

Lab 11
Female Reproductive System

Female Reproductive System Histology:

Slide 2-11-2 "Cat" Ovary

- **Ovary**
 - **Primordial Follicle**
 - extra small **Oocyte** surrounded by a single layer of "follicular" cells.
 - no **zona pellucida** is present.
 - **Primary Follicle**
 - small **Oocyte** surrounded by a 1 or more layers of "granulosa" cells.
 - thin **zona pellucida** is present.
 - no antrum is present
 - **Secondary Follicle**
 - medium **Oocyte** surrounded by a many layers of "granulosa" cells.
 - thick **zona pellucida** is present.
 - small **antrum** is present.
 - **Mature (Graafian) Follicle**
 - large **Oocyte** surrounded by a many layers of "granulosa" cells.
 - thick **zona pellucida** is present.
 - large **antrum** is present (filled with follicular fluid).
 - **corona radiata** is fully formed (these cells ovulate with oocyte).
 - also called Tertiary Follicles.
 - **Corpus Luteum**
 - remaining granulosa cells (after ovulation) will involute (collapse and curl inward) and form the corpus luteum.
 - makes the hormones **Progesterone** and **Estrogen**.
-

Slide 2-11-4 Uterus

- **Endometrium**
 - simple columnar epithelium and the stroma upon which it sits.
 - the stroma varies in thickness due to hormonal influences.
 - **Myometrium**
 - the smooth muscle wall of the uterus, which contracts during labor.
-

Slide 2-11-5 Vagina

- **Vagina's epithelial lining**
 - non-keratinized stratified squamous epithelium.
 - **Vaginal wall**
 - smooth muscle (inner circular fibers, outer longitudinal fibers).
-

Female Reproductive System Gross Anatomy:

- **Ovary**
 - **Ovarian Ligament** – connects the ovary to the uterus
 - **Suspensory Ligament** – connects the ovary, fimbriae & infundibulum to the pelvic body wall.
– has the ovary artery, vein, and nerve running with it.

- **Fallopian Tube**
 - also known as the **Uterine Tube, Salpinges** (Salpinx is singular).
 - *the equivalent in non-mammalian vertebrates is the oviduct.*
 - carries the ovulated oocyte to the uterus.
 - is lined with **ciliated simple columnar** cells to propel the ovulated oocyte towards the uterus.
 - divided into 4 parts (listed from lateral to medial):
 - **Fimbriae** – the 1st part. Fringe-like lateral opening of the tube.
 - **Infundibulum** – the 2nd part. Funnel-shape.
 - **Ampulla** – the 3rd part. Longest part. Intermediate-size diameter of tube.
– most oocytes are fertilized by the sperm in the ampulla region.
– 80% of all ectopic pregnancies are in the ampulla region too.
 - **Isthmus** – the 4th part. Narrowest part of tube that connects to Uterus.

-
- **Uterus**
 - **Fundus of the Uterus** – can be felt & seen (“baby bump”) as a pregnant uterus enlarges.
 - **Round Ligament of the Uterus** – originates where the fallopian tubes meet the uterus.
– connects the uterus to the deep inguinal ring (and the labia majora)
– pain with stretching of it is common during pregnancy.
– ligament keeps the uterus in an anteflexed (tilted-forward) position.

-
- **Cervix**
 - has glands which secrete a lubricating mucous for intercourse.
 - **External Os of the Cervix** – location of the **transition zone** where the epithelium of the uterus and vagina meet.
– **Pap (Papanicolaou) Smear** is a cancer screening test of cells here.
-

-
- **Vagina**
 - **Labia Majora**
 - Labium Majus (singular)
 - analogous to the scrotal sac.
 - **Labia Minora**
 - Labium Minus (singular)
 - analogous to the ventral (urethral) side of the penis.
 - the opening of the female urethra is between them.
 - **Mons Pubis**
 - rounded mass of fatty tissue over the pubic symphysis.
 - in divides posteriorly to form the labia majus
 - fatty tissue is sensitive to estrogen and it becomes more prominent with puberty (and less prominent with menopause).
 - **Clitoris**
 - erectile tissue
 - **Greater Vestibular Glands**
 - also called **Bartholin's Gland**.
 - homologous to the Bulbourethral Gland in males.
 - secretes a mucous to provide vaginal lubrication for intercourse.
 - **Lesser Vestibular Glands**
 - also called **Skene's Gland** or the "*Female Prostate*".
 - homologous to the Prostate in males.
 - found on the anterior wall of the vagina just inferior to the urethra.
 - lubricated urethral opening to protect from UTIs.

Pregnancy Related Organs:

- **Placenta**
 - a temporary organ connecting the fetus by the umbilical cord to the uterine wall.
 - **Umbilical Cord**
 - 1 umbilical vein (oxygenated blood flows toward fetal heart).
 - 2 umbilical arteries (deoxygenated blood flows away from fetal heart).
-