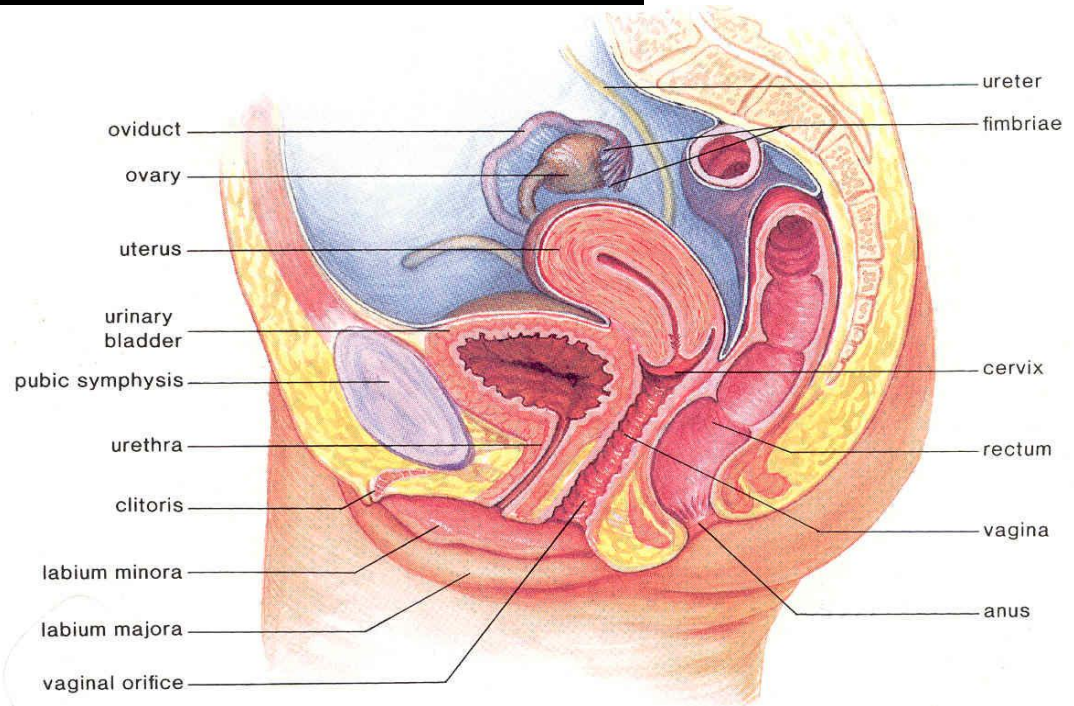


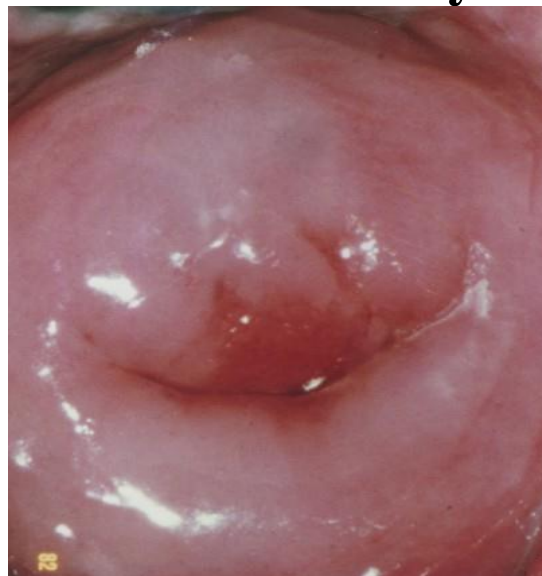
Unit P Notes #3 – The Female Reproductive System And The Ovarian Cycle

A) Female Reproductive Structures:



Cervix

- narrow end of uterus leading to the vagina.
- dilates at birth to allow baby to exit.

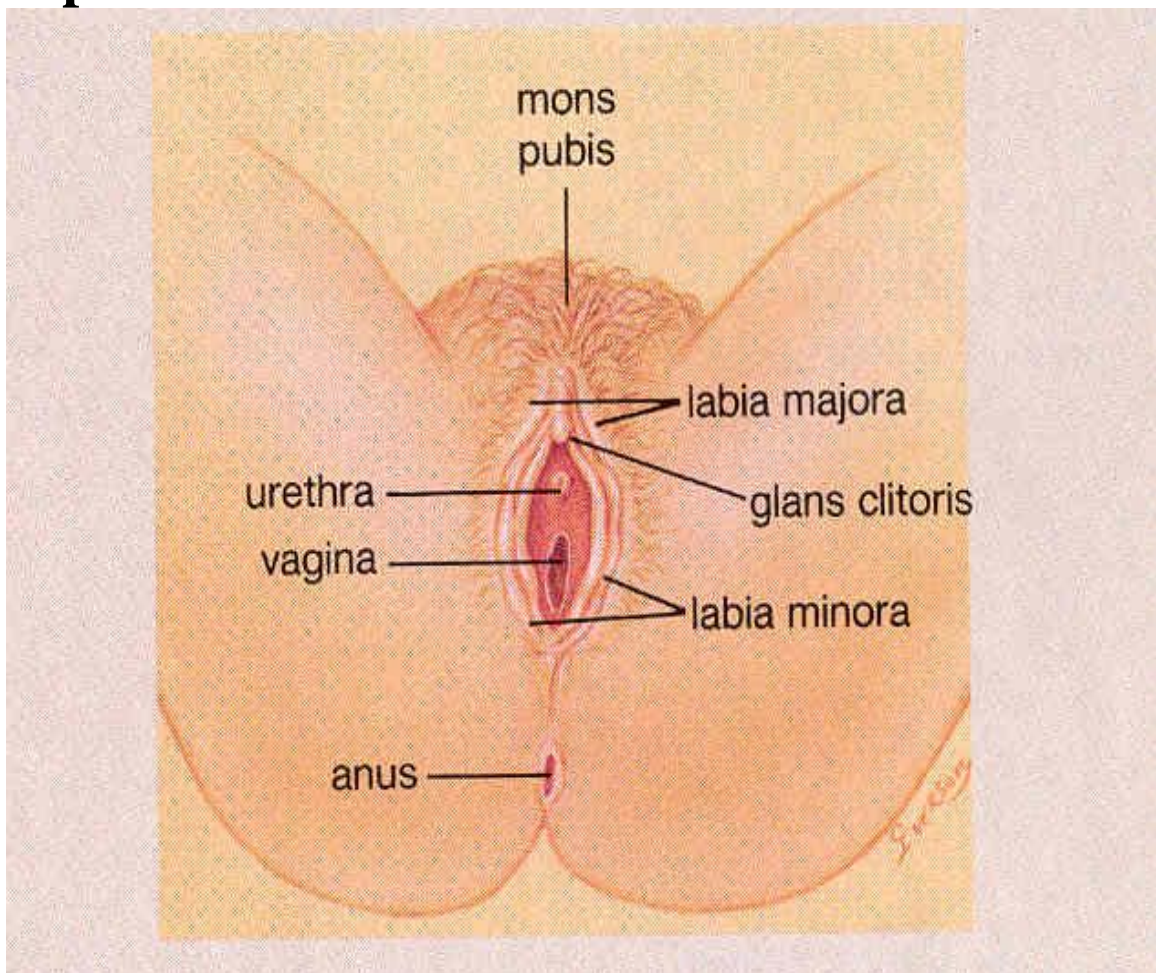


Clitoris

- female sensory organ; homologous to the male penis.
- provides sensitivity during intercourse.

Labia major and Labia minor

- protective folds of skin



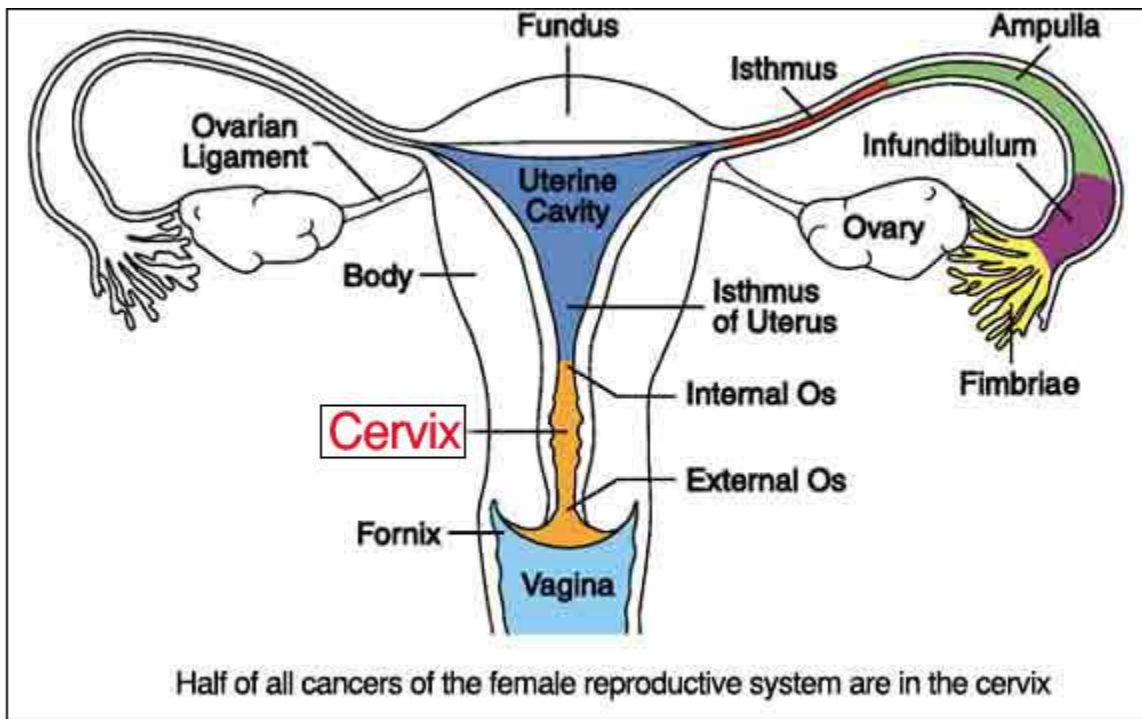
Fimbriae

- finger-like projections of the oviducts which brush over the ovaries.

- along with cilia in the oviducts, they cause a current which sweeps the egg into the oviduct

Oviducts

- conducts egg towards the uterus.
- also called the fallopian tubes or uterine tube.



Ovaries

- Produce eggs and sex hormones

Uterus (Womb)

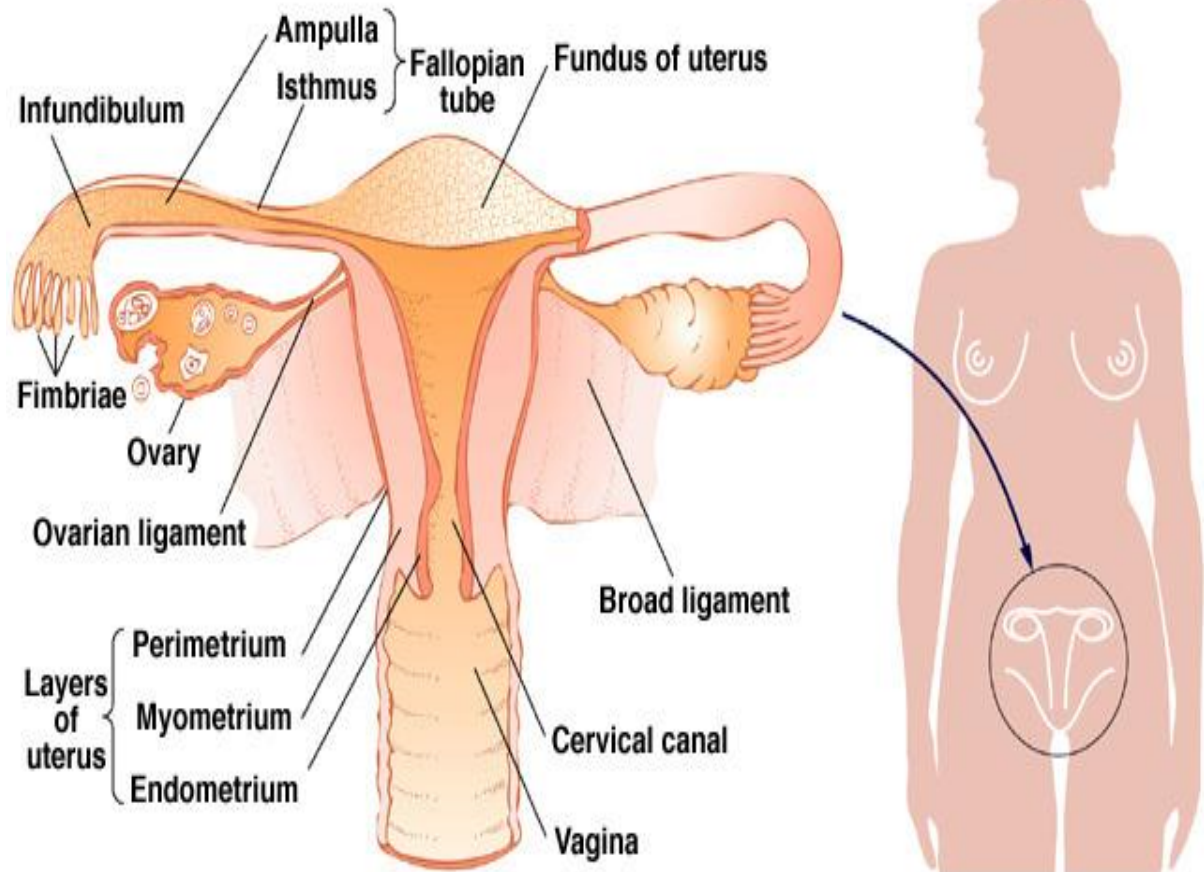
- Houses developing fetus

Vagina

- **Receives penis during sexual intercourse and serves as a birth canal.**

Vestibule: A cleft between the labia minora. Contains the openings (orifices) of the urethra and the vagina.

Internal Sexual & Reproductive Organs(F)



B) Functions of Main Female Hormone -

Estrogen:

1. Stimulates growth of uterus and vagina at puberty.

2. Egg maturation.

3. Secondary Sex Characteristics

- armpit hair / pubic hair
- fat distribution beneath skin
- enlarged pelvic girdle (wider hips)
- breast development (requires progesterone as well)

**** In the female, the same two gonadotropic hormones (**FSH** and **LH**) are released from the anterior pituitary gland. They target the female gonads (Ovaries) which then put out two other sex hormones –*

1) Estrogen

2. Progesterone

- These four hormones trigger different processes to take place in either the Ovaries and the Uterus. These changes cycle over a 28 day period. We will commence by looking at the cycle of changes that take place in the ovary cycle (to develop, mature and release an ovule/egg), and then we will learn the cycle that takes place in the uterine cycle (to

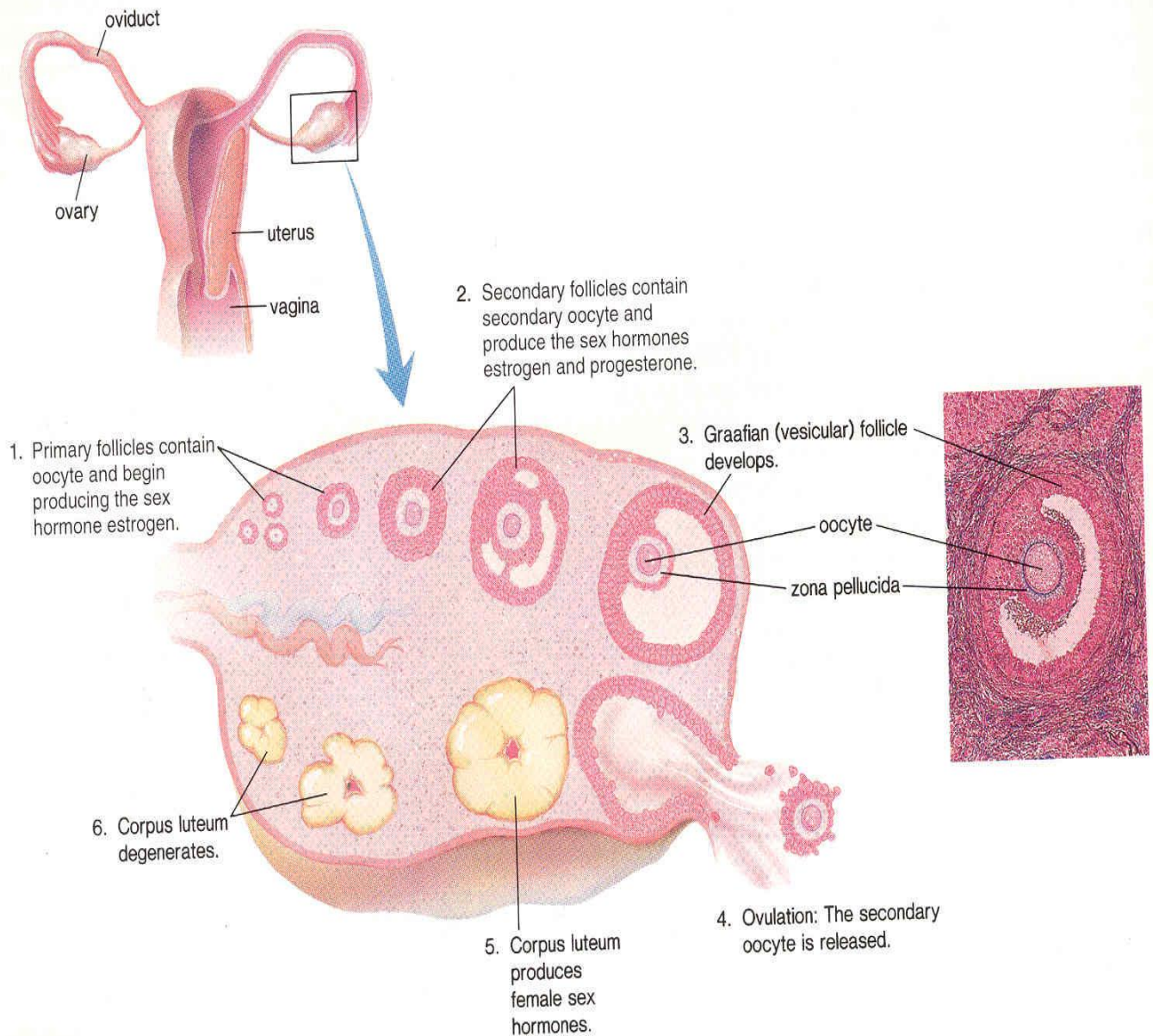
prepare the uterus for possible implantation of an early embryo).

C) Ovarian Cycle:

- The ovarian cycle consists of three key processes:

A) Follicular Phase B) Ovulation

C) Luteal Phase



Day 1 –13 Follicular Phase

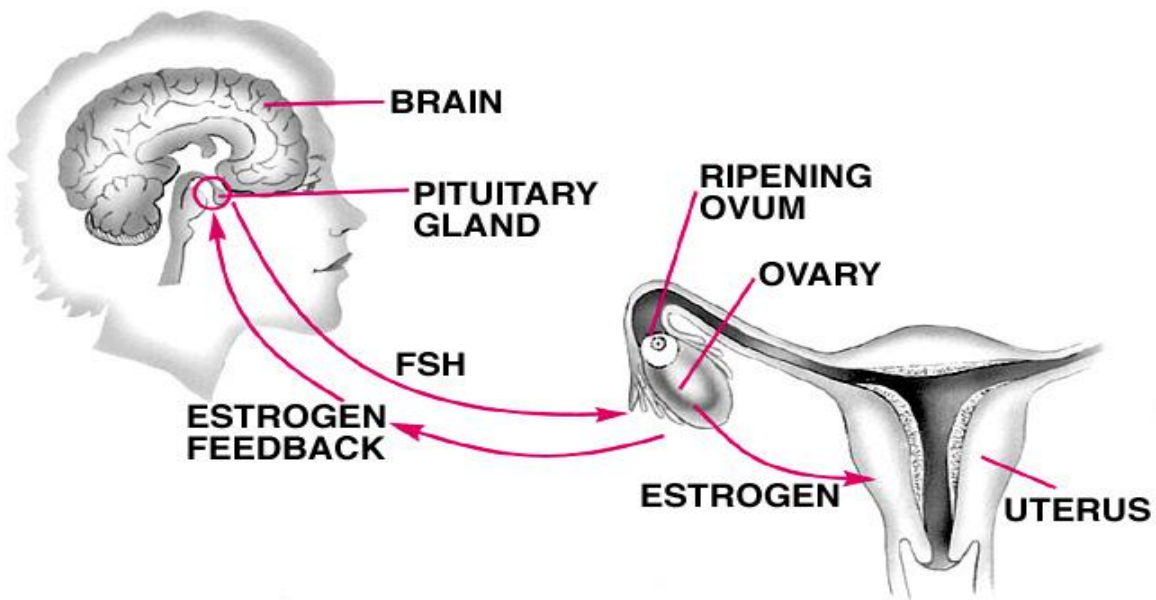
1. Hypothalamus produces a GnRH to stimulate Anterior lobe of pituitary to

produce and release Gonadotropic Hormones
→ (**FSH** and **LH**)

2. - **FSH** stimulates the development of a follicle (the egg/oocyte-producing and estrogen-producing structure) in the ovary.

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Preovulatory Preparation



- **LH** promotes the development of the corpus luteum later on in the cycle, and the maturation and ovulation of the ovum.

3. The primary follicle contains a diploid (46 chromosomes) primary oocyte which divides

meiotically to produce two haploid (23 chromosomes) cells (oocytes)

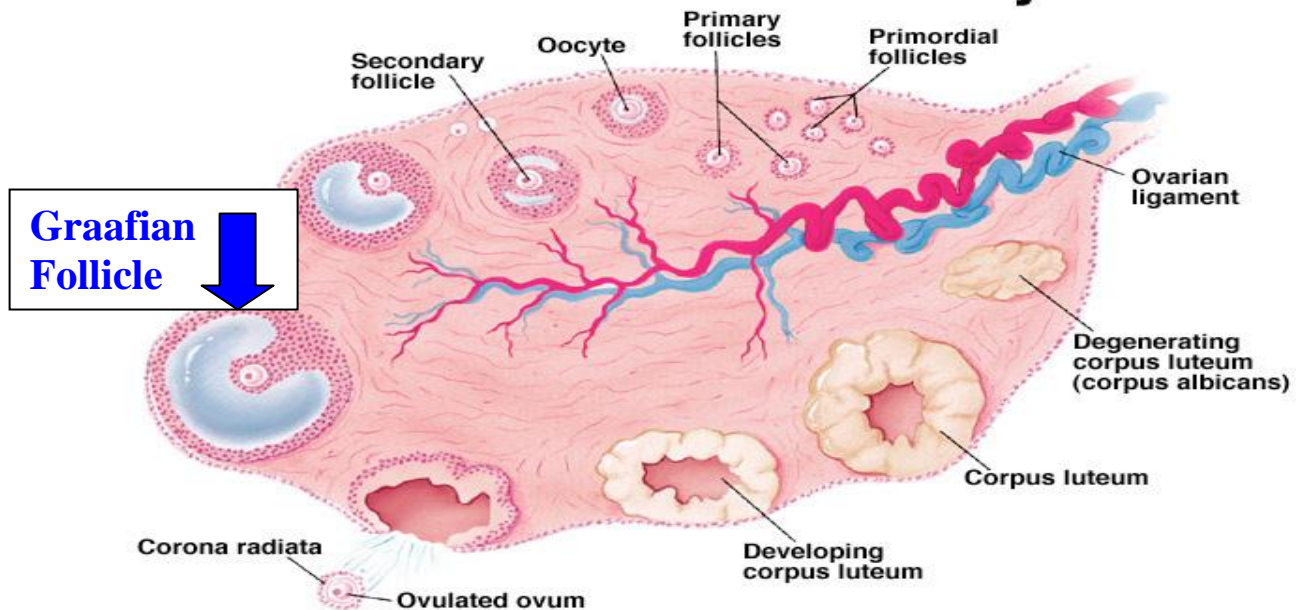
4. One of these oocytes gets most of the cytoplasm it is called a secondary oocyte, which is inside what is now called the secondary follicle.

5. Other oocyte called the polar body disintegrates.

6. The secondary follicle grows into a Graafian (vesicular) Follicle.

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Structure of an Ovary

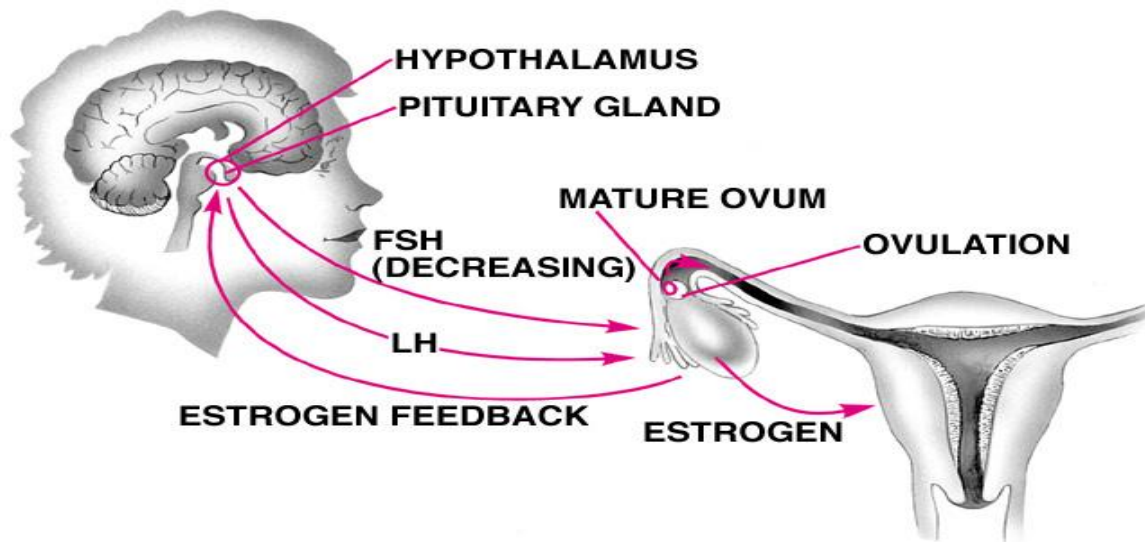


Day 14 Ovulation

7. Grafian Follicle swells with fluid eventually causing it to burst (ovulation) out of the side of the ovary. LH is at its highest and triggers ovulation

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Ovulation

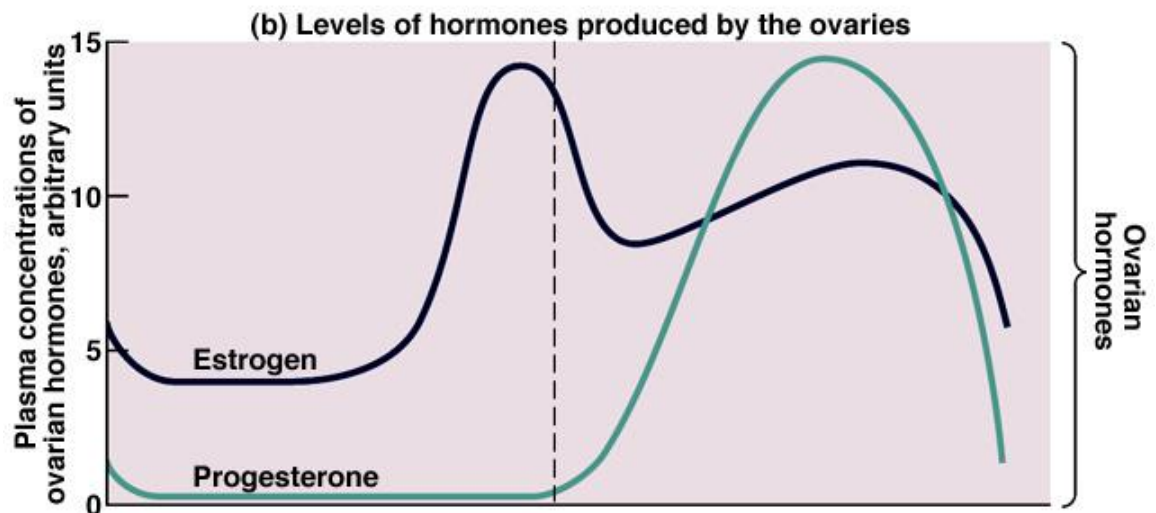


Day 15 –28 Luteal Phase

8. Once the follicle has lost its oocyte (or “egg”) it develops into the “corpus luteum”. (It is the job of the **LH to cause the corpus luteum to form.)**

- the corpus luteum secretes hormones**
- corpus luteum also produces progesterone**

The Biological Events of Menstrual Cycle



- **If pregnancy does not occur: Corpus Luteum breaks down (about 10 days)**
- **If pregnancy does occur: Corpus Luteum remains for 3 – 6 months and continues to produce some of the hormones necessary for pregnancy.**