

## ANESTRUS

The estrous cycle can be divided into four stages: 1) Proestrus, 2) Estrus, 3) Metestrus, and 4) Diestrus & Anestrus.

### ANESTRUS

It is also a inactive phase.

Animals with long periods between cycles or polyestrous animals that stop cycling (e.g., due to change in season) enter a long period of inactivity termed anestrus. For example, sheep have a short diestrus while cycling during a breeding season but enter anestrus if pregnancy is not established during the breeding season.

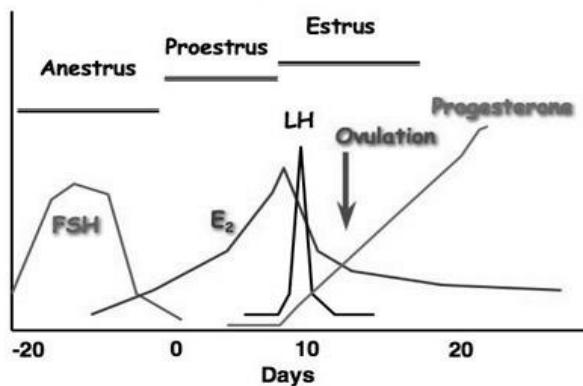
- During anestrus the uterine tubes, and vagina shrink, and remain small until the next breeding season.
- Anestrus refers to the phase when the sexual cycle rests.
- This is typically a seasonal event .
- Anestrus is induced by time of year, pregnancy, lactation, significant illness, chronic energy deficit, and possibly age.

### Causes of Anestrus

- Pregnancy
- Presence of offspring
- season
- stress
- pathology

**THUS** Estrus cycle has great importance in the life cycle of certain mammals.

### Hormonal Changes in the Bitch



Average Reproductive Cycle				
Species	Length of estrous cycle	Length of Estrus	Ovulation	Length of Pregnancy
Cow	21 days polyestrus	18 hr	11 hr after end estrus	282 days
Bitch	6month	9 days	4 -24 days after start of estrus	63 days

	Cow	Ewe	Sow	Mare
Estrous cycle (days)	21	17	21	21
Proestrus (days)	3-4	2-3	3-4	2-3
Estrus (hour)	12-18	24-36	48-72	4-8
Metestrus (days)	3-4	2-3	2-3	2-3
Diestrus (days)	10-14	10-12	11-13	10-12

**Example-**  
**Estrous**  
**Cycles in the**  
**Dog**

- Dog
  - A

*anestrus - has an FSH increase  
that triggers follicular growth*

*◦ Proestrus - estradiol  
increase and peaks at end, also  
bloody discharge begins*

*◦ Estrus - estradiol*

declines, LH surge, ovulation, progesterone increases even before ovulation

- Metestrus I - 20 days, progesterone high, increase in estradiol
- Metestrus II - 70 days, progesterone declines, estradiol declines, prolactin increases and then declines
- Patterns the same in pregnant and non-pregnant bitch
- Pseudo-pregnancy occurs in non-pregnant bitch because of increases in prolactin.

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### Diestrus and anestrus

Polyestrous animals have a short period of inactivity before the proestrus phase of the next cycle. This is diestrus. Animals with long periods between cycles or polyestrous animals that stop cycling (e.g., due to change in season) enter a long period of inactivity termed anestrus. For example, sheep have a short diestrus while cycling during a breeding season but enter anestrus if pregnancy is not established during the breeding season. During anestrus the uterine tubes, and vagina shrink, and remain small until the next breeding season.