**Ovarian Cycle**

* The ovarian cycle is a series of events that take place within the ovaries
* Includes the maturation of an egg and its release into a uterine tube
* Development of follicles in the ovary and the formation of the **corpus luteum**
* Length of cycle is highly variable, depending on the individual and her circumstances
	+ May range from 20-40 days, with an average of 28 days
* The ovarian cycle is commonly considered to be a 28-day cycle, though only 30% of women have a cycle 27/28 days in length
* At birth, female ovaries have ~400,000 immature eggs
* Formation of these eggs occurred before birth during foetal development
* Cells in ovary undergo many divisions but stop dividing before eggs are actually formed
* The immature eggs remain in a resting phase for many years
* Other cells within ovary surround each immature egg to produce a sphere composed of a single layer of cells – called a **primary follicle**
* When a female matures sexually (**puberty**) some primary follicles undergo further development
* Cells forming wall of primary follicle begin to enlarge and divide which creates a layer of cells around the developing egg
* Secretions of these cells create a fluid-filled space the forces the egg to the edge of the follicle – now referred to as a **secondary follicle**
* Several secondary follicles commence development in each cycle but usually only one completes development
* Others normally break down to be reabsorbed into the ovary
* As more fluid accumulates within follicle, it continues to enlarge and gradually moves towards the surface of the ovary
* On reaching the surface it produces a bulge, which looks like a swollen blister
* Now known as a **mature follicle** (once known as a **Graafian follicle**)
* Usually takes 10-14 days for a primary follicle to develop into a mature follicle
* When the mature follicle bursts, it expels the egg in a process called ovulation
* The open end of the uterine tube acts as a funnel over the ovary
* Beating cilia within the funnel create a current that sweeps the egg into the tube
* Usually only one follicle matures at a time, so only one egg is released
* Very occasionally, two or more follicles may burst at the same time releasing more than one egg
* Following ovulation, the ruptured follicle collapses and the blood within forms a clot
* Clot is gradually absorbed by remaining follicle cells, which enlarge and change colour to form a cream-coloured body, the **corpus luteum**
* Hormones that influence the development of the lining of the uterus are secreted by the corpus luteum
* If fertilisation has not occurred, the corpus luteum reaches its maximum development about 8-10 days after ovulation
* It then begins to degenerate into a fibrous mass of scar tissue, the **corpus albicans** which eventually disappears
* Another ovarian cycle begins – seems to be a matter of chance whether it occurs in the same ovary or the opposite ovary
* If fertilisation of an egg takes place and pregnancy follows, the corpus luteum continues to develop and the ovarian cycles cease
* Corpus luteum reaches peak of its development in about the third month of pregnancy
* Begins to degenerate after this, but degeneration is slow and it is still present in the ovary at childbirth
* Ovarian cycles usually resume only after breastfeeding of the baby has ceased