



Ovarian & Uterine Cycle

Ovarian cycle – Describes the development and release of the oocyte (or immature egg) in the ovary and changes in the follicles. Usually occurs within ~28 days. This cycle consists of the follicular phase and the luteal phase.

Uterine cycle – Describes the preparation of the inner lining of the uterus (endometrium) for implantation by a fertilized egg and shedding of the lining when implantation has failed. Usually occurs within ~28 days. This cycle consists of menses (menstruation), the proliferative phase and the secretory phase.

The two cycles occur concurrently and are tightly regulated by hormones released from the endocrine system. The changes in the ovary are regulated by hormones released from the anterior pituitary gland and the changes observed in the uterine cycle are regulated by hormones released from the ovary during the ovarian cycle. Below is a summary of the hormonal events controlling these cycles and the anatomical changes that occur in the ovary and uterus.

Steps	Stimulus	Target Location	Result
1	Gonadotropin releasing hormone (GnRH) is released by the hypothalamus.	Anterior pituitary gland	Stimulates the release of follicle stimulating hormone (FSH). This starts the follicular phase .
2	FSH is released from the anterior pituitary gland into blood.	Ovary	Stimulates follicle development in the ovaries. As follicles mature, they start releasing estrogen and inhibin into blood.
3	Estrogen concentrations increase in blood.	Hypothalamus	Causes increase in GnRH production.
		Uterus	Causes endometrium to develop and regenerate. This starts the proliferative phase .
	Inhibin concentrations increase in blood.	Anterior pituitary gland	Inhibits further release of FSH.
4	Increased GnRH production.	Anterior pituitary gland	Stimulates the release of luteinizing hormone (LH) into blood.