Female Reproductive System

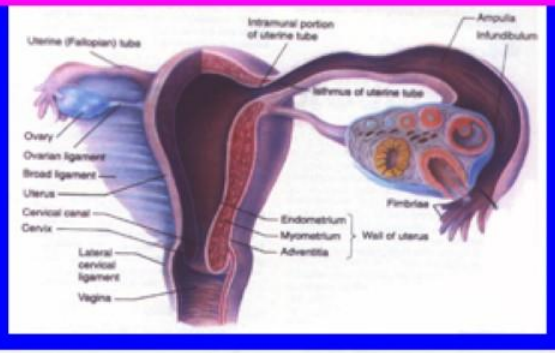
Objectives:

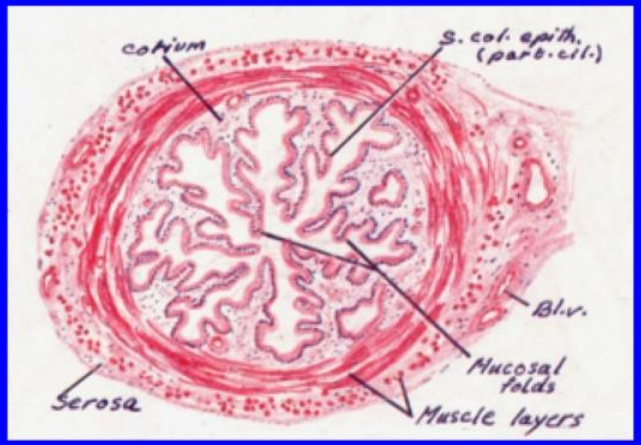
By the end of the lecture you should be able to:

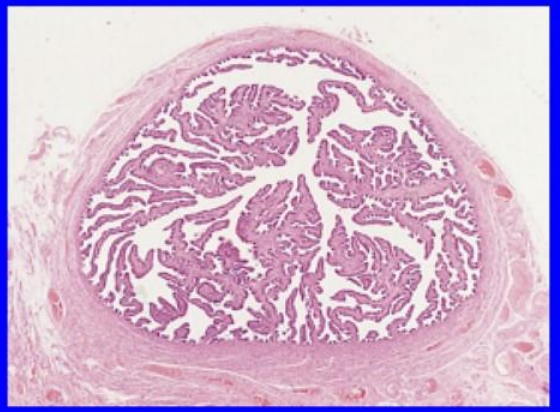
- Describe the histological structure and fate of ovarian follicles.
- Describe the histological structure of:
  - Ovary.
  - Oviducts (Fallopian tubes).
  - Uterus.
  - Vagina.
  - Resting and lactating mammary gland.

Oviducts (Fallopian Tubes)

- **Mucosa:**
  - Highly folded.
  - Epithelium: Simple columnar partially ciliated.
  - Corium of C.T.
- **Musculosa:**
  - Inner circular.
  - Outer longitudinal.
- **Serosa**





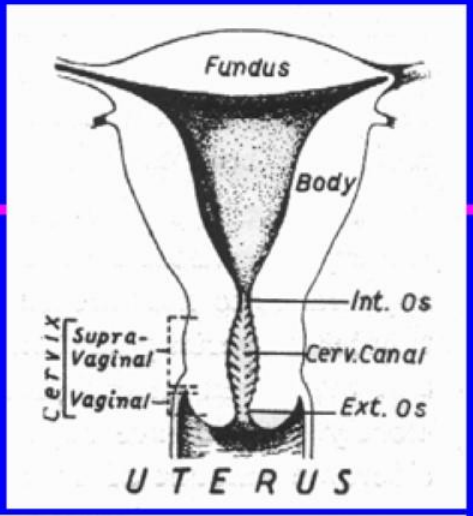


Oviducts (Fallopian Tubes)

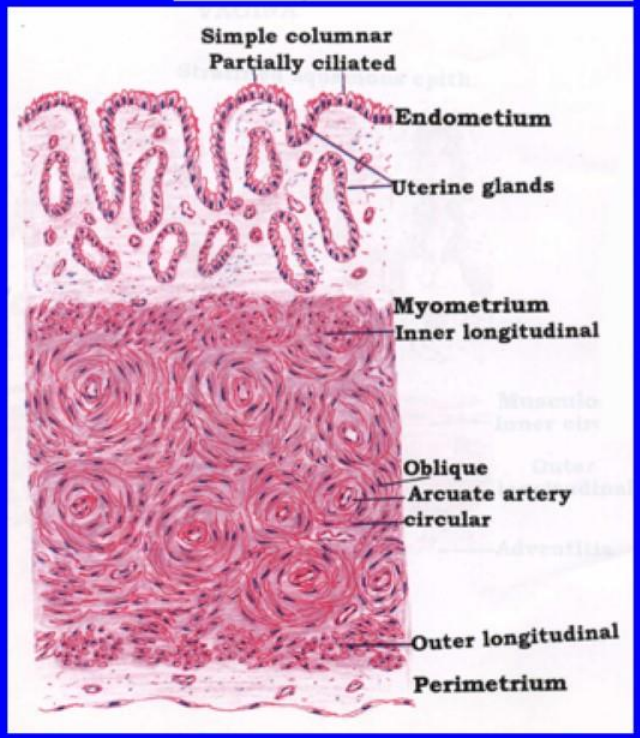
- **Ciliated cells:**
  - Non-secretory.
  - Cilia beat toward uterus.
- **Non-ciliated cells:**
  - Thinner, also called peg cells.
  - Secretory cells.
  - Apices bulge above ciliated cells.
  - Their apices contain nutritive material to nourish gametes.

The uterus

I-Fundus & Body



- Consist of:
  1. Endometrium (mucosa)
  2. Myometrium (musculosa)
  3. Perimetrium (serosa)

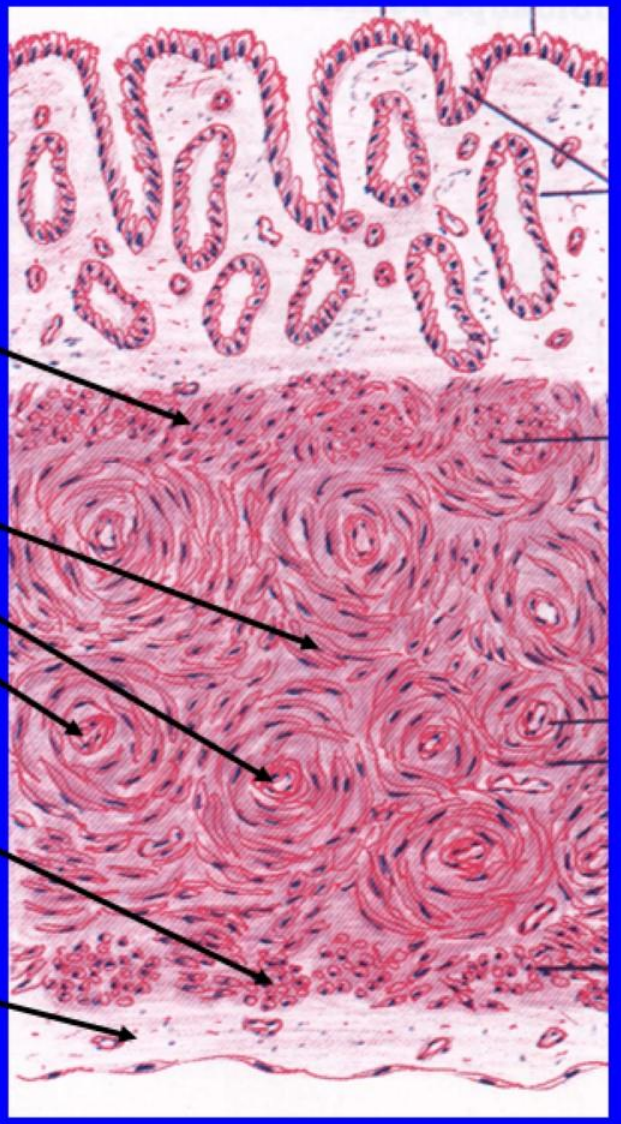


1. Endometrium

- **Epithelium:** simple columnar partially ciliated.
- **Corium:**
  - Endometrial glands: simple tubular.
  - Stromal cells.
  - Blood vessels.
  - Leucocytes.
  - Reticular fibers.

2.Myometrium

- 3 ill-defined smooth muscle layers:
  - Stratum submucosum: longitudinal.
  - Stratum vasculare: circular smooth muscle fibres in figure of 8 arrangement around large blood vessels.
  - Stratum supravasculare: longitudinal.

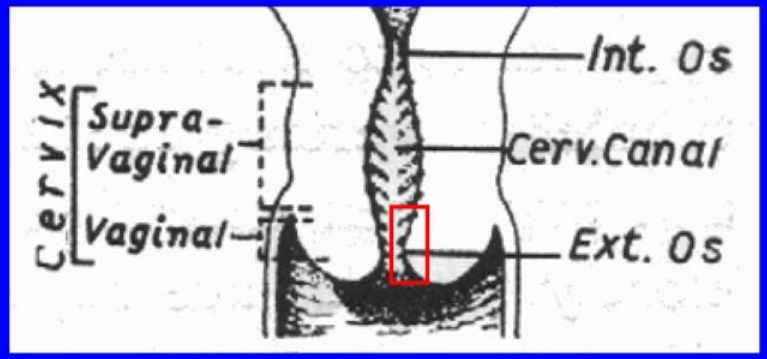


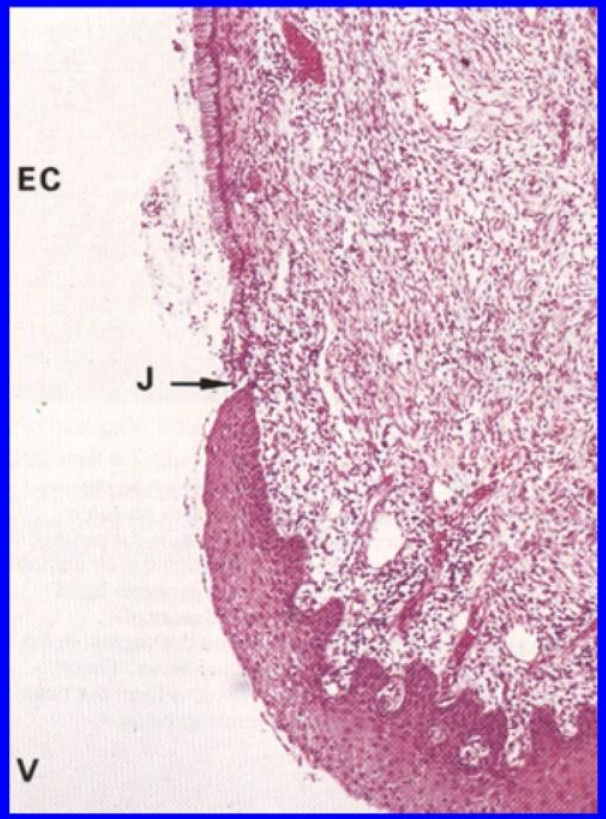
3.Perimetrium

Formed of simple squamous epithelium (mesothelium) and sub-epithelial C.T.

II-Uterine Cervix

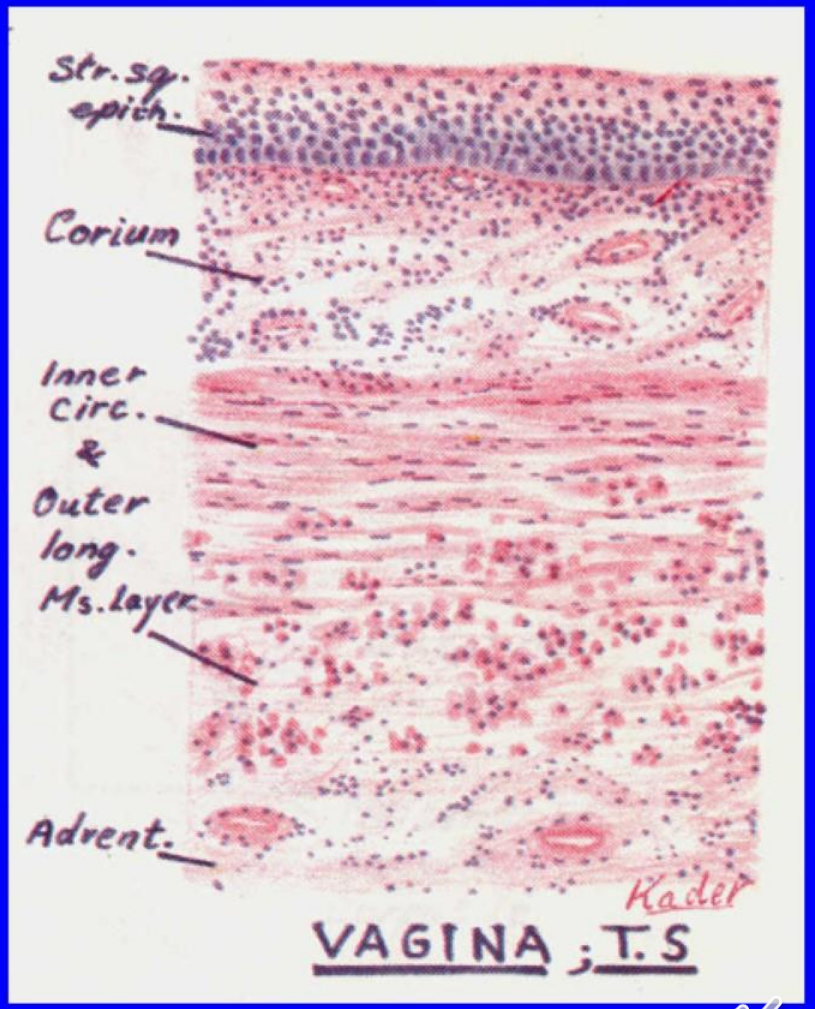
- **Mucosa:**
  - **Epithelium:** simple columnar in the cervical canal, but it changes to stratified squamous epith. (non-keratinized) at the external os.
  - **Corium:** CT containing tubulo-alveolar glands.
- **Substance of the cervix:** dense fibrous tissue with few smooth muscle fibers.





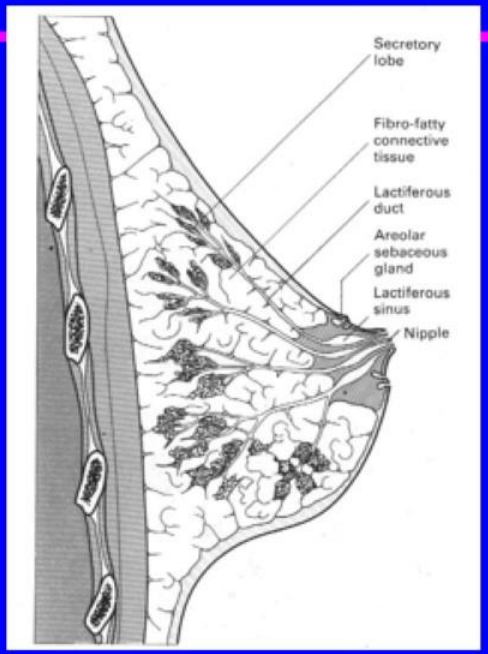
VAGINA

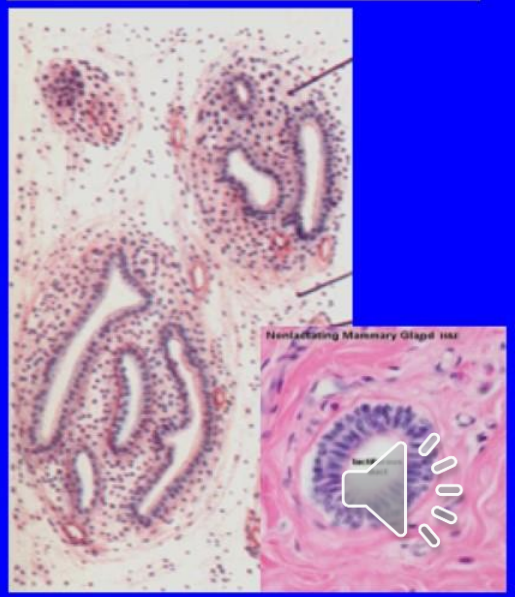
- **Mucosa:** shows transverse folds and is made of:
  - **Epithelium:** stratified squamous epithelium non-keratinized, rich in glycogen.
  - **Corium:** of dense C.T., very rich in blood vessels, elastic fibres and leucocytes.
- **Musculosa:** formed of interlacing inner circular and outer longitudinal layers of smooth muscle fibres.
- **Adventitia:** formed of loose C.T.



MAMMARY GLAND

- At puberty they enlarge by accumulation of fat, but contain only a duct system.
- Secretory units appear only during pregnancy and are functioning only during lactation.
- **I- Resting Mammary Gland:**
  - It is divided into lobes and lobules.
  - The interlobular C.T. is dense and contains numerous fat cells.
  - The intralobular C.T. is loose and contains no fat cells.
  - Within the lobules, there are widely separated ducts lined by simple cuboidal epithelium.
  - Ducts collect to form lactiferous ducts lined by stratified columnar epithelium and open at the top of the nipple.

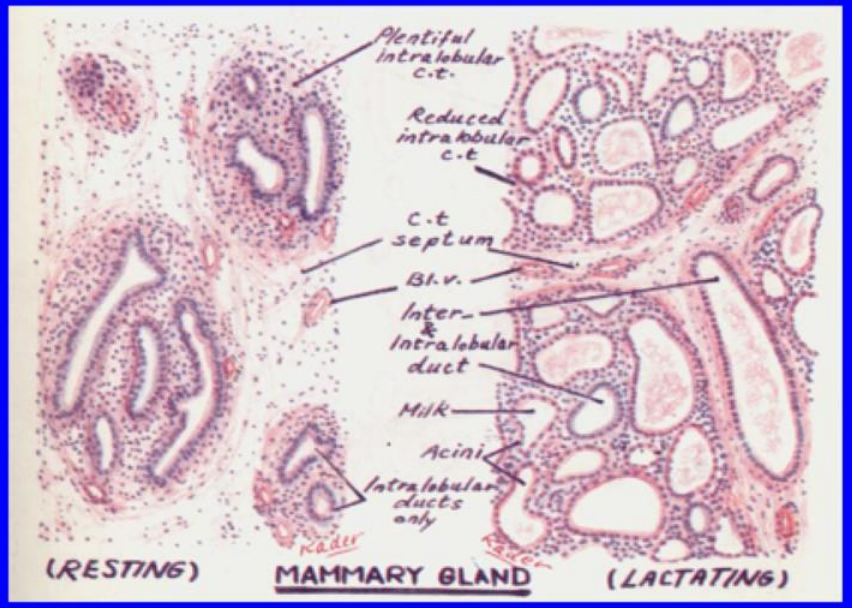




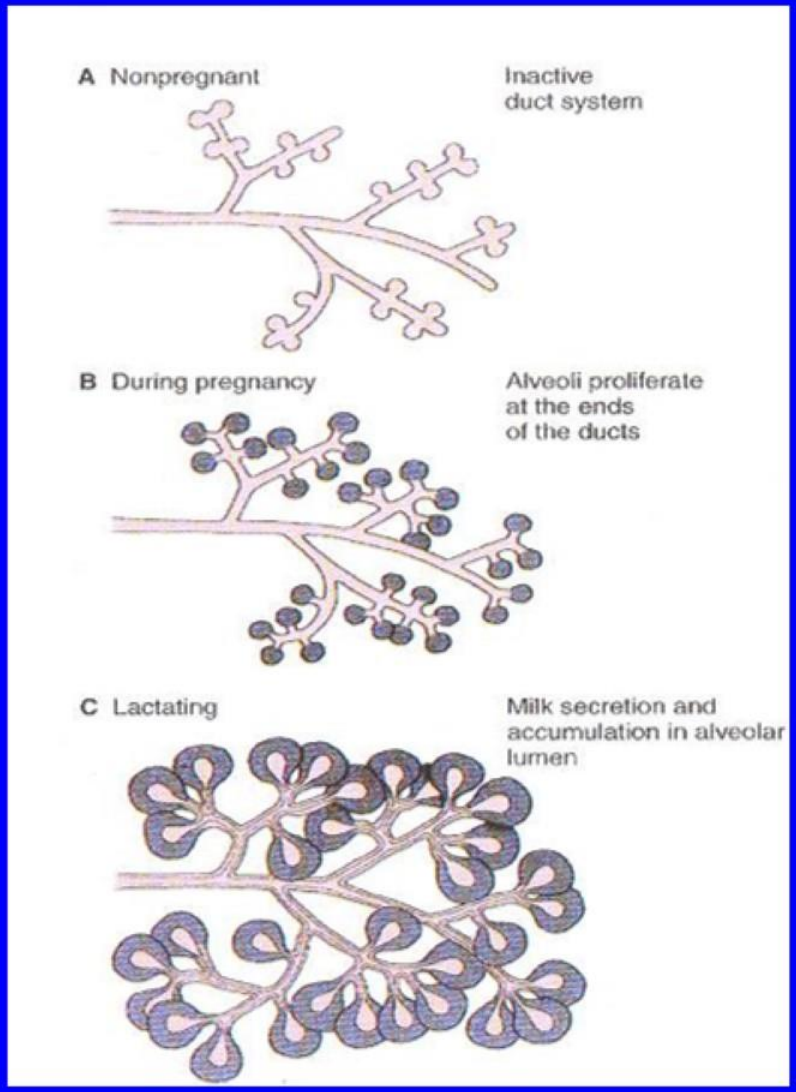
Mammary Gland

II-Lactating Mammary Gland:

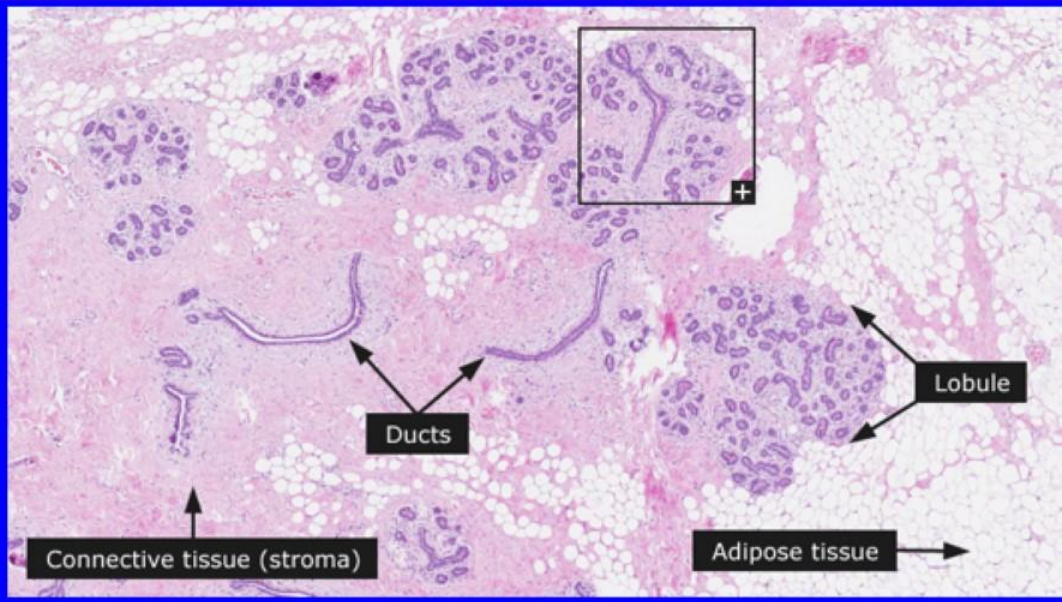
- Interlobular and intralobular C.T. become reduced.
- Lobules are made of ducts and alveoli.
- Alveoli are distended with milk and lined by cuboidal or flat cells surrounded by myoepithelial cells.
- Milk appears acidophilic with vacuoles of dissolved fat.

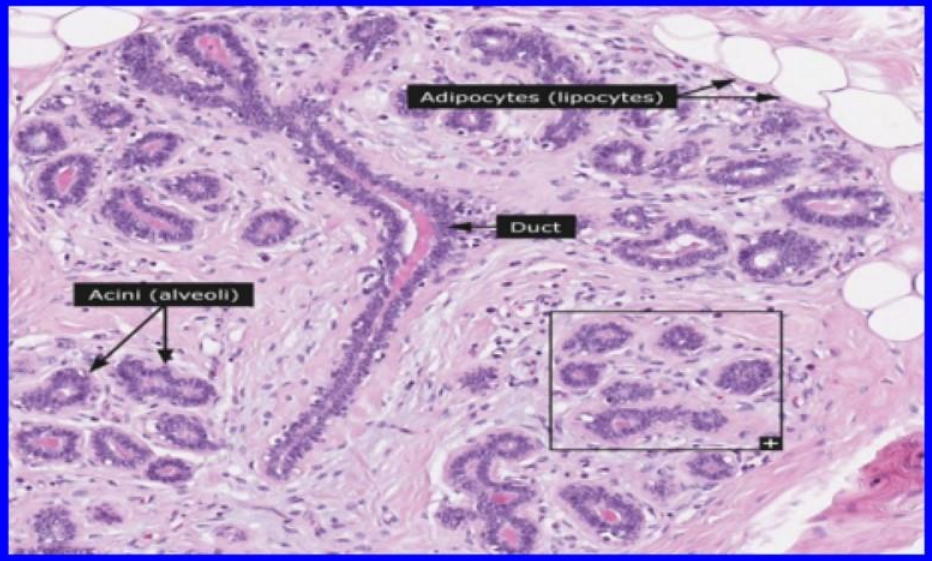


Mammary Gland

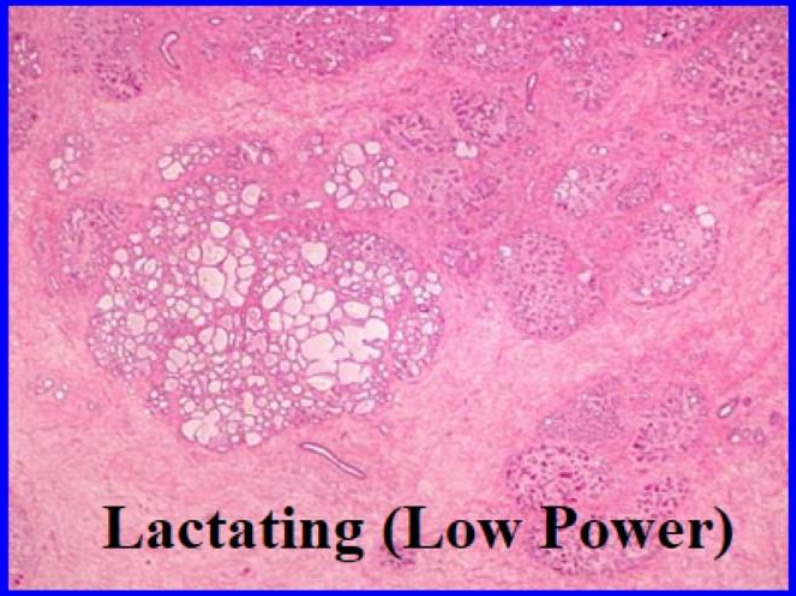


Resting Mammary Gland

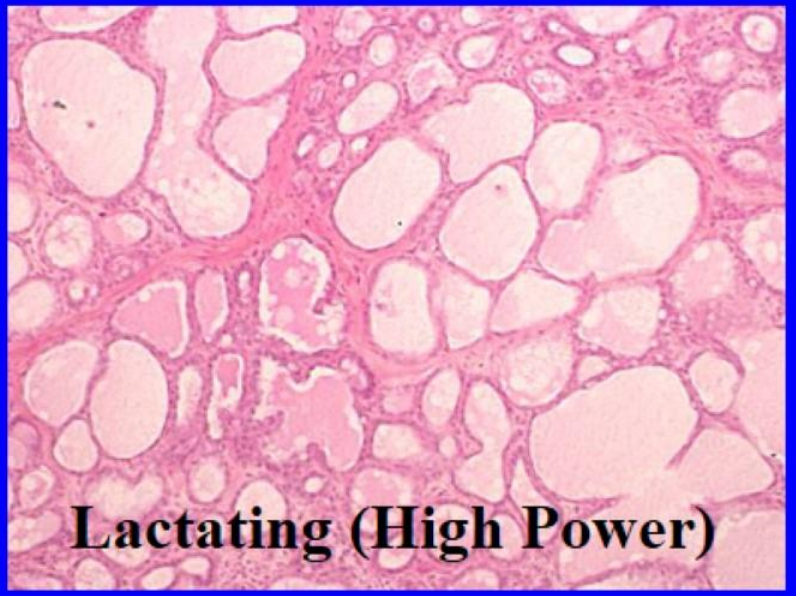




Lactating Mammary Gland



Lactating (Low Power)



Lactating (High Power)