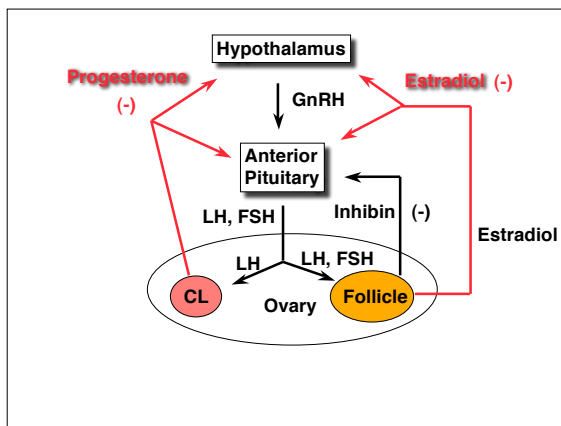
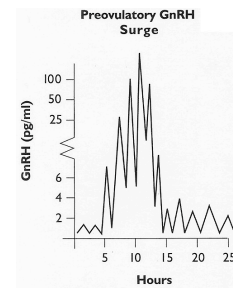
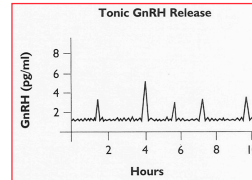


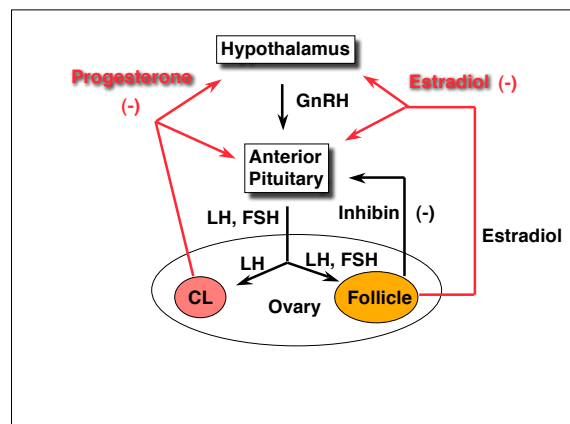
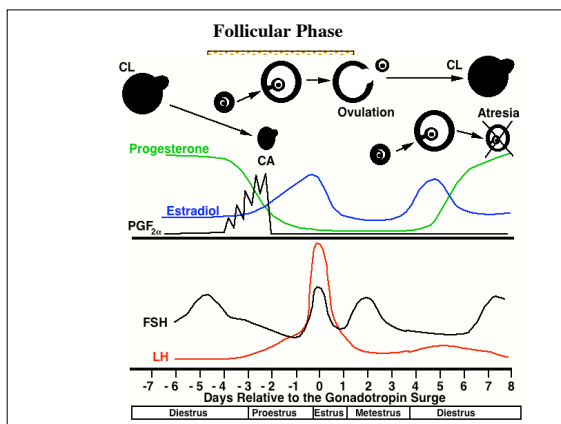
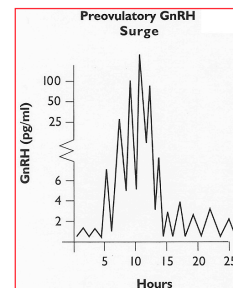
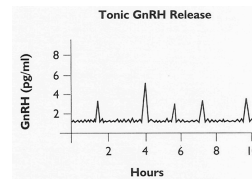
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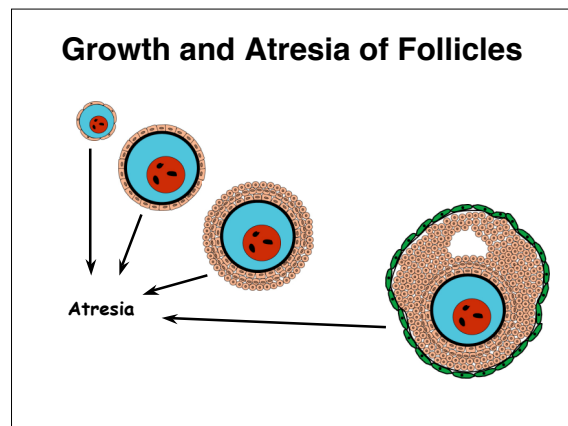
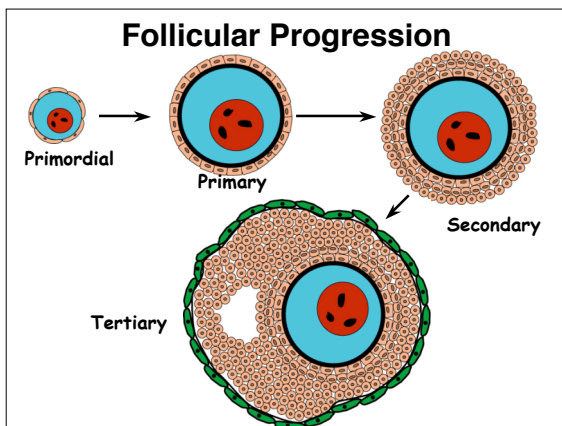
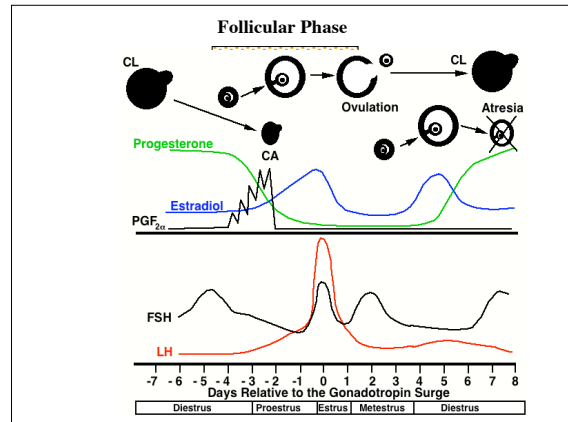
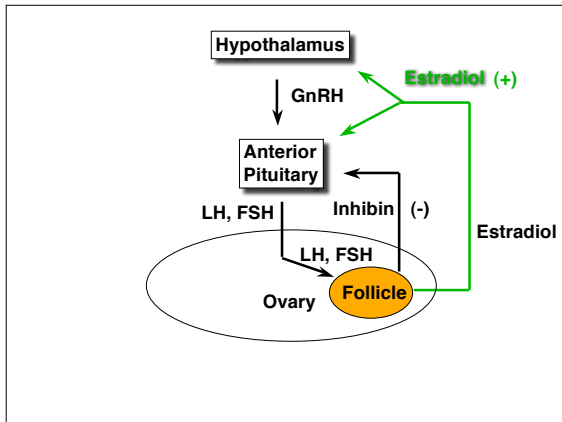
Lecture 10: The Follicular Phase of the Estrous Cycle

Tonic and Preovulatory Surge of GnRH



Tonic and Preovulatory Surge of GnRH





Fate of follicles and oocytes.

	<u>Total # of follicles</u>
At birth	100,000
12 months	75,000
4-6 years	21,000
Aged cow	2,500

Follicles grow to tertiary characteristic and degenerate.

Maximum number of oocytes ovulated for a cow

17 cycles/year x 8 year = 136 oocytes ovulated/lifespan

Fate of follicles and oocytes.

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12 months	75,000
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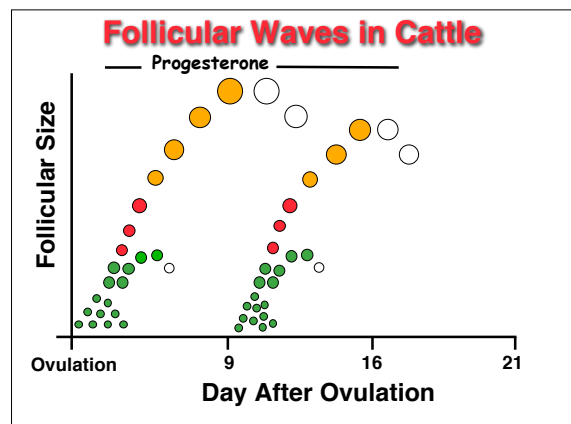
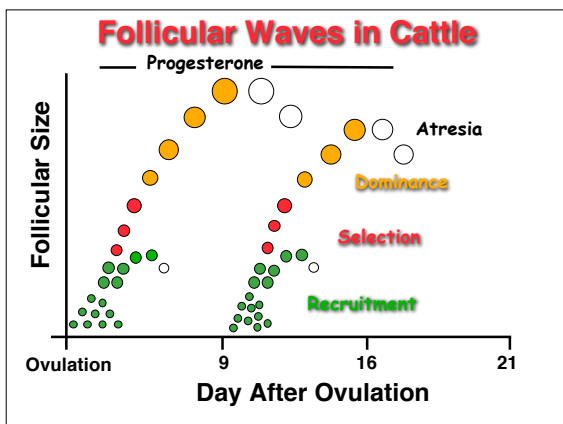
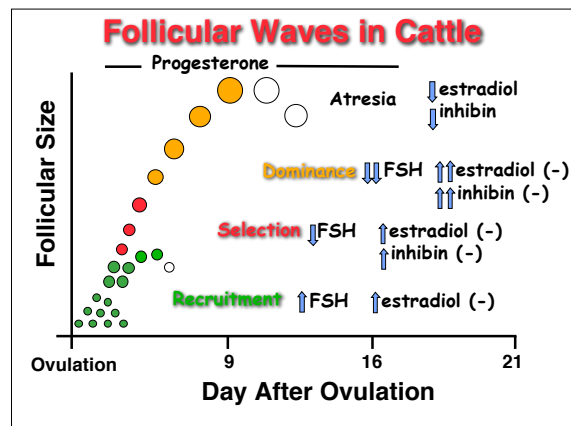
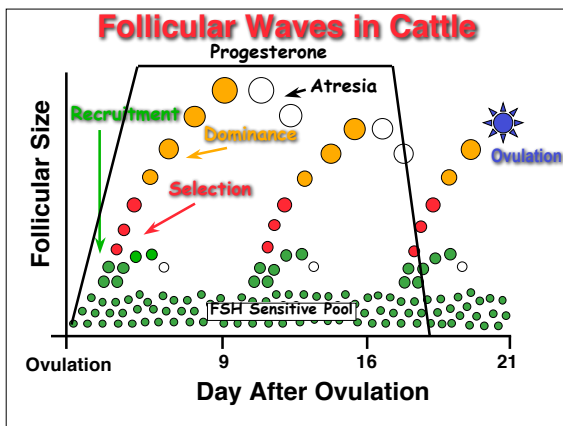
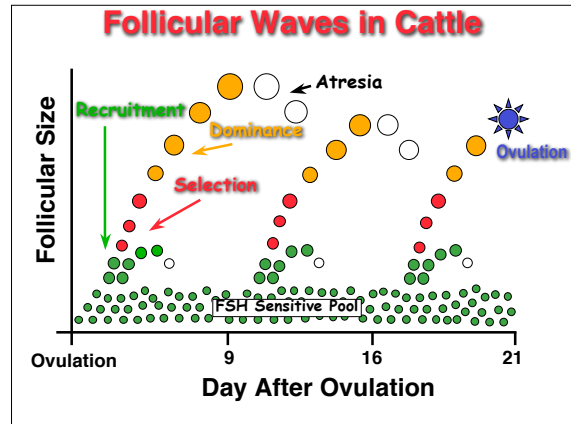
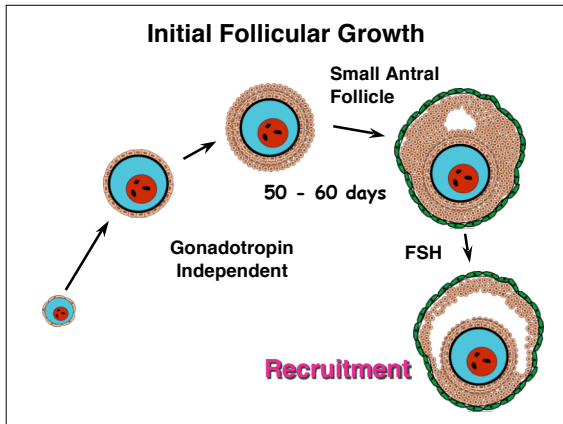
100 Days of Gestation
2.9 million

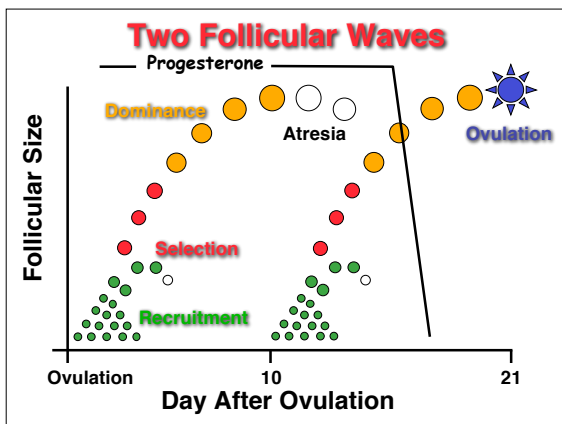
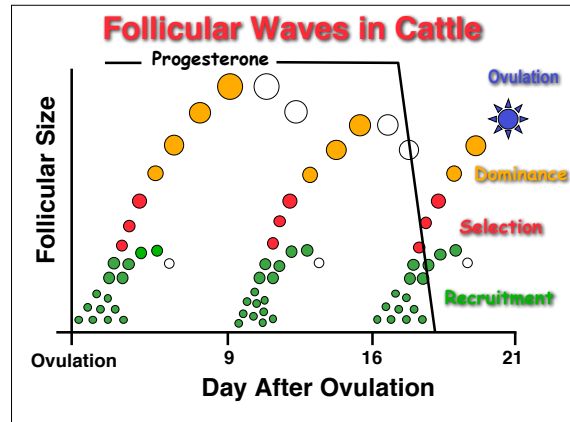
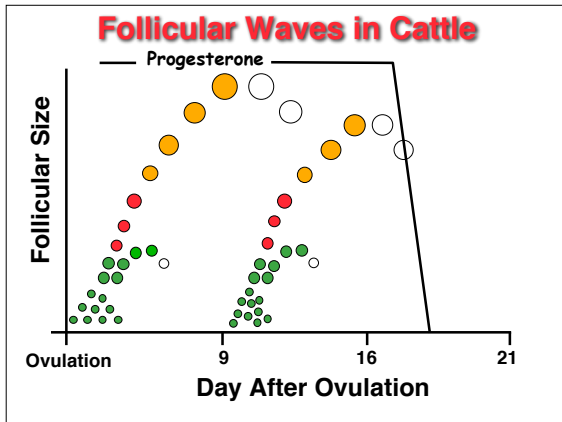
Follicles grow to tertiary characteristic and degenerate.

Maximum number of oocytes ovulated for a cow

17 cycles/year x 8 year = 136 oocytes ovulated/lifespan

Can increase with superovulation with FSH to stimulate the rescue of follicles which would have undergone atresia





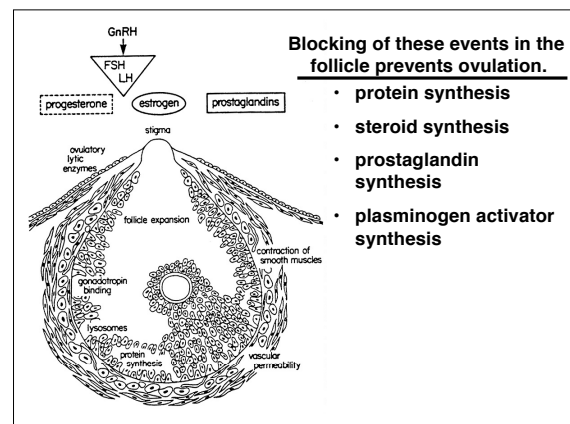
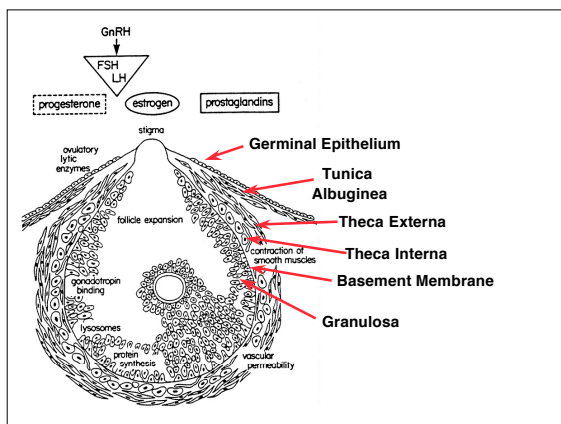
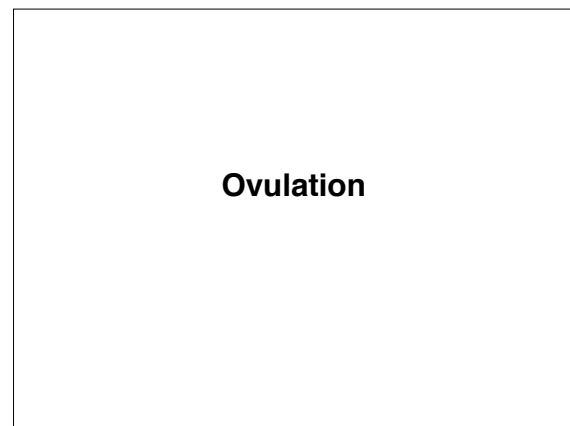
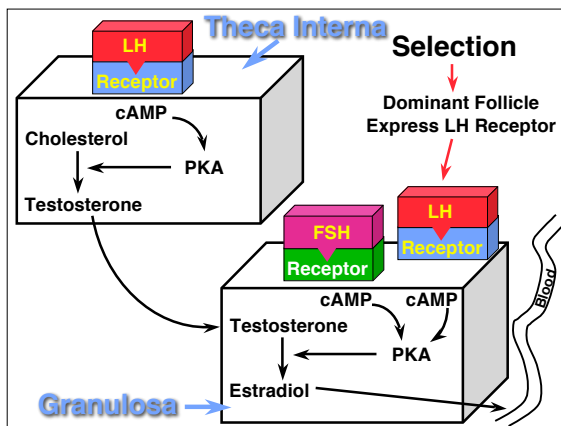
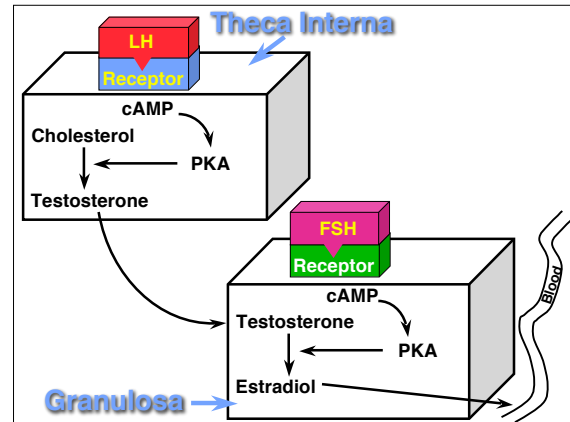
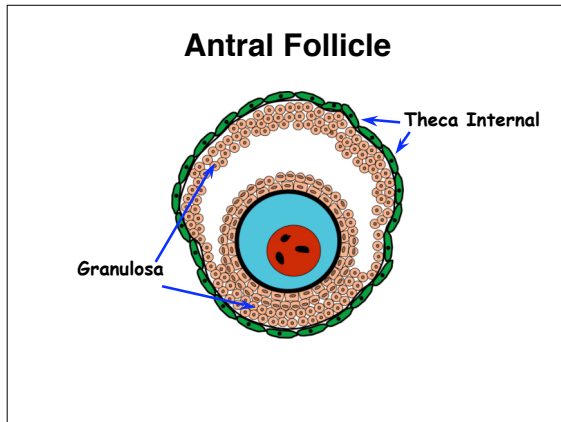
Follicular Wave Emergence

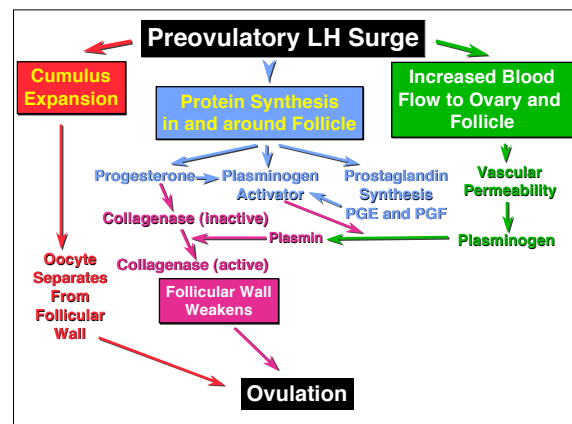
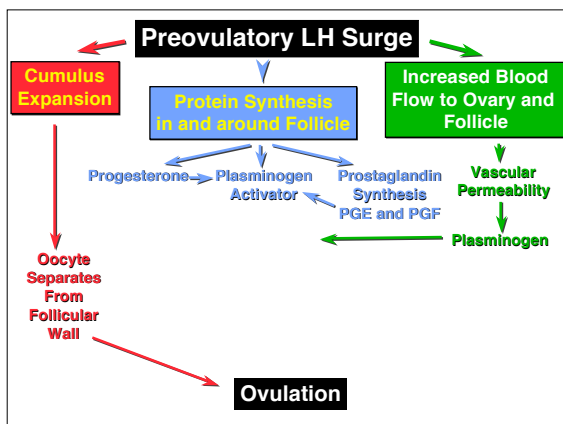
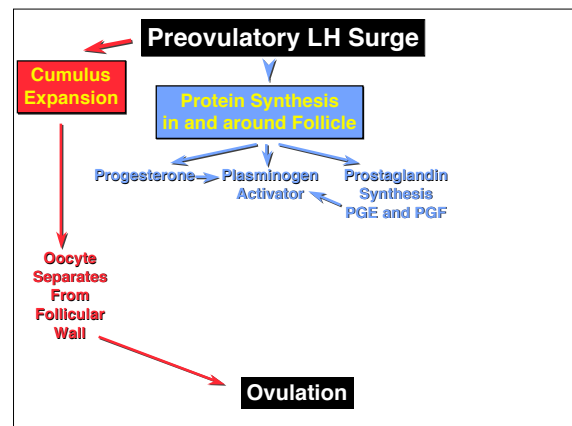
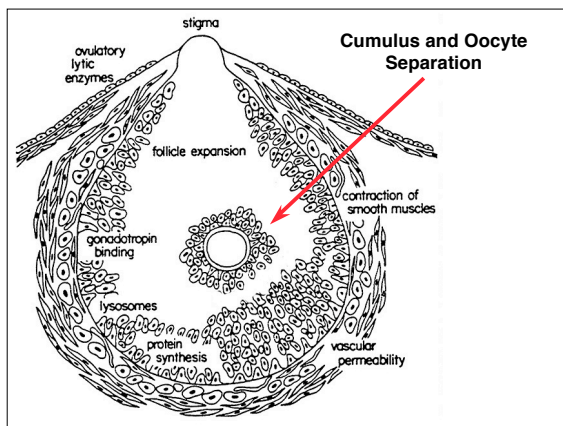
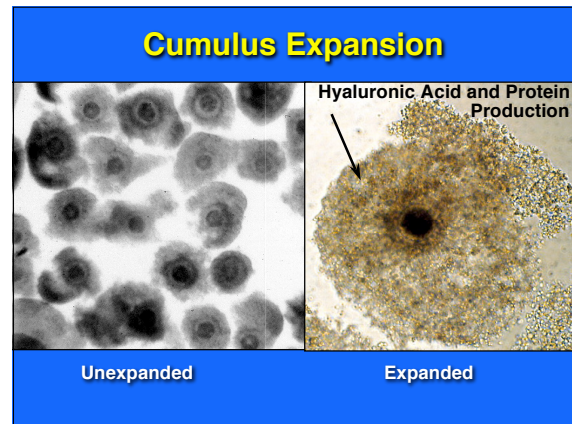
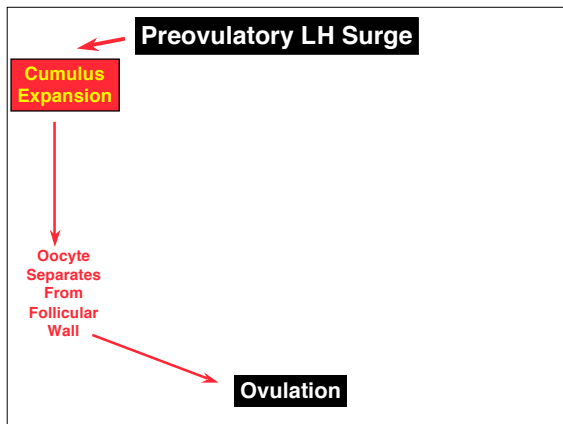
- FSH always controls emergence
- Increase in FSH precedes emergence

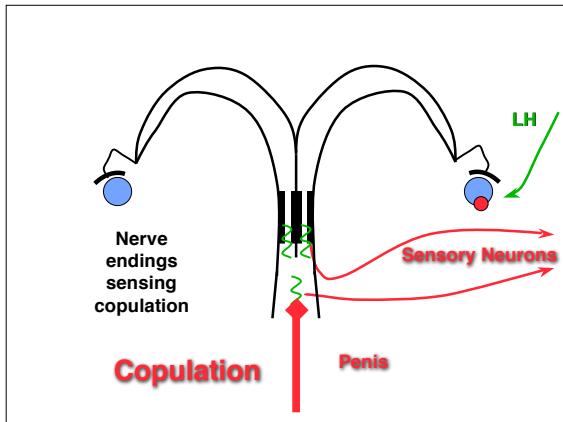
Species Variation in Follicular Waves

- Cattle - 2 or 3 / cycle
 - Sheep - 4 or 5 / cycle
 - Pigs - 1 / cycle
 - Horses - 1 / cycle
 - Human - 1 / cycle
- CI-progesterone
- CI-progesterone, inhibin

Gonadotropin Action Within the Follicle





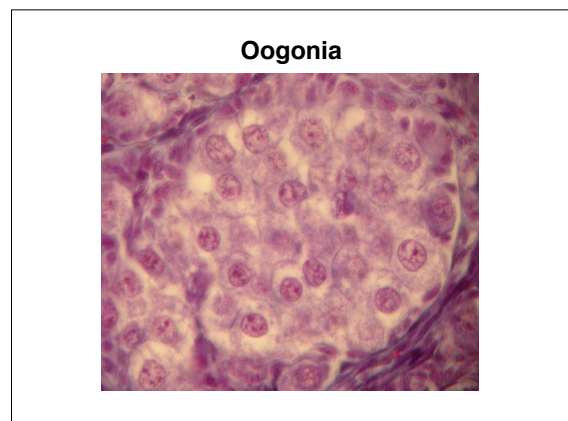
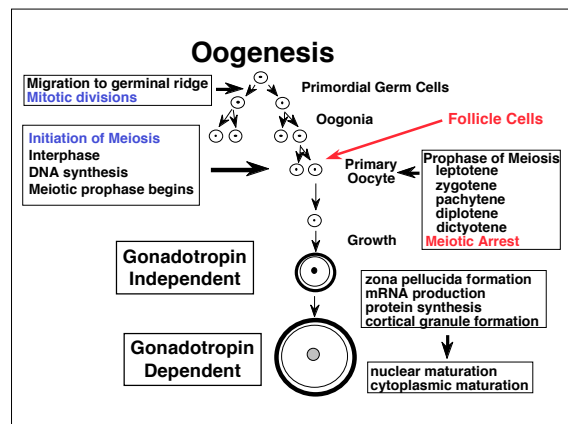


Cats

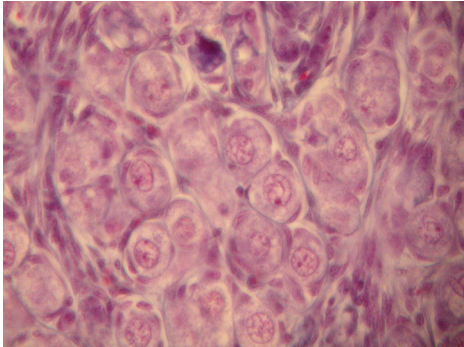
- Induced Ovulators
- Single copulation
 - Only works 50% of the time
- Multiple copulations
 - Higher LH surge

Spontaneous Ovulators

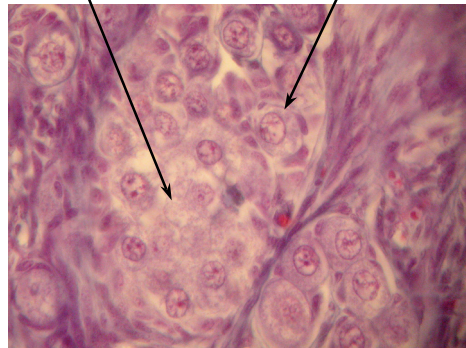
- Retain some neural control of ovulation
 - heifers can alter the timing of the LH surge by clitoral stimulation
 - human rape cases result in higher than expected pregnancy rates



Primary Oocytes in Primordial Follicles



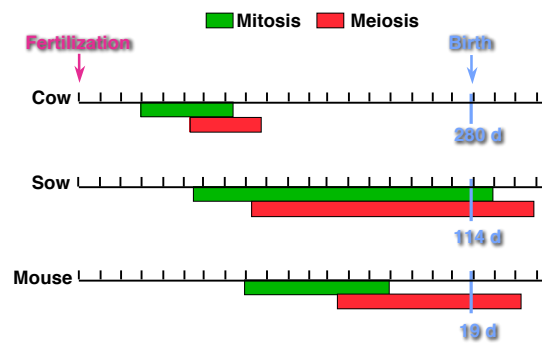
Oogonia and Primary Oocytes



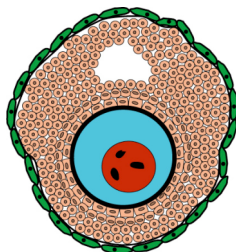
Primary Oocyte in Primary Follicle



Fetal Oocyte Development



Ovulation of Tertiary Follicle



Formation of the Zona Pellucida

