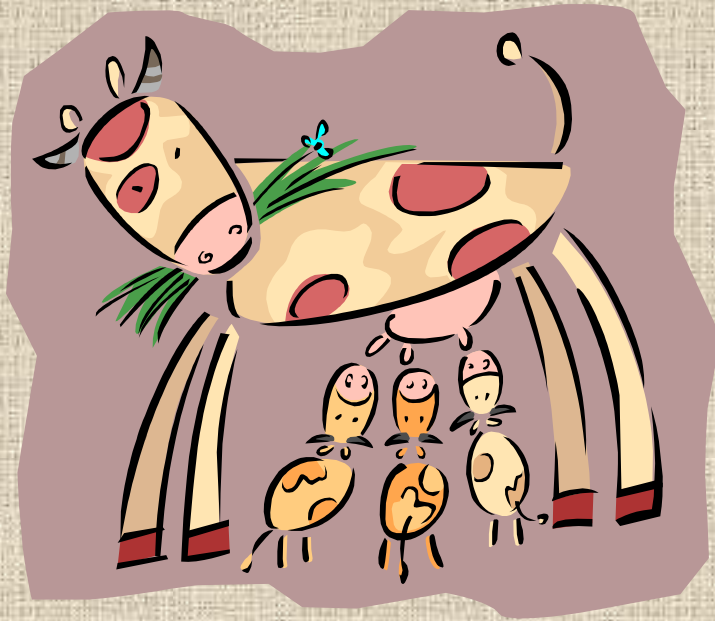
By

Dr. Wafer M. Salih

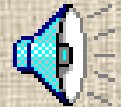
Dr. Sadeq J. Zalzala

Dr. Haydar A. AL-mutar

Dr. Ahmed M. Zakri



# **Female Reproductive Tract Anatomy and physiology**



- To learn the different structures and nomenclatures for the parts of the female reproductive system.
- To learn the basic functions for the different parts of the tract and how they work together.

# Equine - Horse

Male → Stallion

Female → Mare



# Bovine - Cattle

Male → Bull

Female → Cow



Updated: 10/3/2016

# Ovine - Sheep

Male  Ram

Female  Ewe



# caprine - goat

• Male → Buck

• Female → doe



# Canine - dog

• Male → dog



• Female → Bitch





# Feline - cats

• Male → tom



©Warren Photography

• Female → queen



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# Porcine - Swine - Pig

Male → Boar

Female → Sow



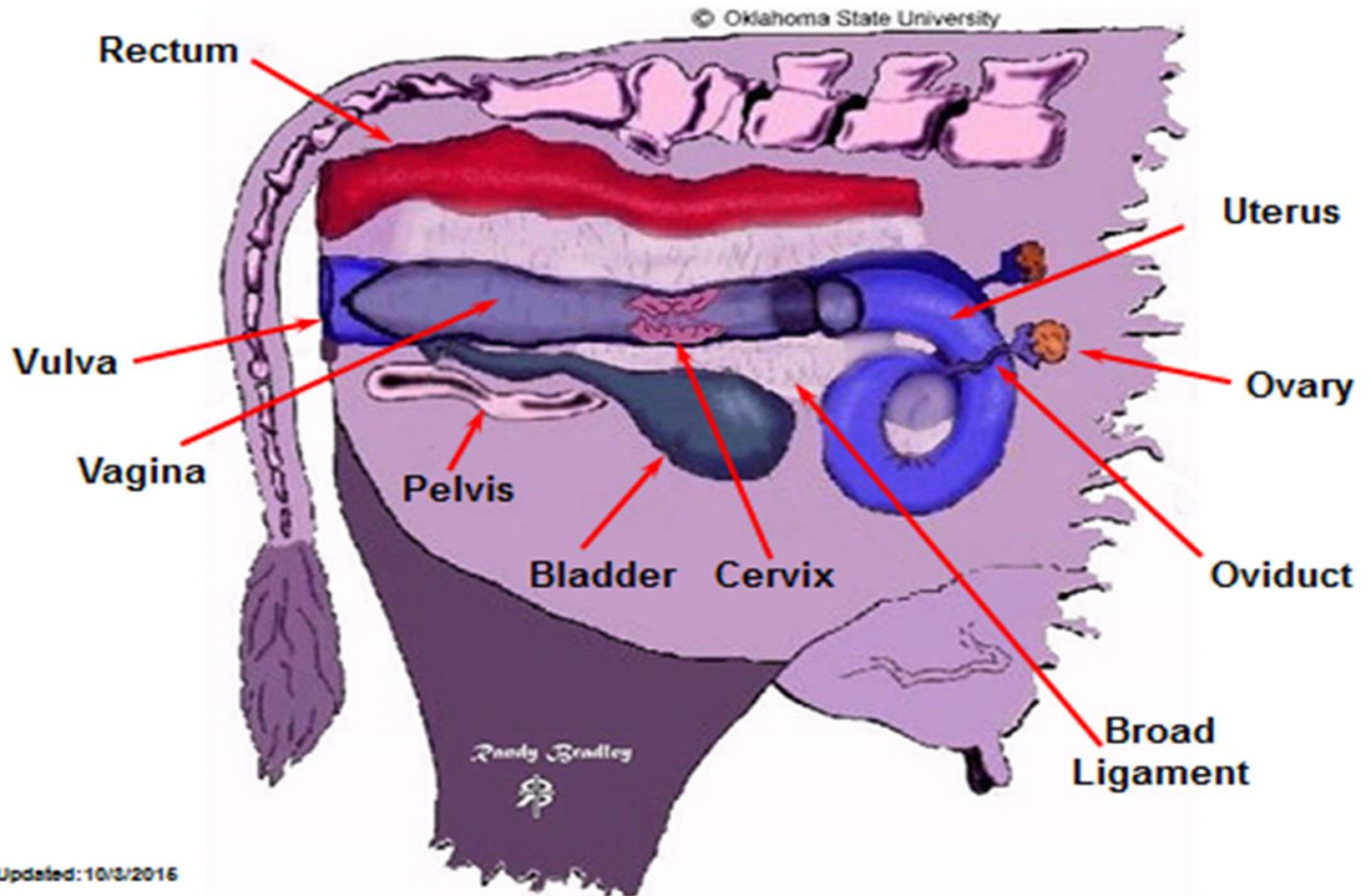
# Avian - Chicken

Male → Rooster

Female → Hen

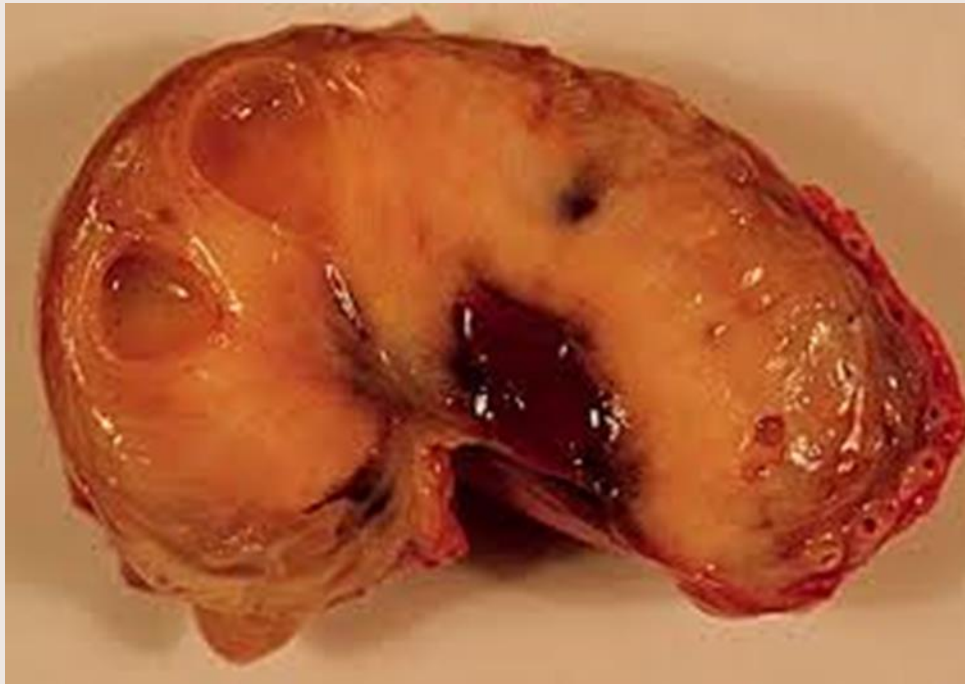


# Female Tract

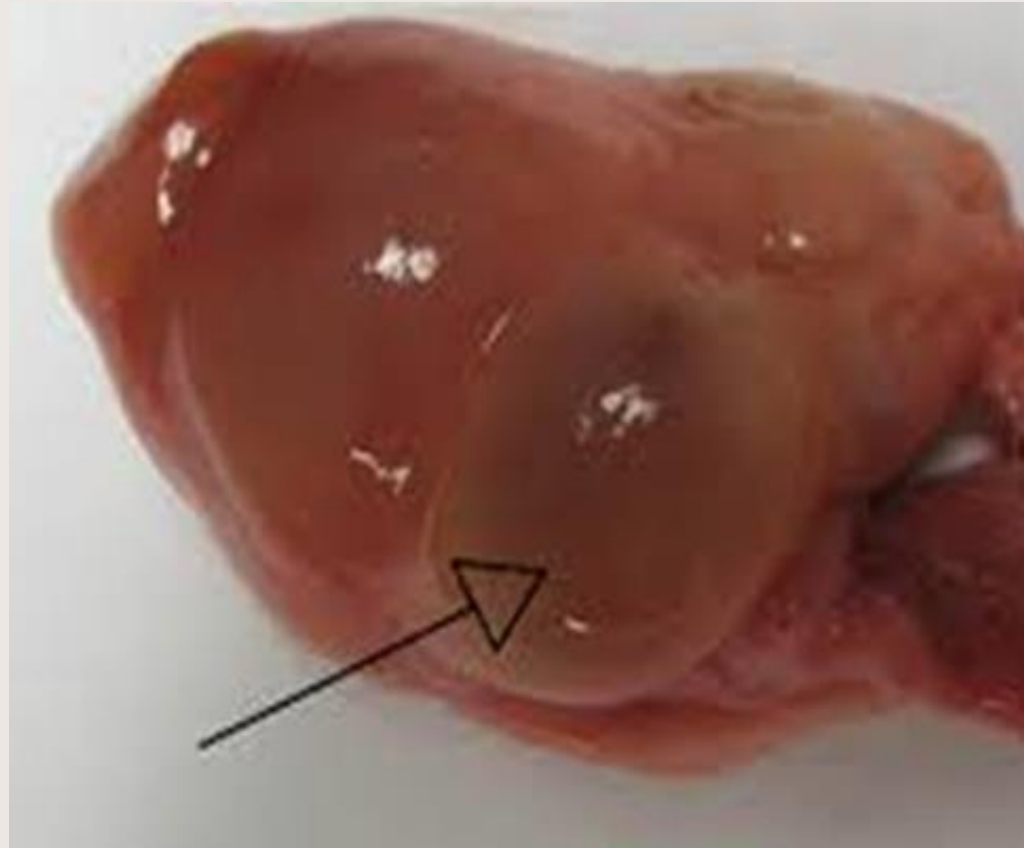


# Female Reproductive System

- Ovary in mare kidney shape



# Cow ovary oval shape



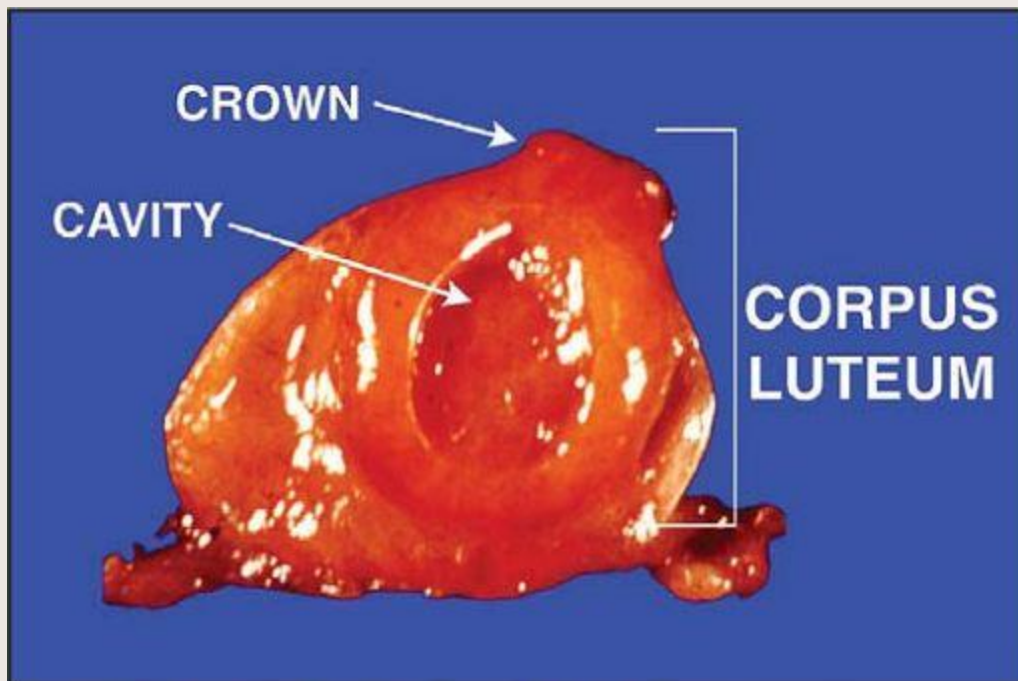


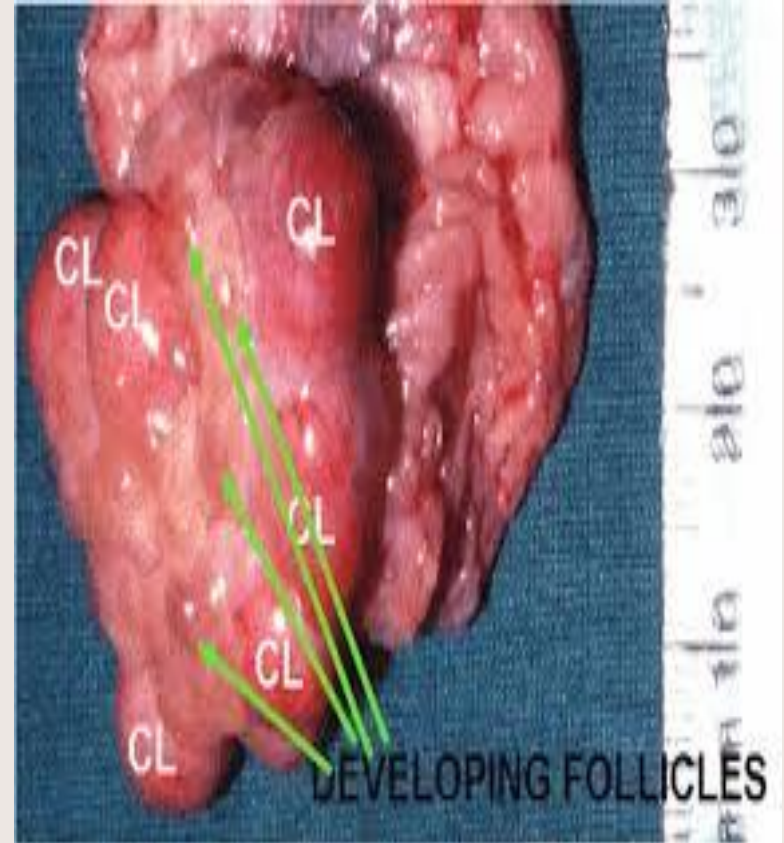
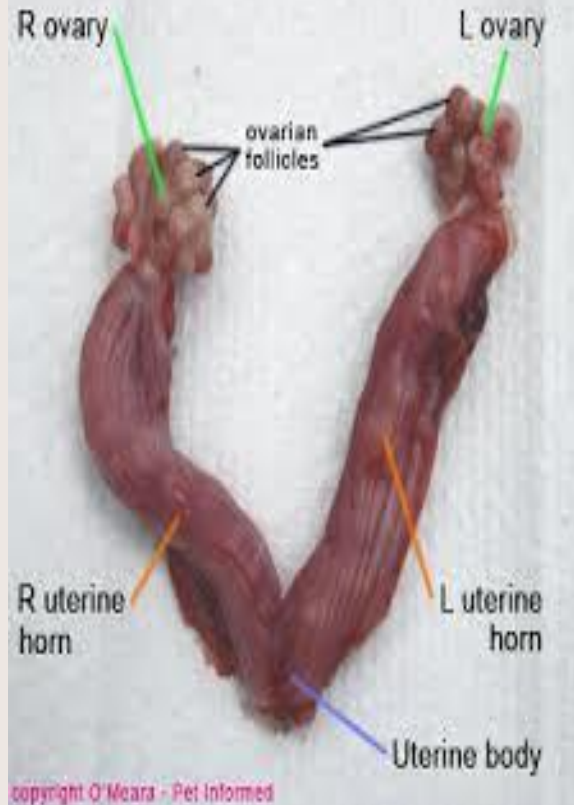
Figure 9. Cross section of bovine ovary with corpus luteum.

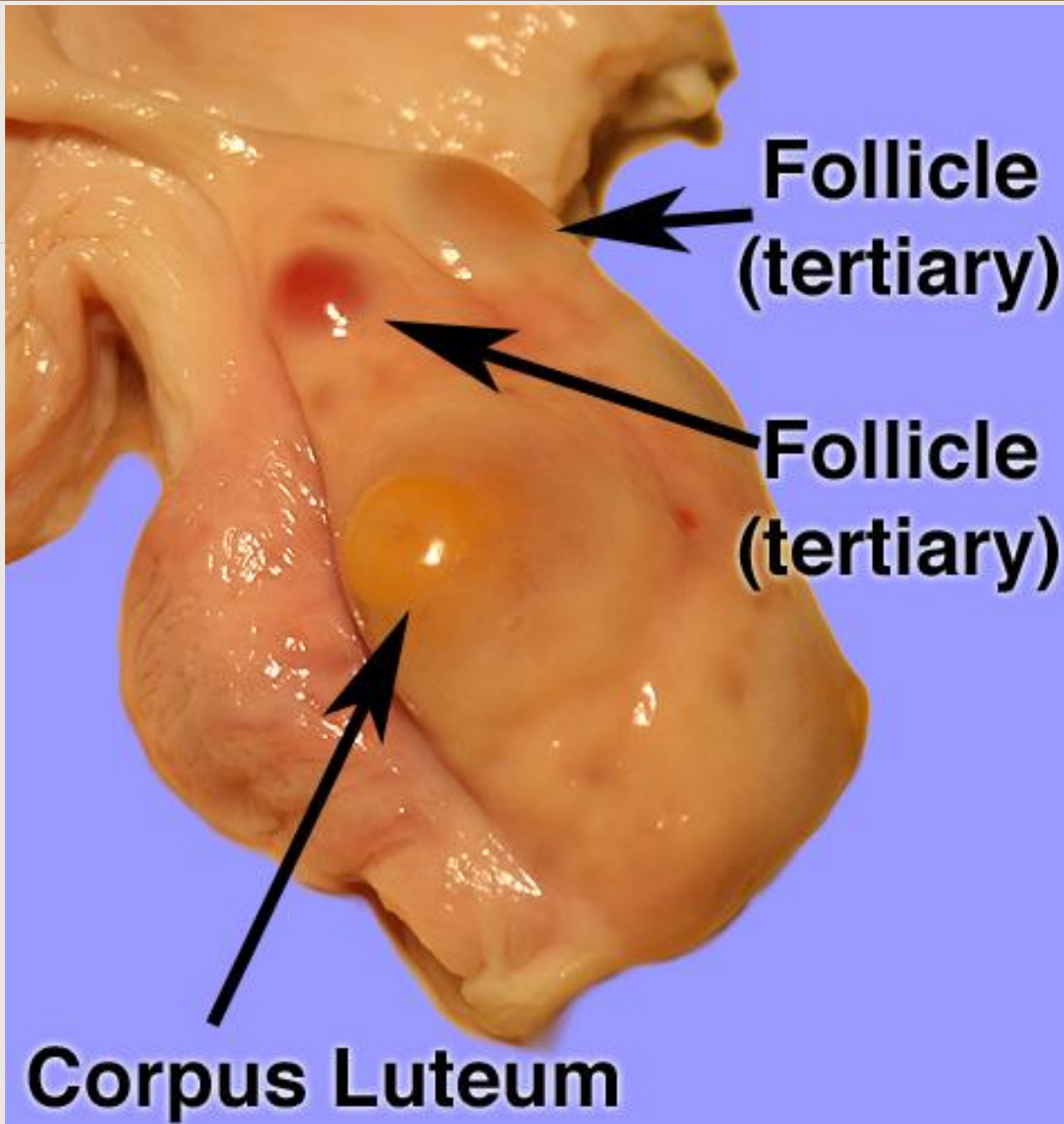
# Sow ovary cluster grapes



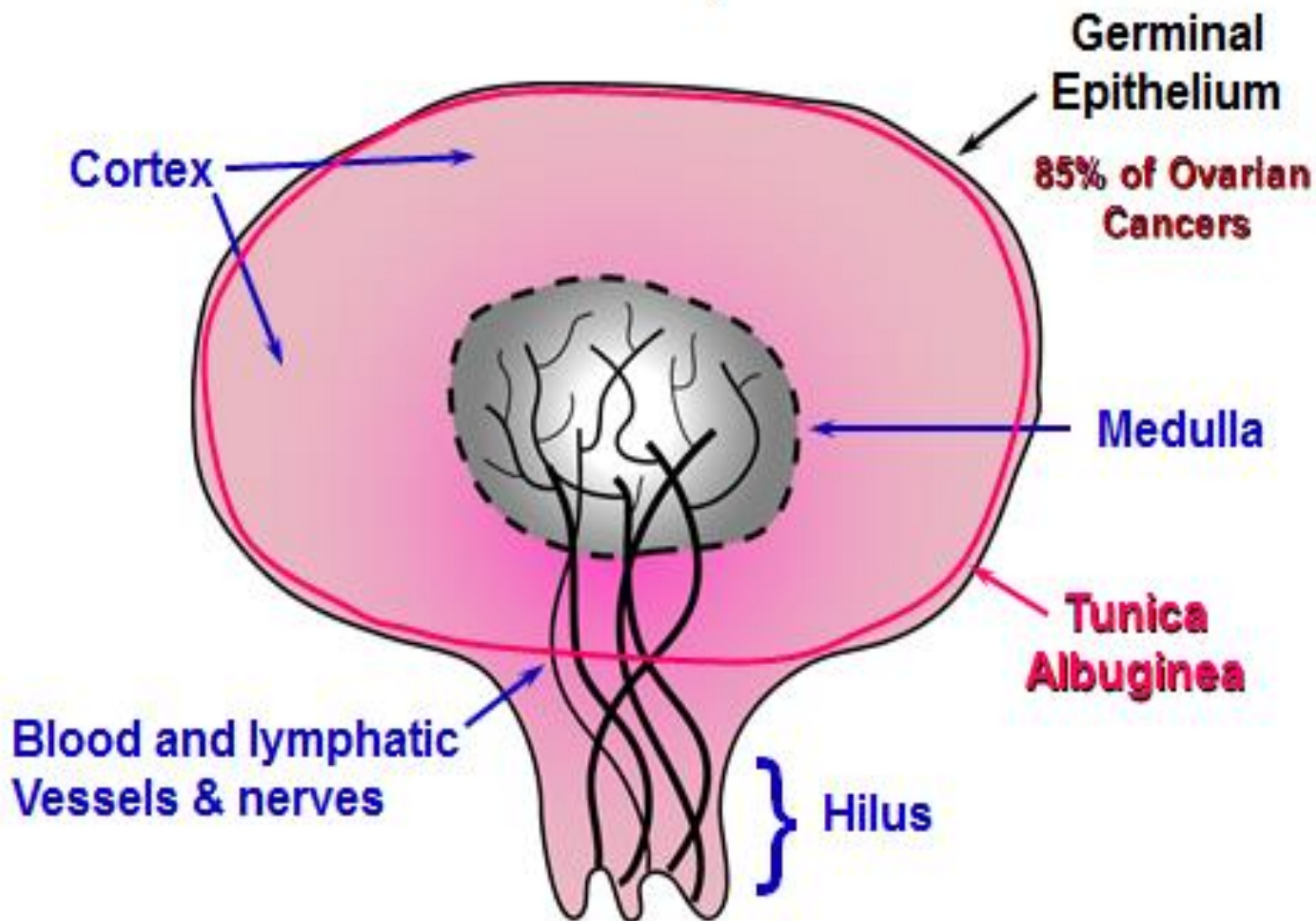


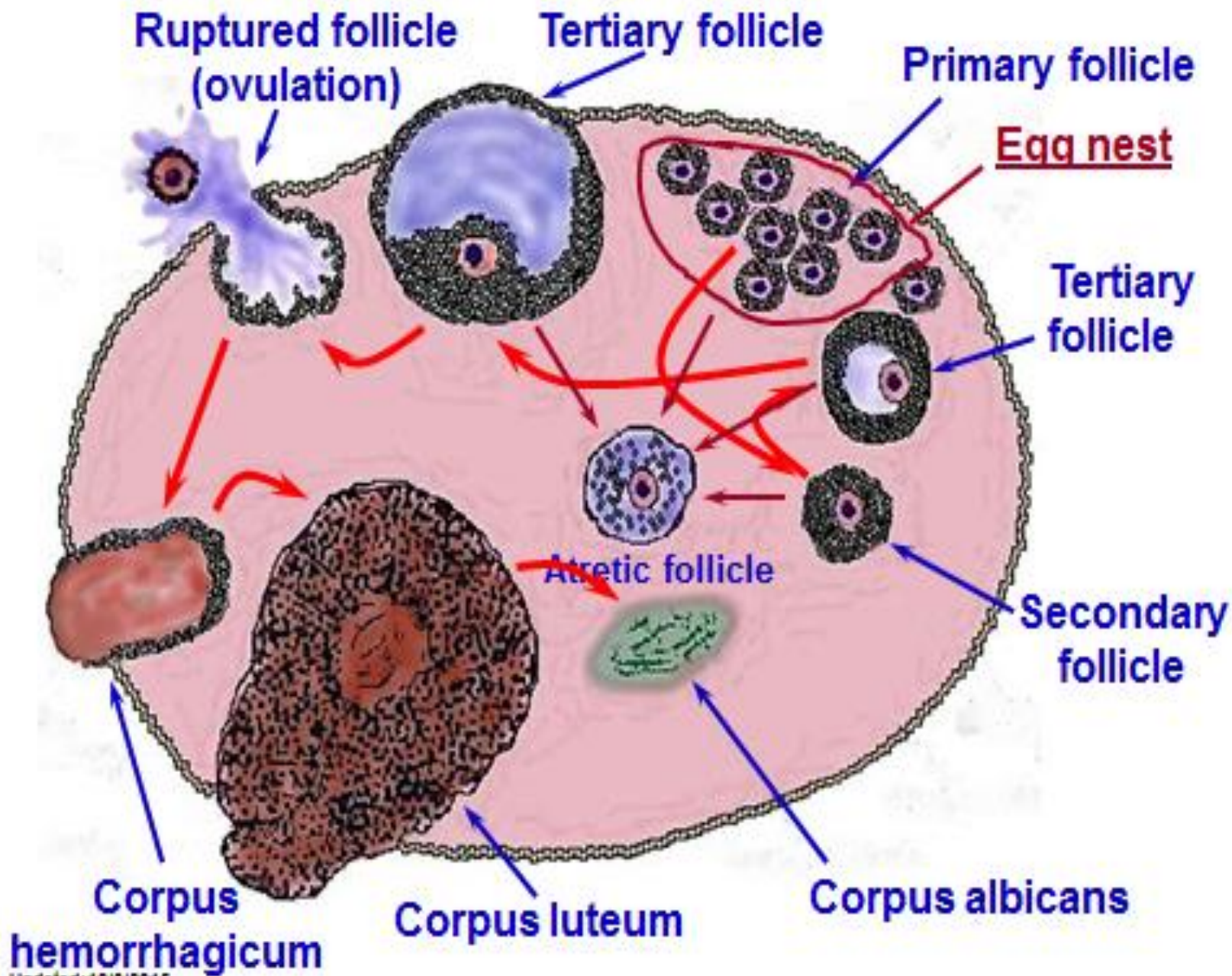
- Ovary in queen and bitch cluster grapes





# Ovary

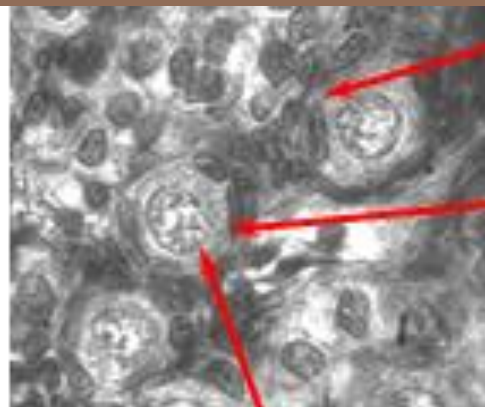




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## Primordial Follicle

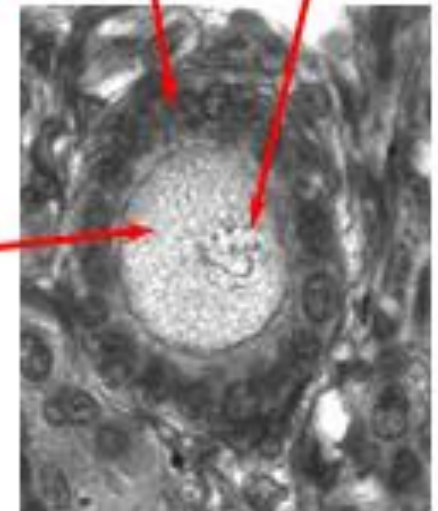
- Flattened cells surround oocyte



Follicle Cells  
Nucleus

## Primary Follicle

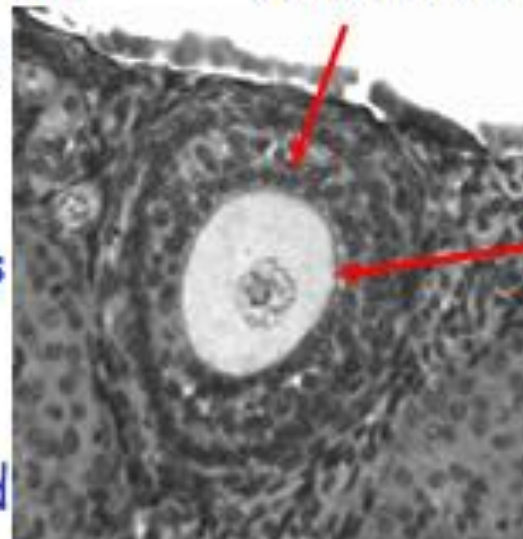
- Increase in size of oocyte and height of follicular cells



Ooplasm  
Follicular Cells

## Secondary follicle

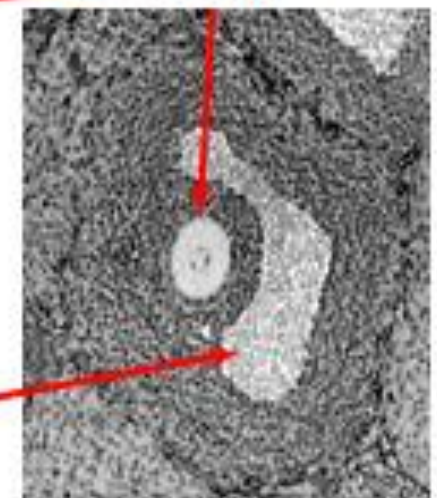
- Surrounded by several layers of follicular cells



Oocyte

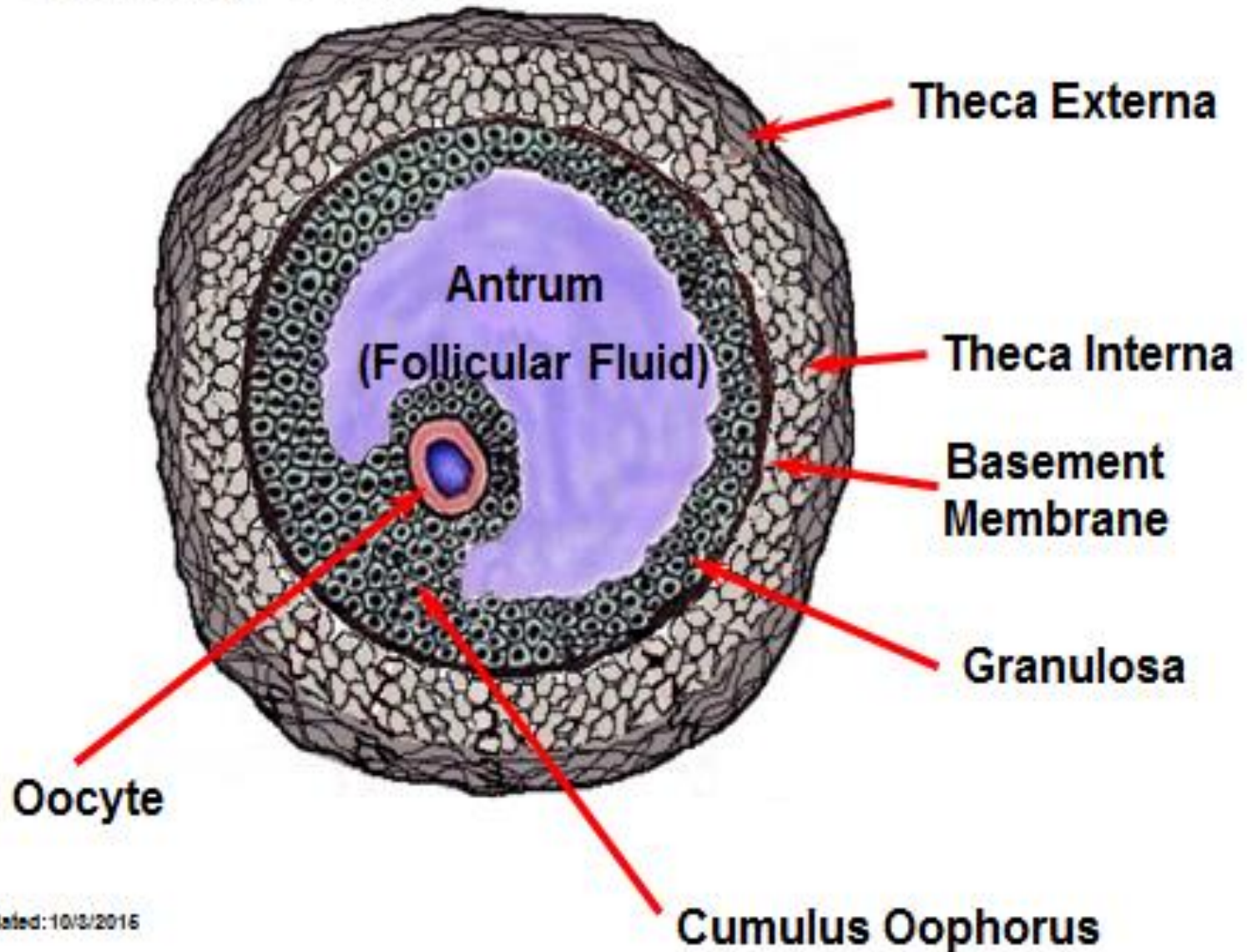
## Tertiary follicle

- Follicle forms a fluid filled cavity
- Differentiation of cell layers in the follicle wall



Antrum

# Tertiary Follicle



# Function of ovary

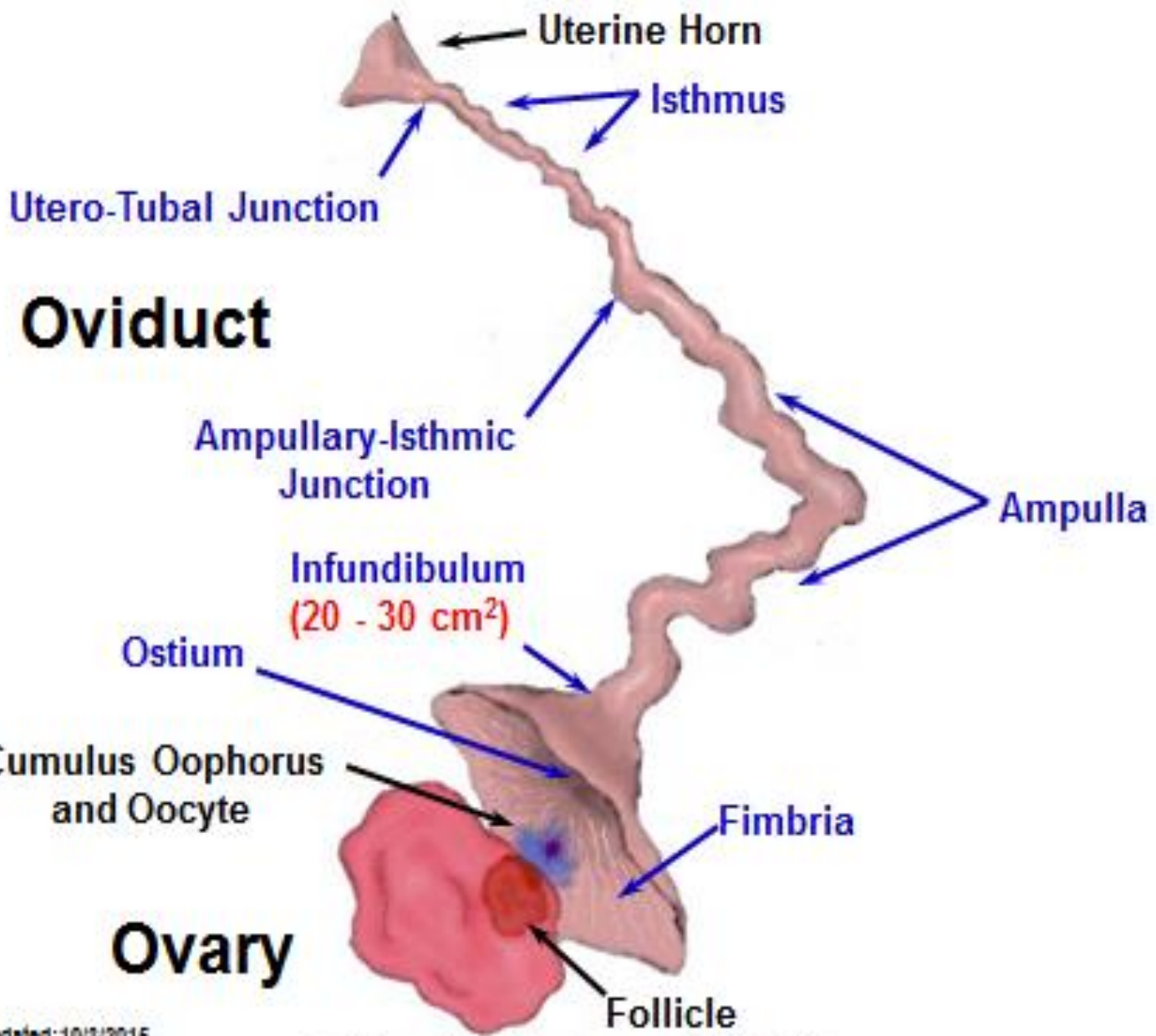
- » Hormonal function so called endocrine gland
  - Estrogen
  - Progesterone
- » Female gamete releasing so called exocrine gland
  - Oocyte



# Female Reproductive System

- **Fallopian Tubes (or Oviducts)** - pair of small tubes leading from the ovaries to the horns of the uterus (5 - 6 inches).
  - Fertilization occurs in the oviduct.
  - Egg travels from ovary to uterine horn in 3 - 4 days.
- **Infundibulum** - the funnel shaped portion of the fallopian tube near the ovary that catches the ovulated egg.





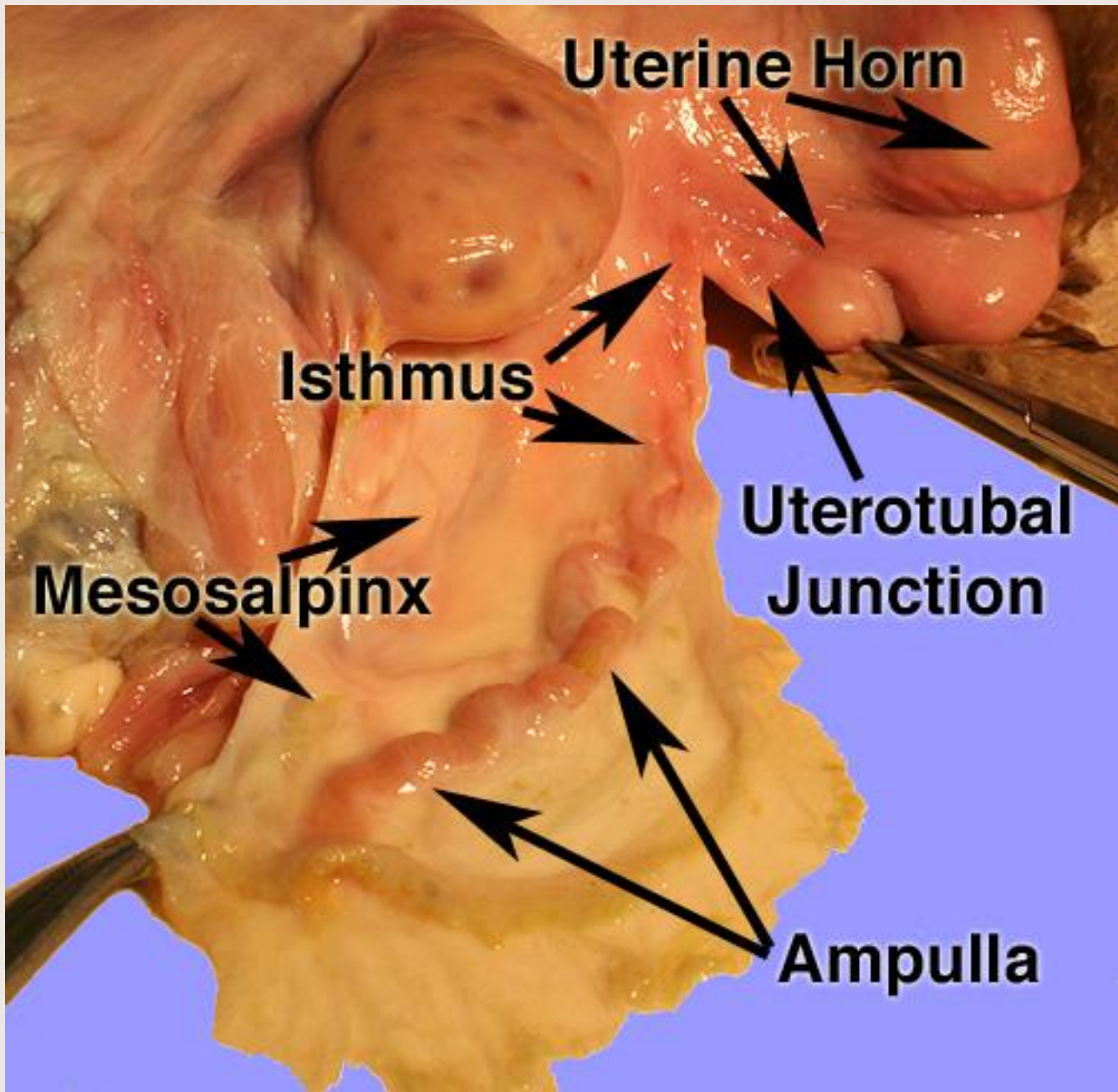
# Oviduct

# Ovary

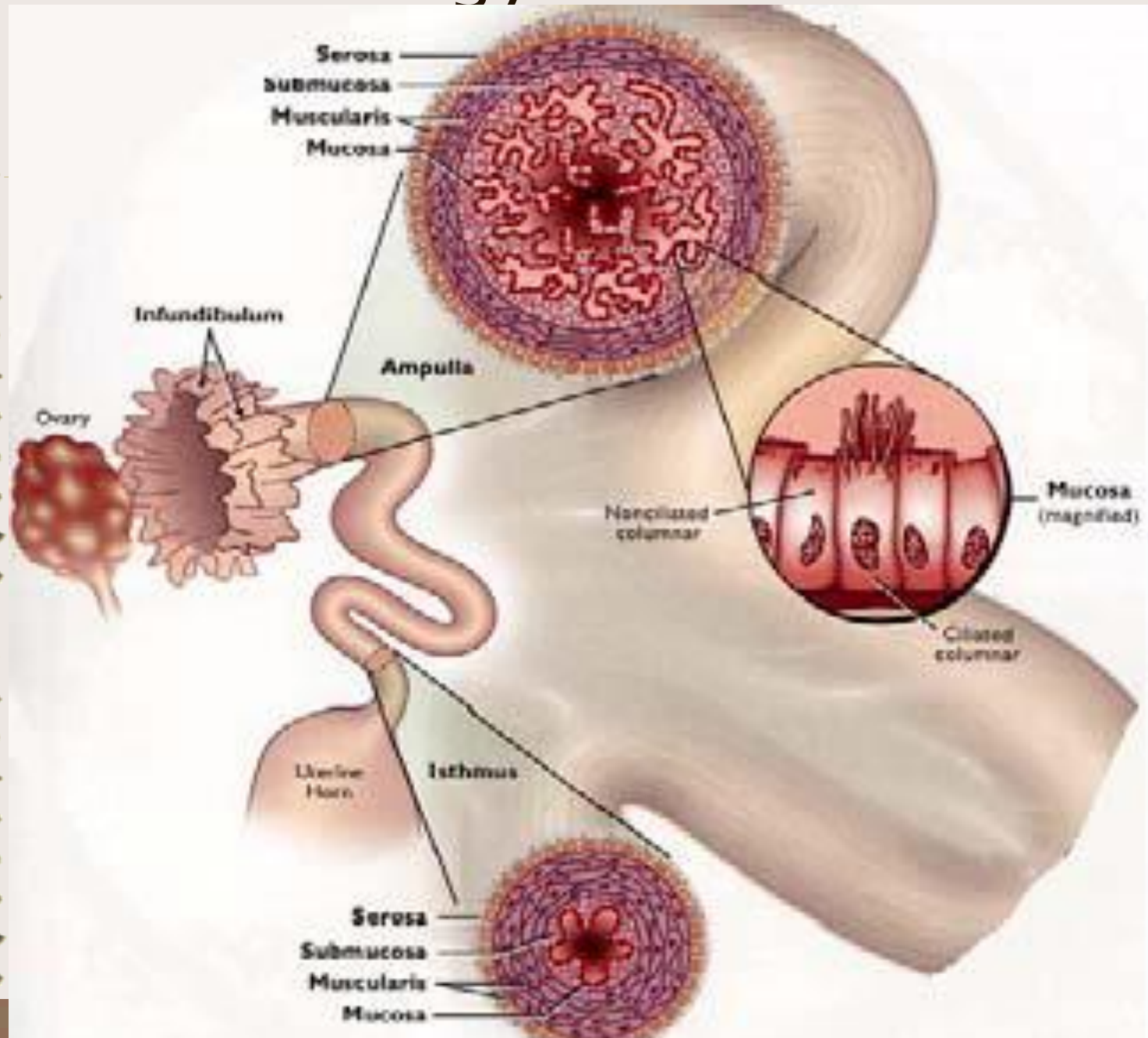
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Randy Bradley



# Histology of oviduct



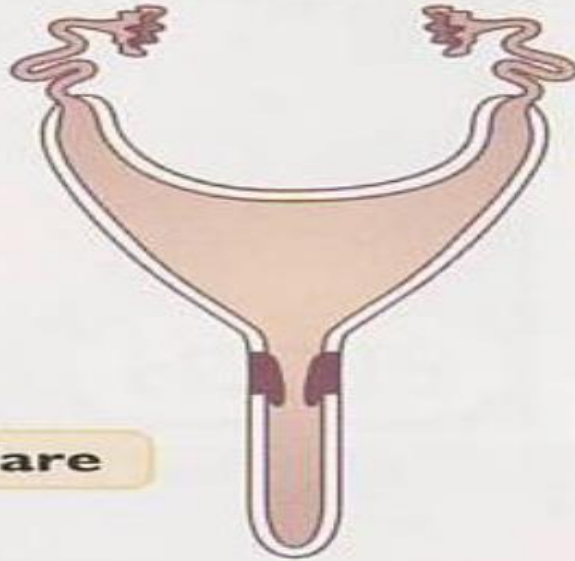
# Female Reproductive System

## Functions of Oviduct

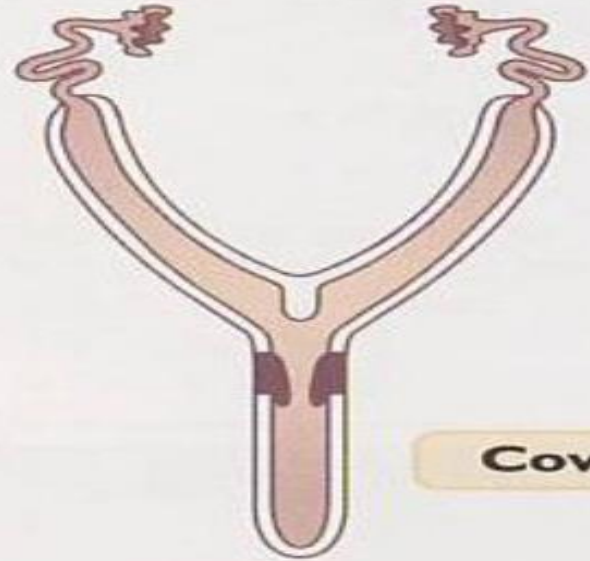
- **Gamete Transport**
  - » Sperm
  - » Oocyte
- **Site of fertilization**
- **Supports early embryo development**
- **Transport of embryo to uterus**

# Bicornuate

(Poorly to moderately developed uterine horns)

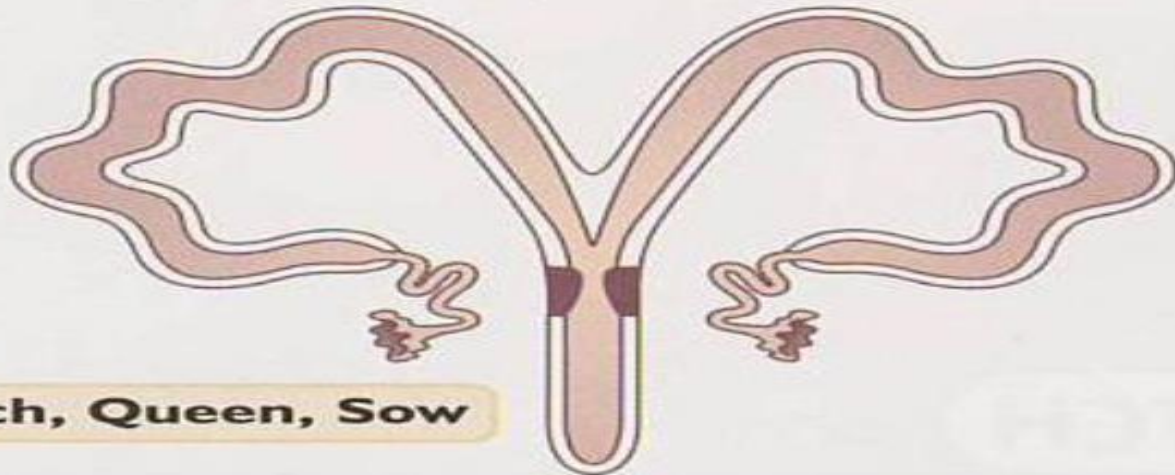


Mare



Cow

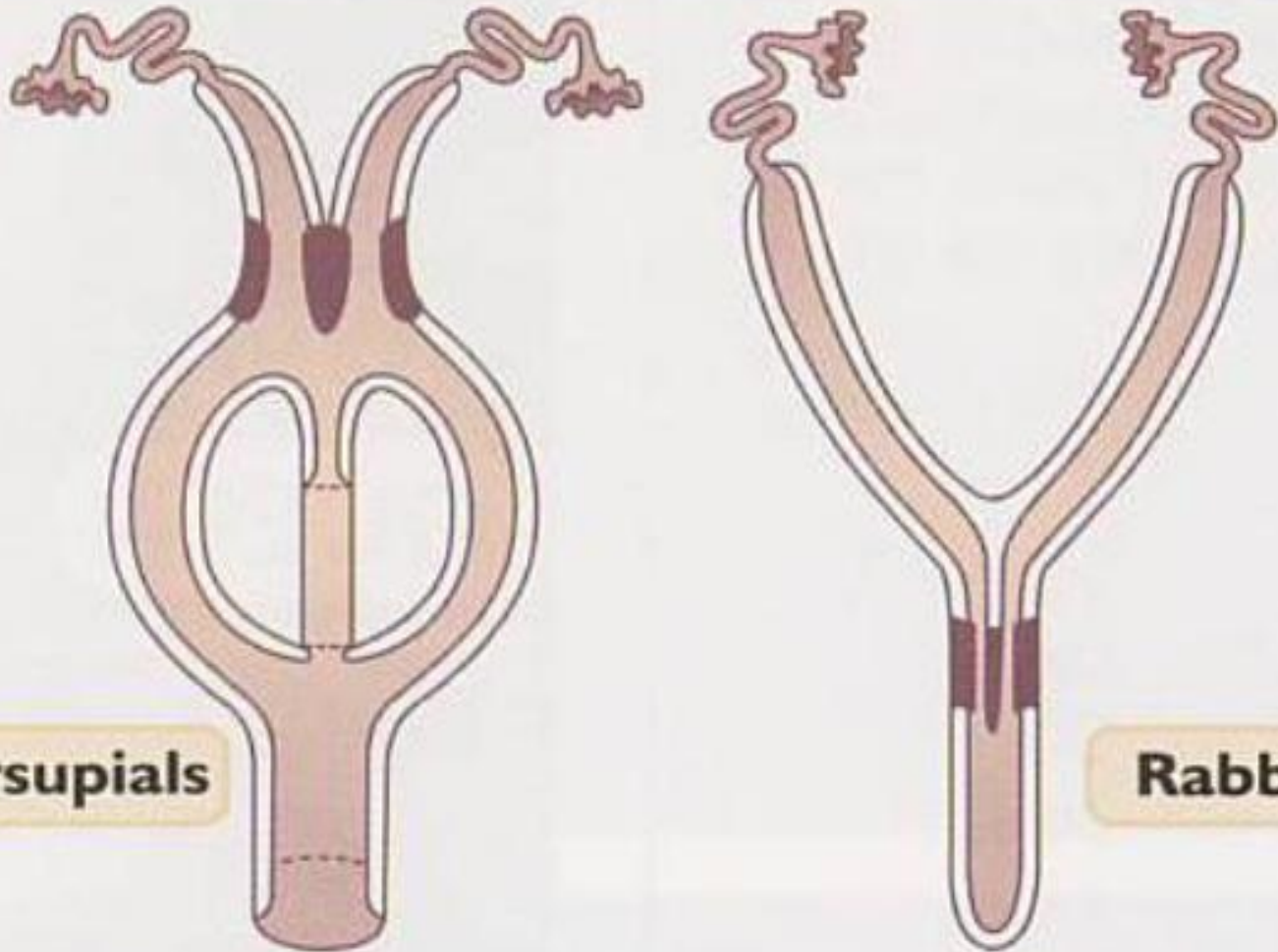
Highly developed uterine horns



Bitch, Queen, Sow

HOTIS

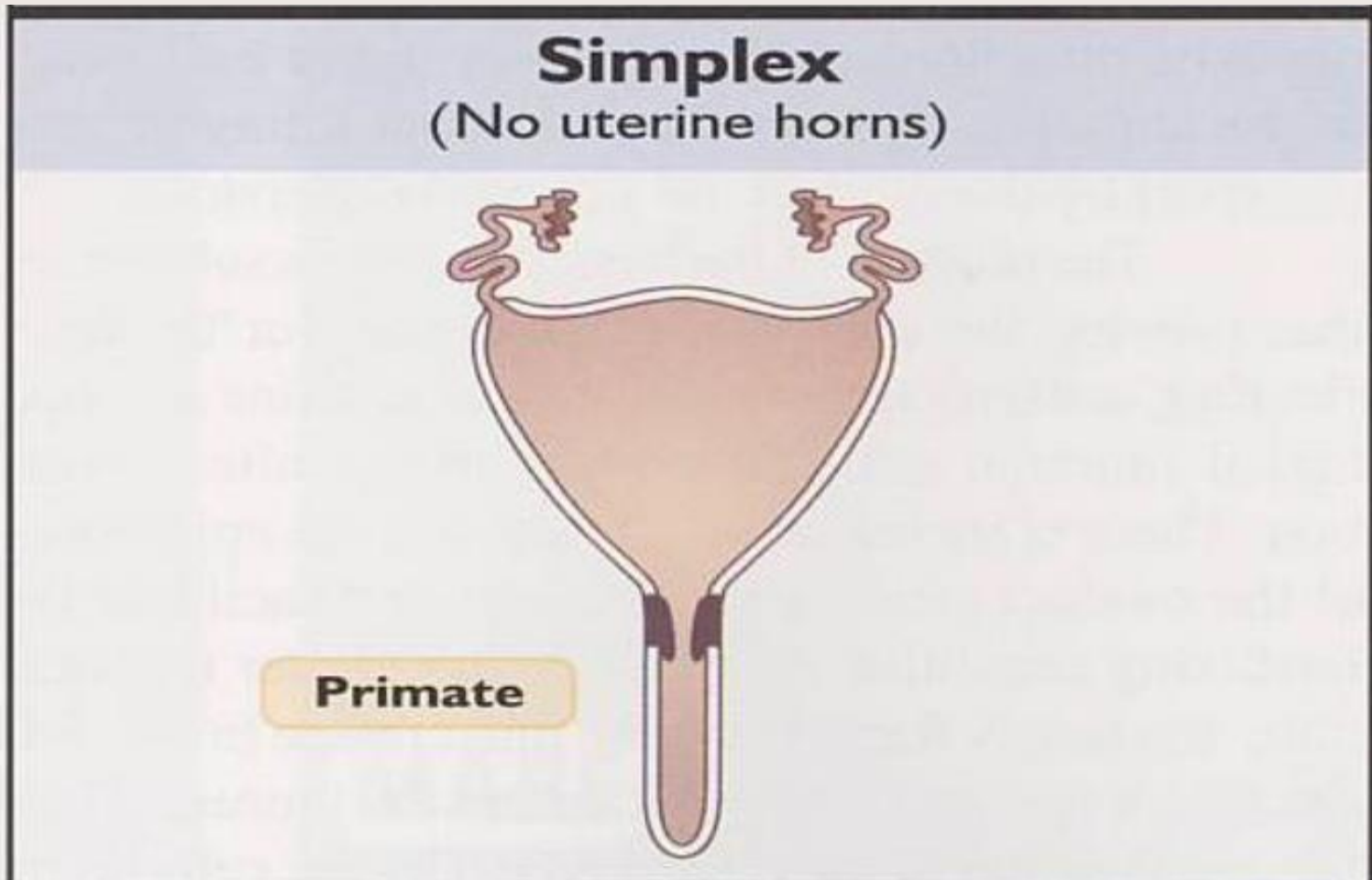
# Duplex (Two cervixes)



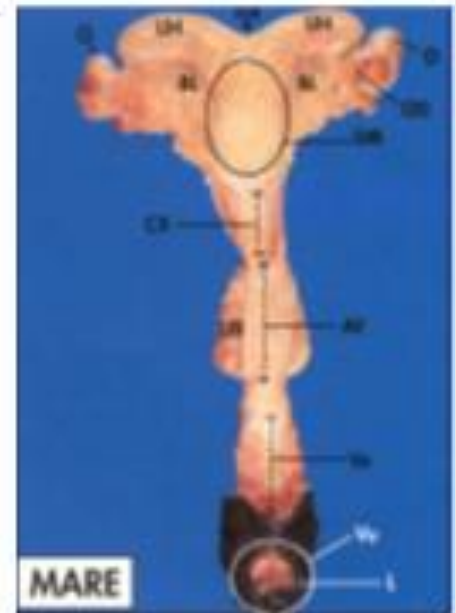
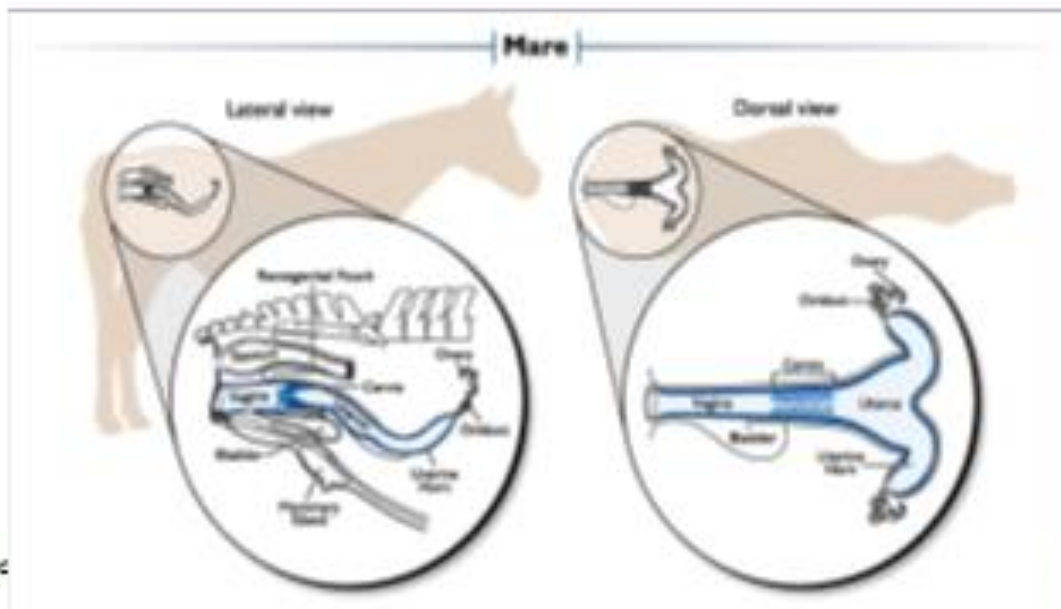
**Marsupials**

**Rabbit**

# Uterine classified depending development horns

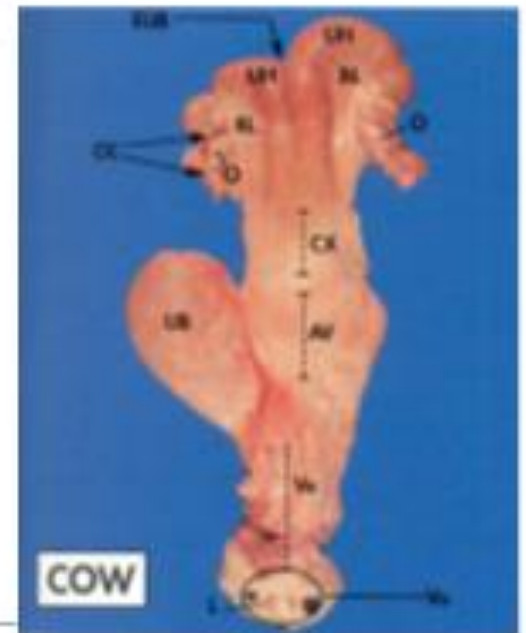
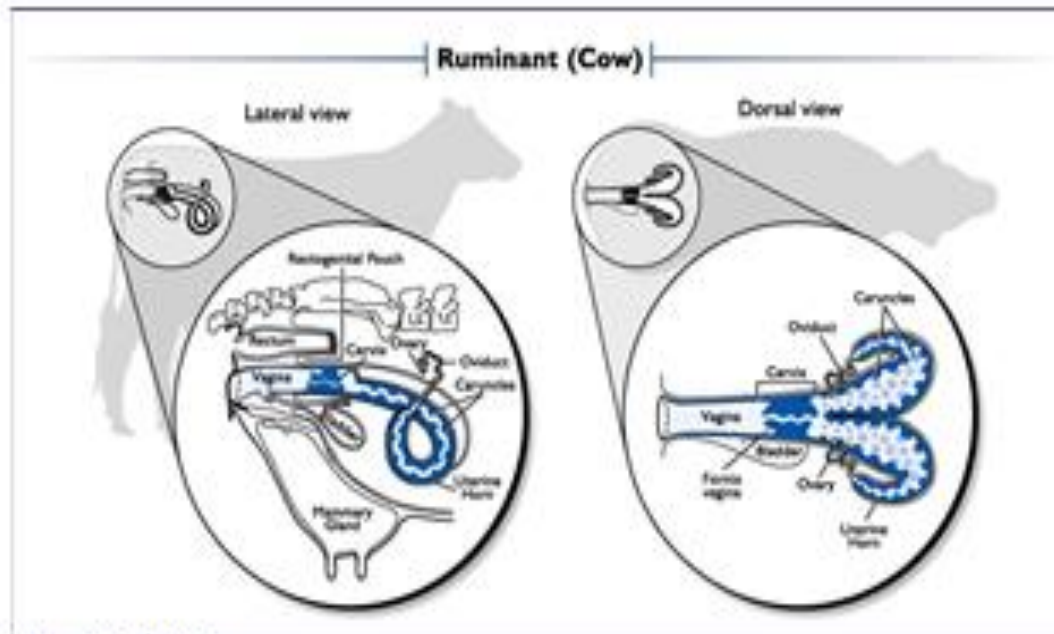


- 1- equine reproductive system be located in pelvic cavity
- 2- the uterine shape - T shape
- 3- the ovary shape – kidney shape
- 4- the cervix longitudinal fold





- 1-cow reproductive system found in pelvic cavity
- 2- the uterine shape: horn like shape
- 3- ovary oval shape and size double size in ewe
- 4- cervix annular ring shape 4-5 rings

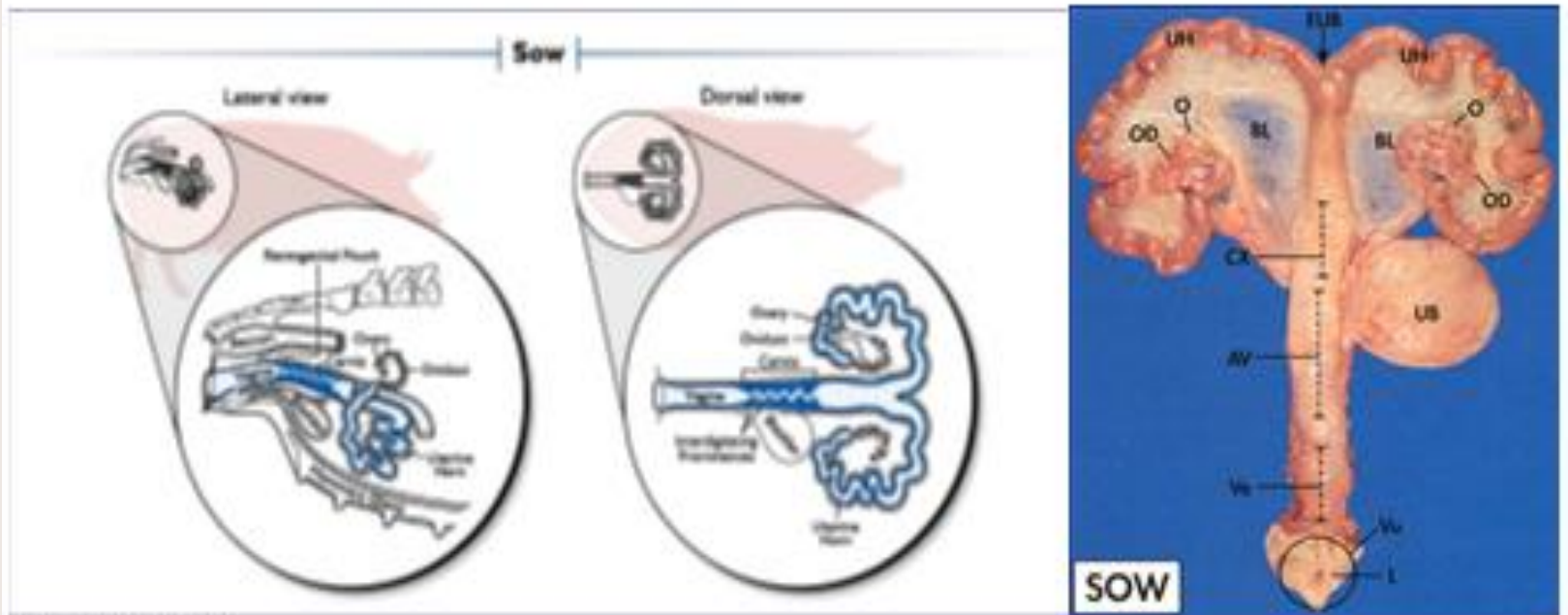


1-sow reproductive system found in abdominal cavity

2- the uterine shape-intestinal like shape

3- ovary shape- cluster grapes shape and

4- cervix spiral shape



1-queen and bitch reproductive system found in abdominal cavity

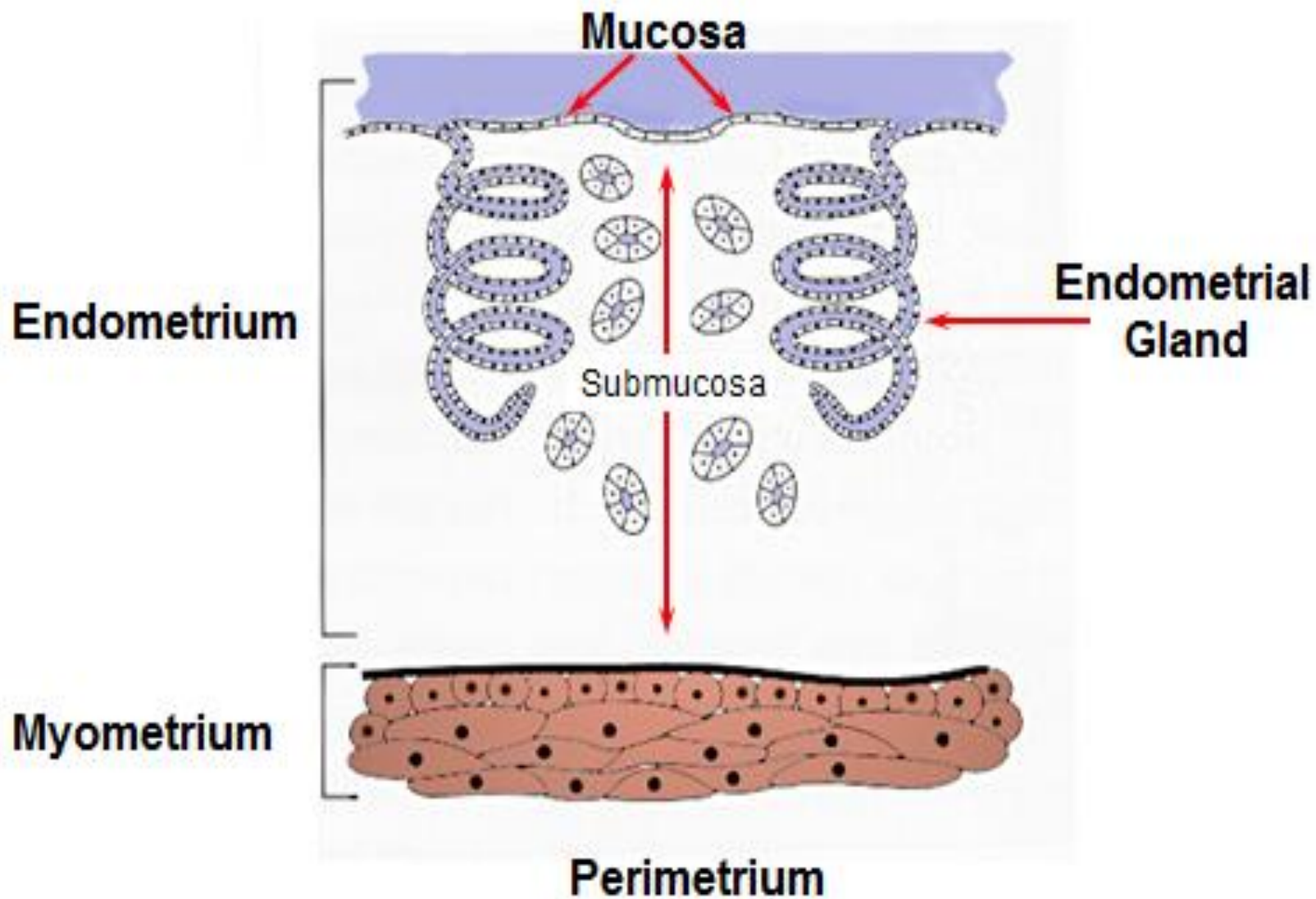
2- the uterine shape- Y - like shape

3- ovary shape - cluster grapes shape

4- cervix longitudinal



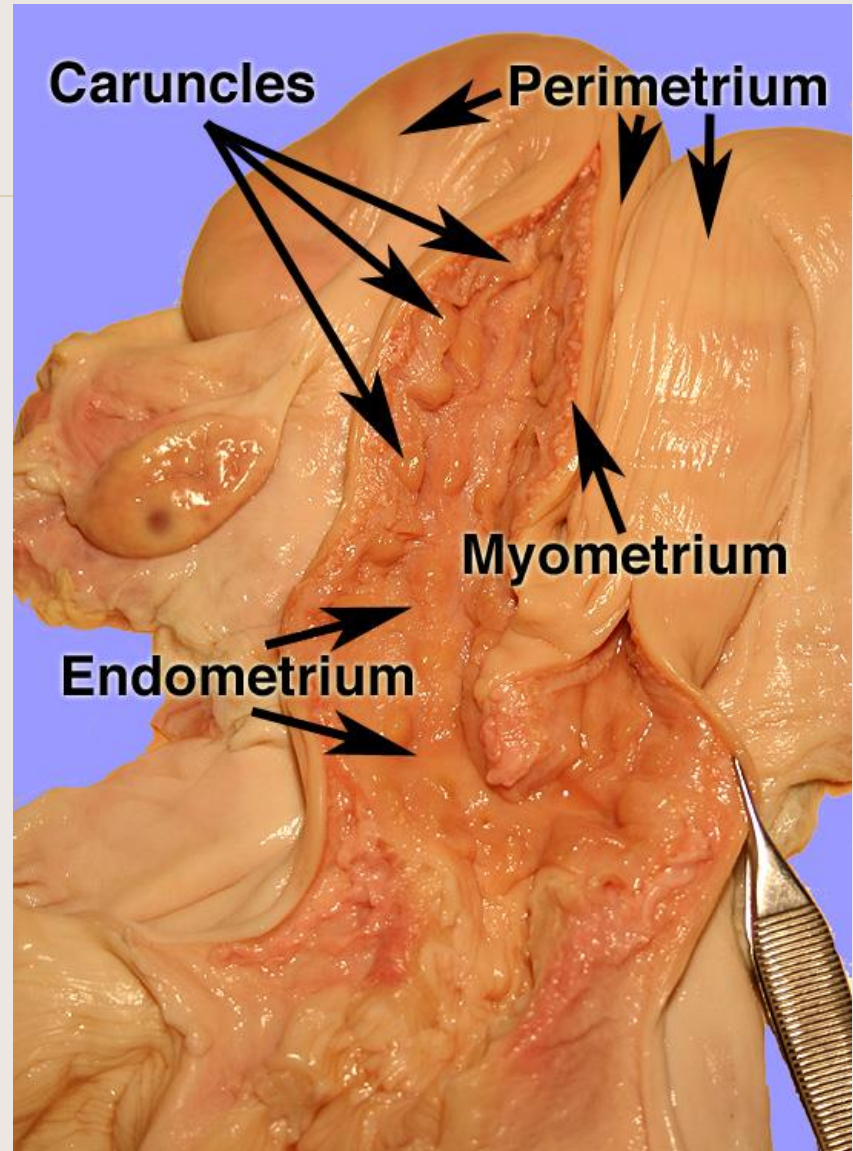
# Uterine Histology



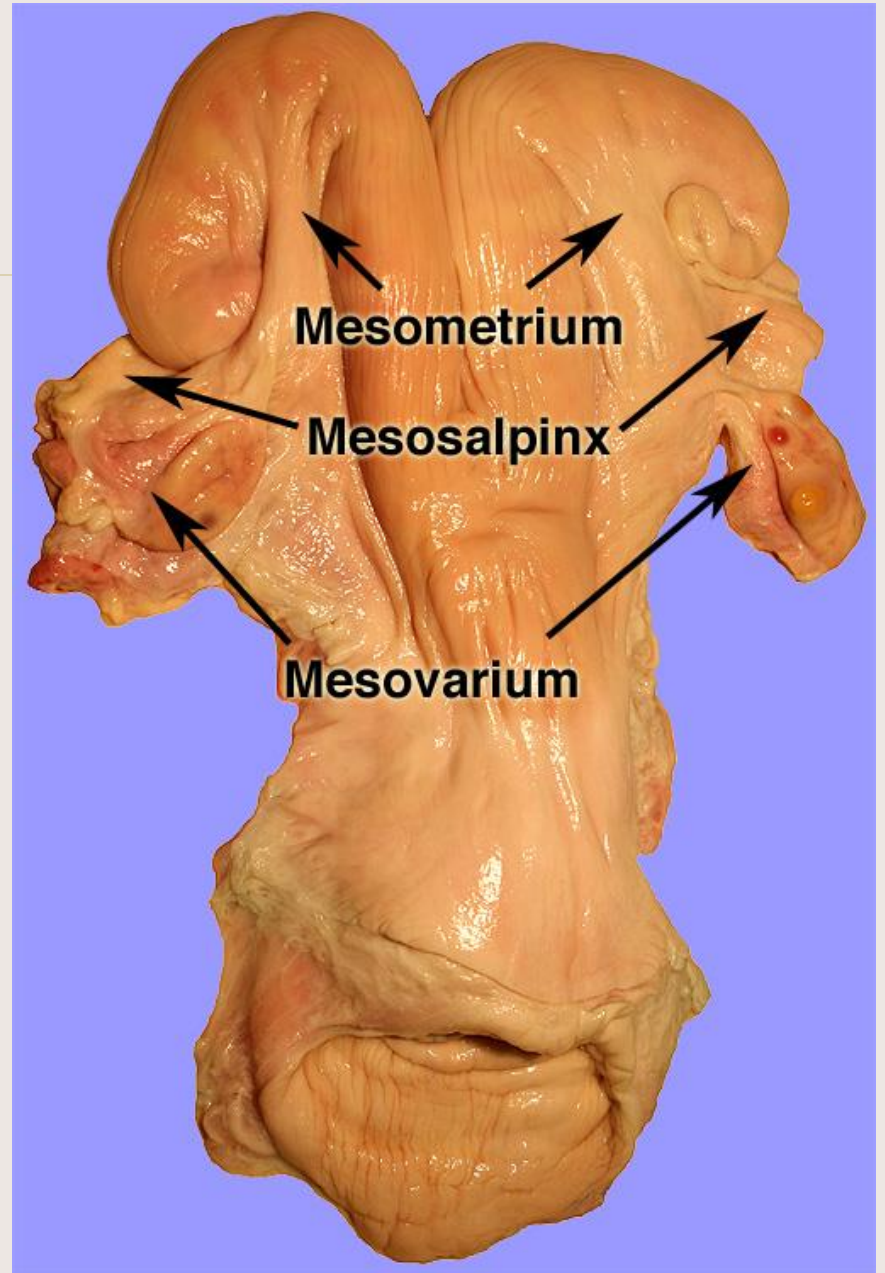


**Endometrial Gland**

# Uterus

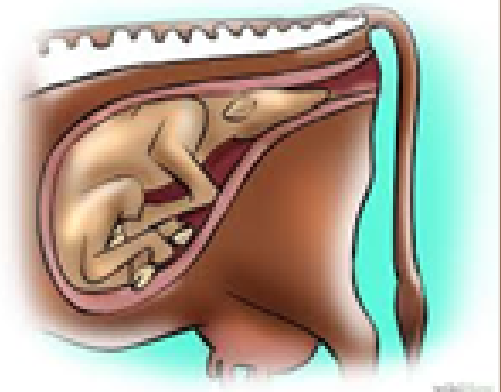


# Broad Ligament



# Functions of the Uterus

- **Muscle contractions**
  - » Transport sperm
  - » Expel fetus and placenta
- **Absorption and phagocytosis**
- **Partially prepares sperm for fertilization**
  - » capacitation
- **Provides environment for embryo and fetal growth**
- **Hormone production**
  - » Prostaglandin F<sub>2</sub> $\alpha$  production





# Sow Reproductive Tract

