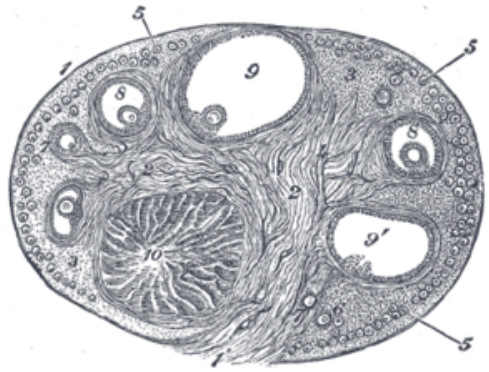
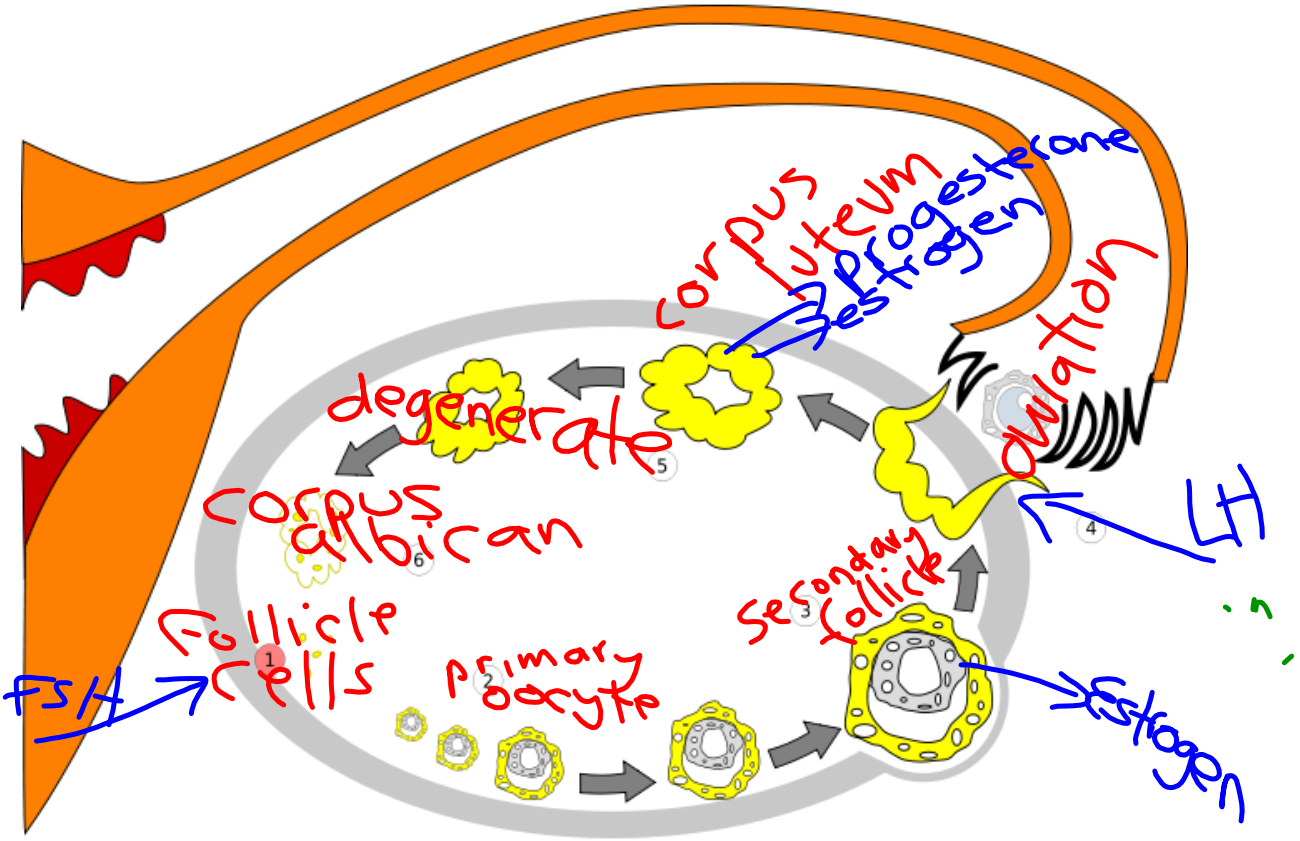


Section of the ovary. 1. Outer covering. 1'. Attached border. 2. Central stroma. 3. Peripheral stroma. 4. Bloodvessels. 5. Vesicular follicles in their earliest stage. 6, 7, 8. More advanced follicles. 9. An almost mature follicle. 9'. Follicle from which the ovum has escaped. 10. **Corpus luteum**


corpus luteum
progesterone
estrogen
ovulation
degenerate
corpus albican
follicle cells
primary oocyte
secondary follicle
FSH
LH
estrogen
1
2
3
4
5
6

Menstraul Cycle involves building up + breaking down of the inner lining of the uterus.

Can be broken into four phases.

1. Flow phase

- usually end of cycle but easiest to detect therefore used to indicate start of cycle
- endometrial wall is shed; menstrual bleeding occurs
- about 5 days are required for the uterus to be shed

2. Follicular Phase involves building up of endometrium as result of Estrogen being recieved

- characterized by development of follicles within the ovary
- as follicle develops, hormone estrogen is secreted (FSH)
- estrogen causes lining of uterus to thicken in preparation for a fertizilzed egg
- follicle matures
- FSH decreases and LH increases
- about 6-13 days

3. Ovulatory Phase

- follicle grows very large under influence of FSH
- LH causes wall of follicle to rupture, releasing the egg cell
- ovulation occurs 14 days before onset of menstrual period
- egg captured by frimbriae and travels into tube

4. Luteal Phase (Post-Ovulatory phase)

- once ovul action occurs, LH causes empty follicle to change into corpus luteum
- corpus luteum secretes estrogen and progesterone (large amounts)
- endometrium becomes thicker as it prepares to receive egg (fertilized)
- about day 15 to 28 (from ovulation to menstraul period)
- progesterone inhibits uterine contractions (dominant hormone of luteal phase
- LH is dominant pituitary hormone

If Fertilization does not occur:
- levels of progesterone and estrogen from the corpus luteum increase during the luteal phase
- this inhibits LH secretion (this is a negative feedback)
- corpus luteum degenerates to corpus albicans
- decreased levels of progesterone and estrogen (because corpus luteum breakdown)
- this initiates the next menstrual period
- as well, decreased progesterone and estrogen stimulate FSH production > new cycle

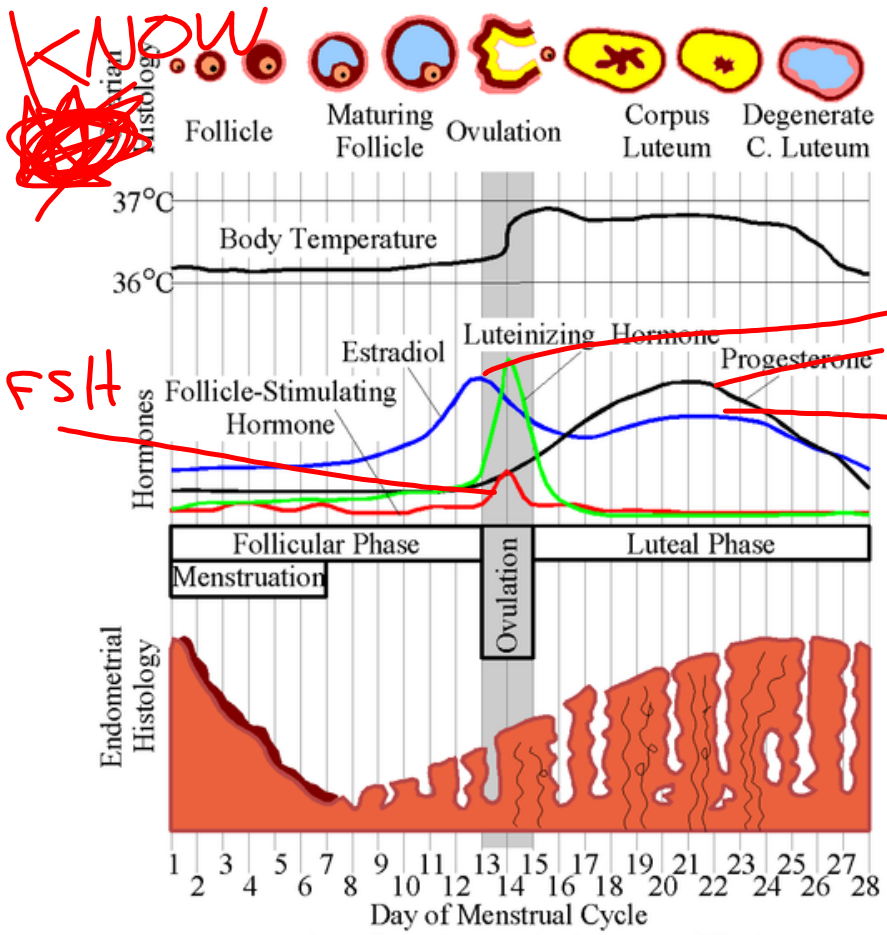
If Fertilization does occur:
- progesterone and estrogen stay high but the corpus luteum does not degenerate
- instead Human Chorionic Gonadotrophin (HCG) which is produced by the developing embryo allows the corpus luteum to remain intact therefore progesterone levels stay high
- eventually the placenta secretes progesterone and estrogen so the levels stay high
- the role of the corpus luteum is reduced
- Its the HCG hormone that is detected during a pregnancy test (present in urine)

Basal Body Temperature - Ovulation

- one method of determining ovulation is taking basal temperature (first thing in the morning)
- basal temperature is generally around 36 - 36.5 degrees celcius
- with ovulation there is a slight increase (1/2 - 1 degree) in the basal temperature

Menopause

- less frequent cycles and the ovaries do not respond to FSH and LH
- hot flashes, sweating, headaches, pains, emotional instability and tiredness
- Treatments: estrogen patches



(Average values. Durations and values may differ between different females or different cycles.)