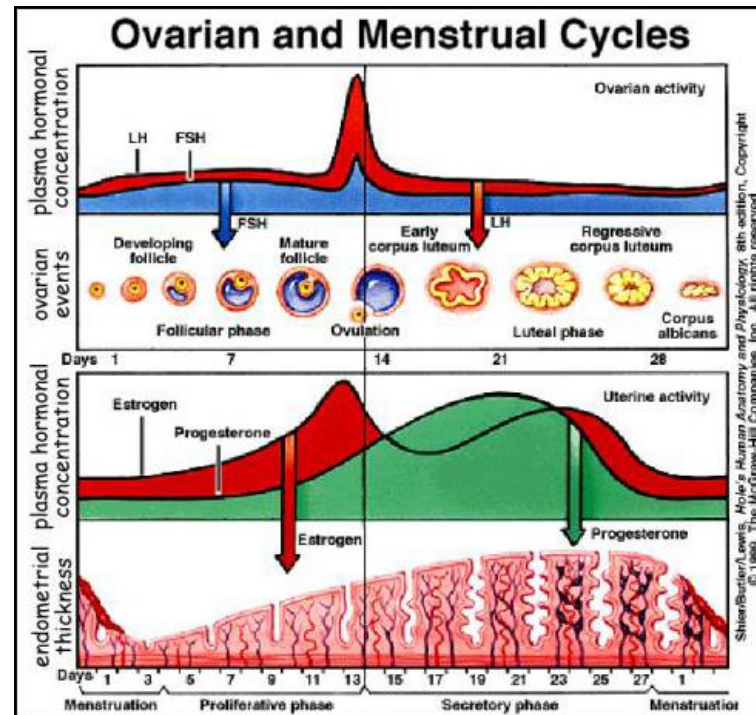
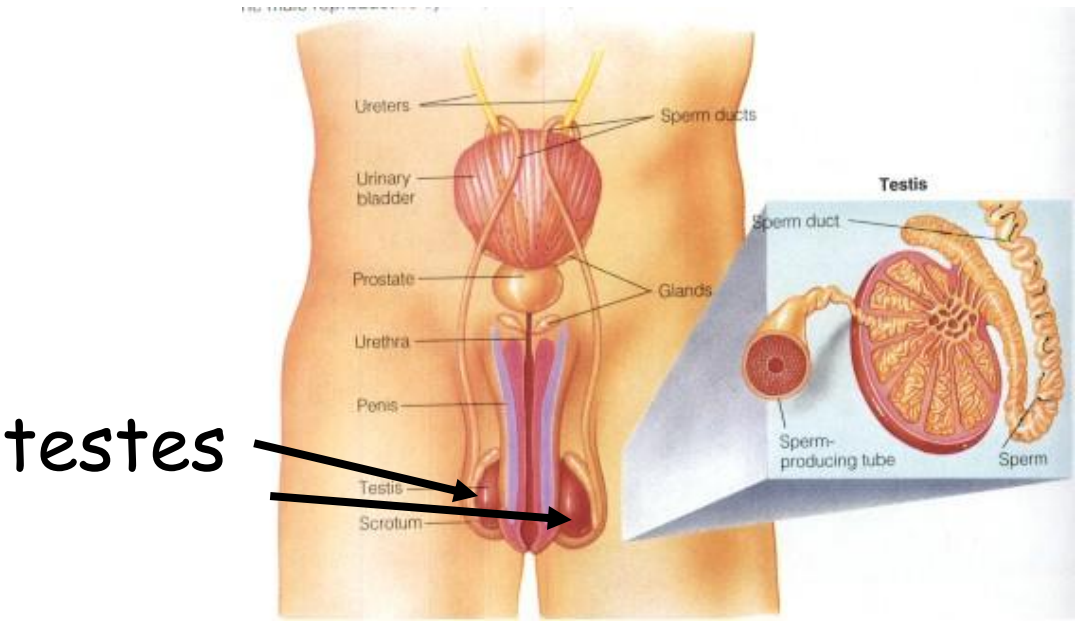


Reproductive organs & hormonal control of reproduction

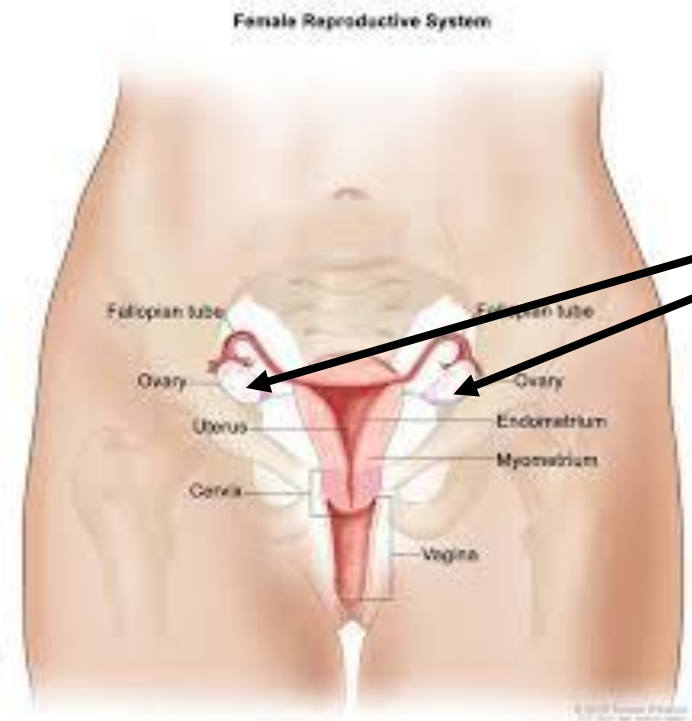
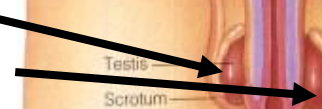


I can identify germline cells

- **Gametes** (sperm & ova) are produced from **germline** cells- testes or ovaries.



testes

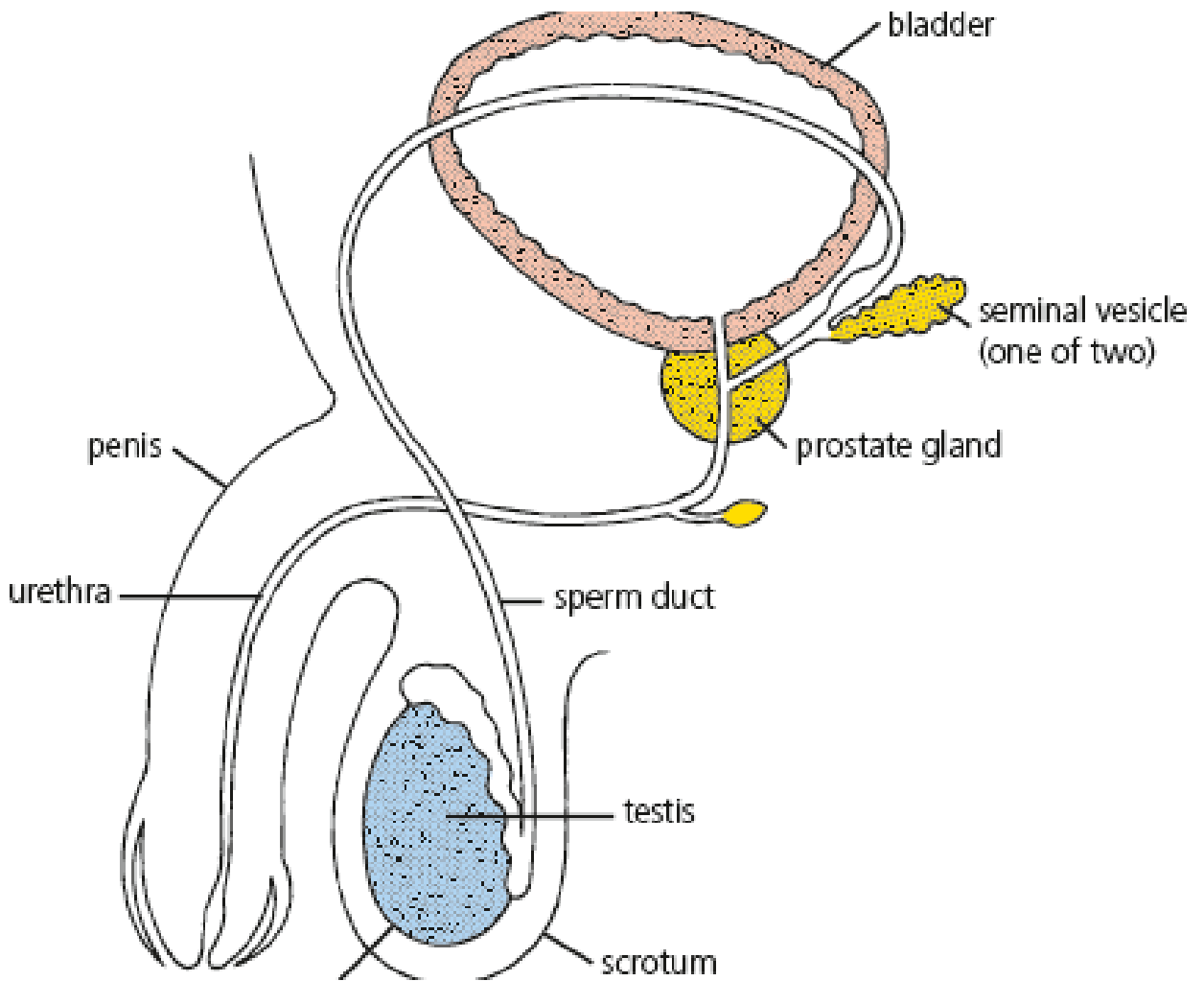


ovaries



I can describe gamete production in males.

Testes produce **sperm** and the male hormone **testosterone**.

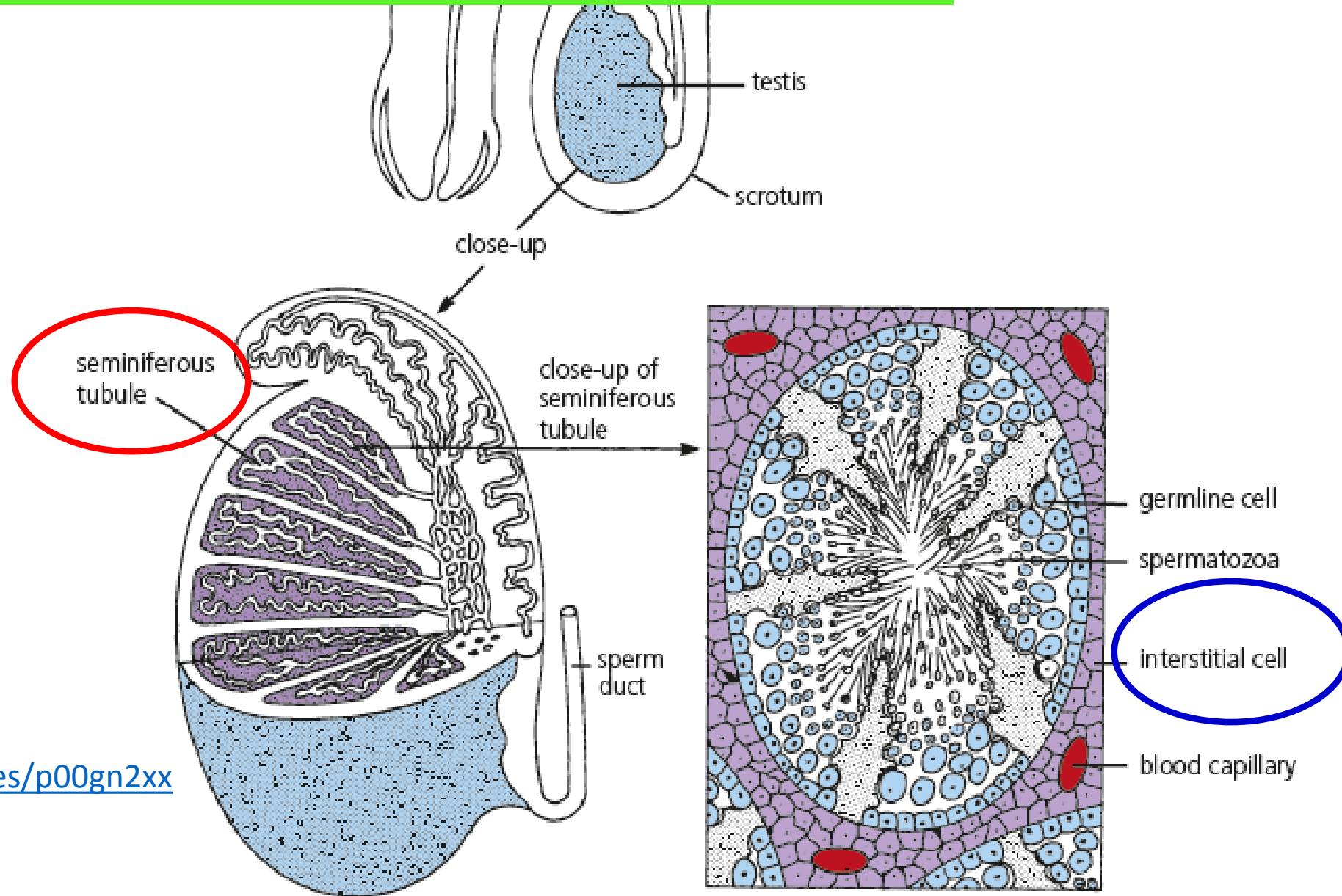


I can describe gamete production in males.

Sperm are formed in the **seminiferous tubules**.

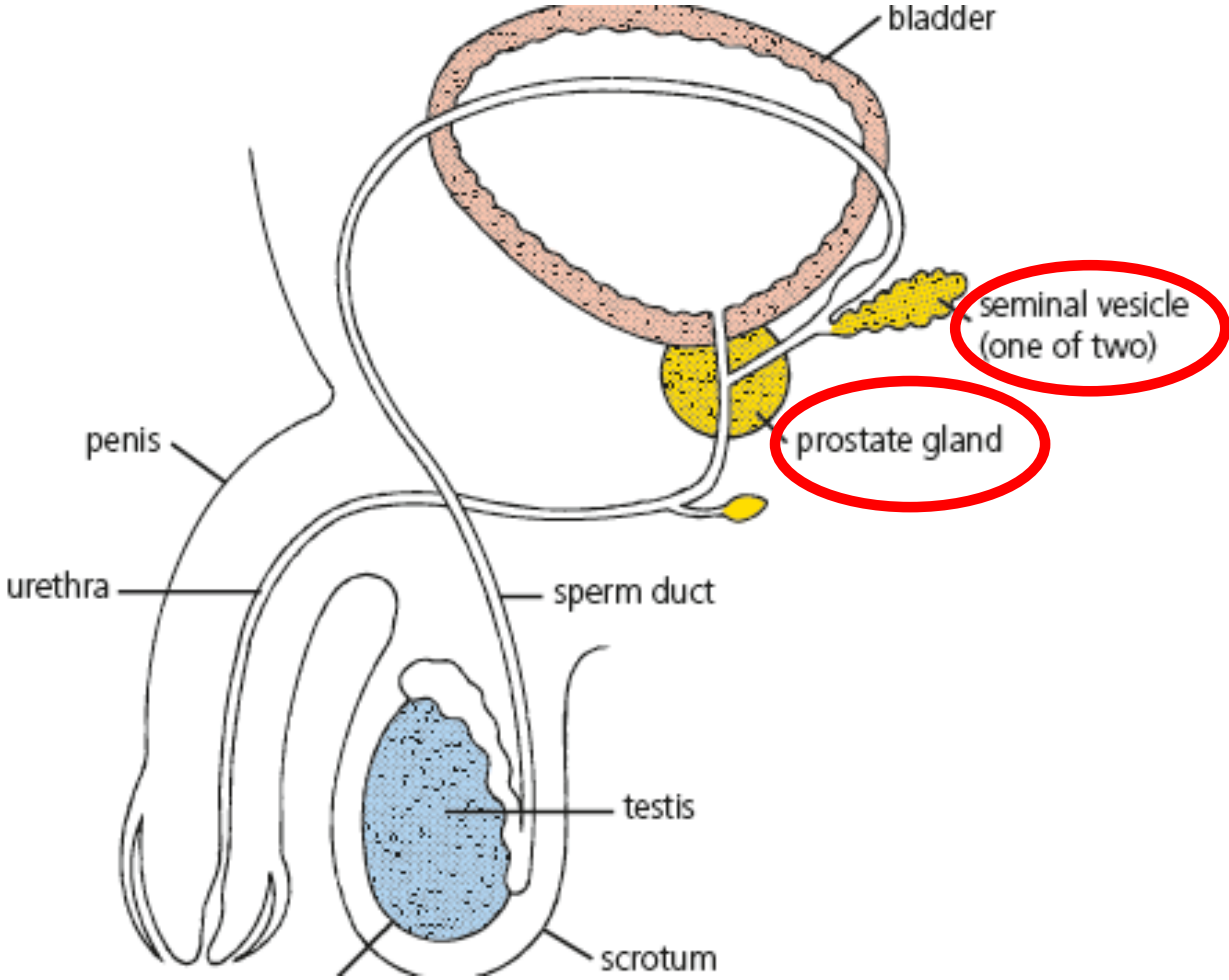
Testosterone is produced by the **interstitial cells**.

<http://www.bbc.co.uk/programmes/p00gn2xx>



I can describe gamete production in males.

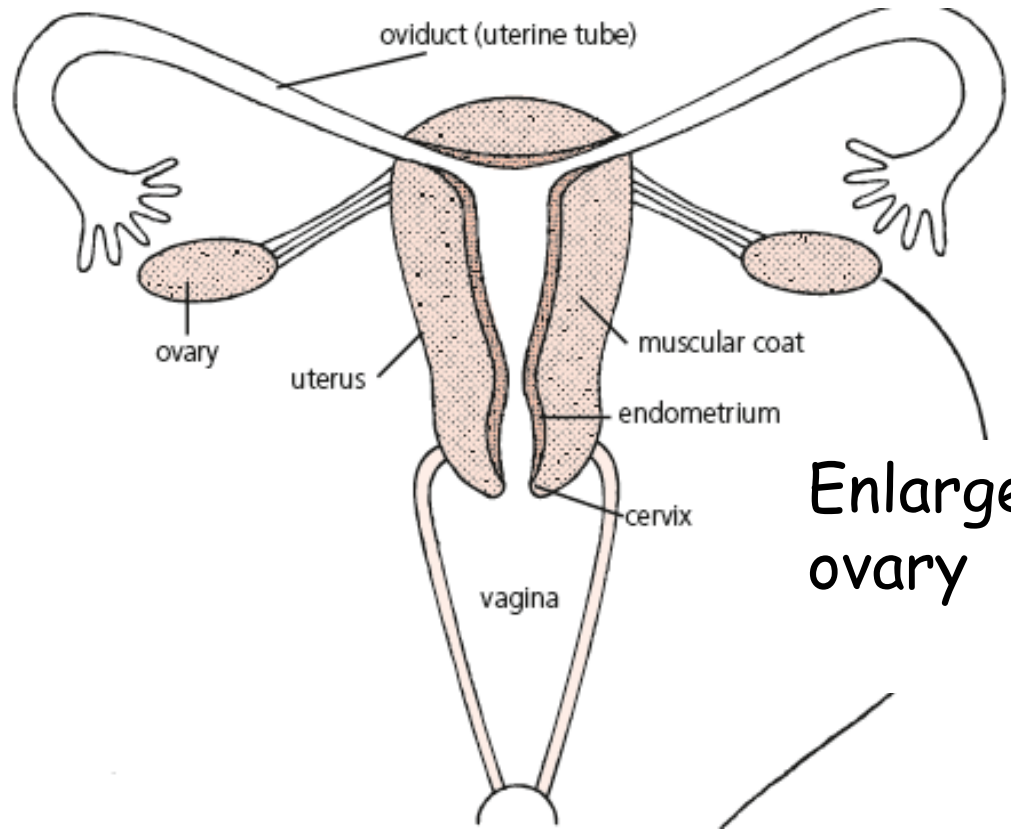
The **prostate gland** and **seminal vesicles** secrete fluids that maintain the motility and viability of the sperm.



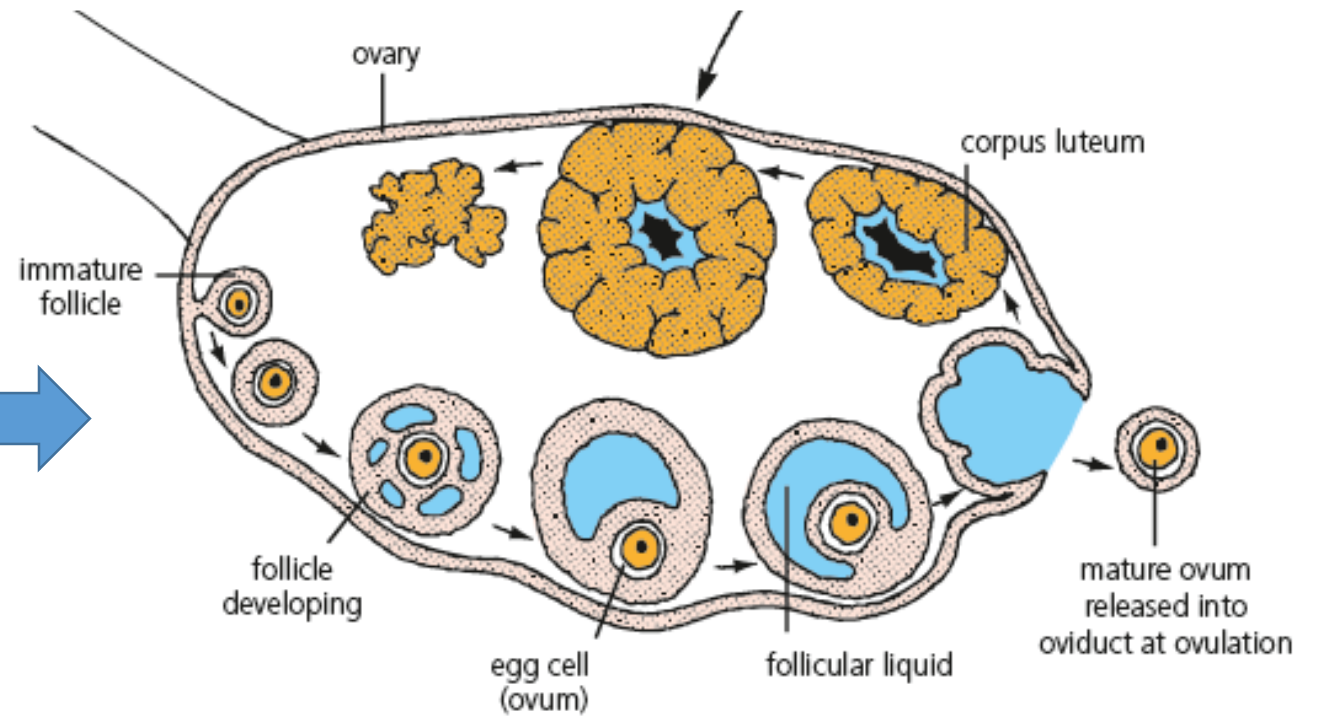
L.I. Structure & Function of reproductive organs

I can describe gamete production in females.

The ovaries contain immature ova in various stages of development.



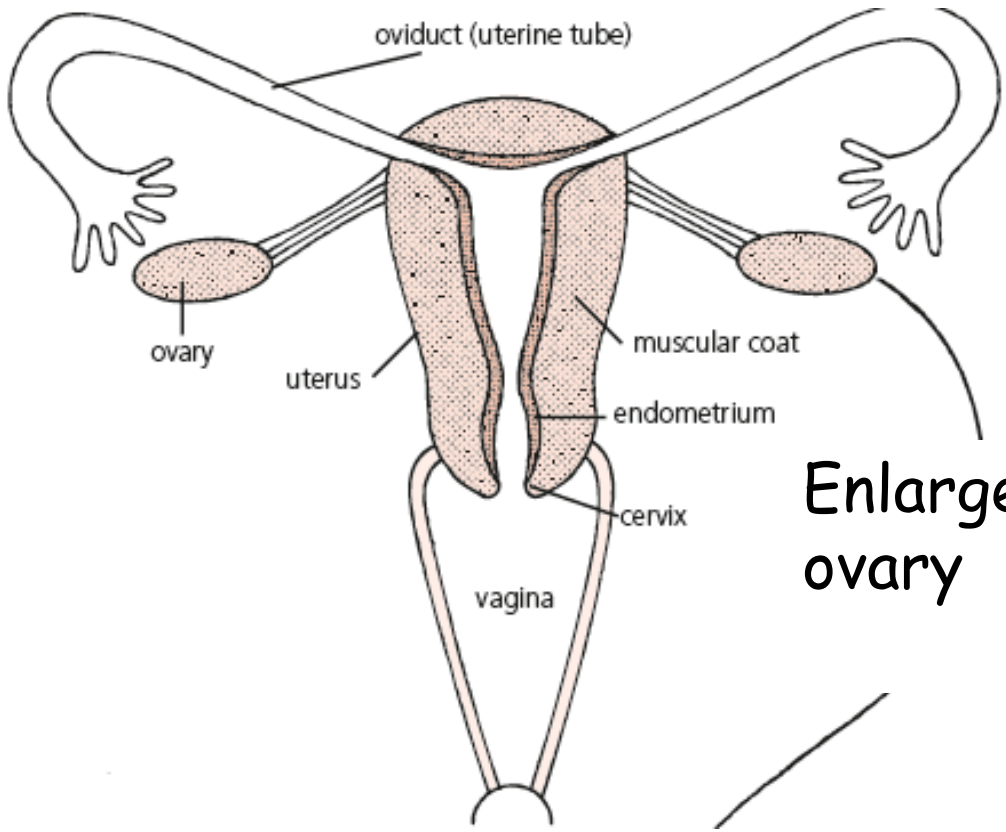
Enlarge ovary



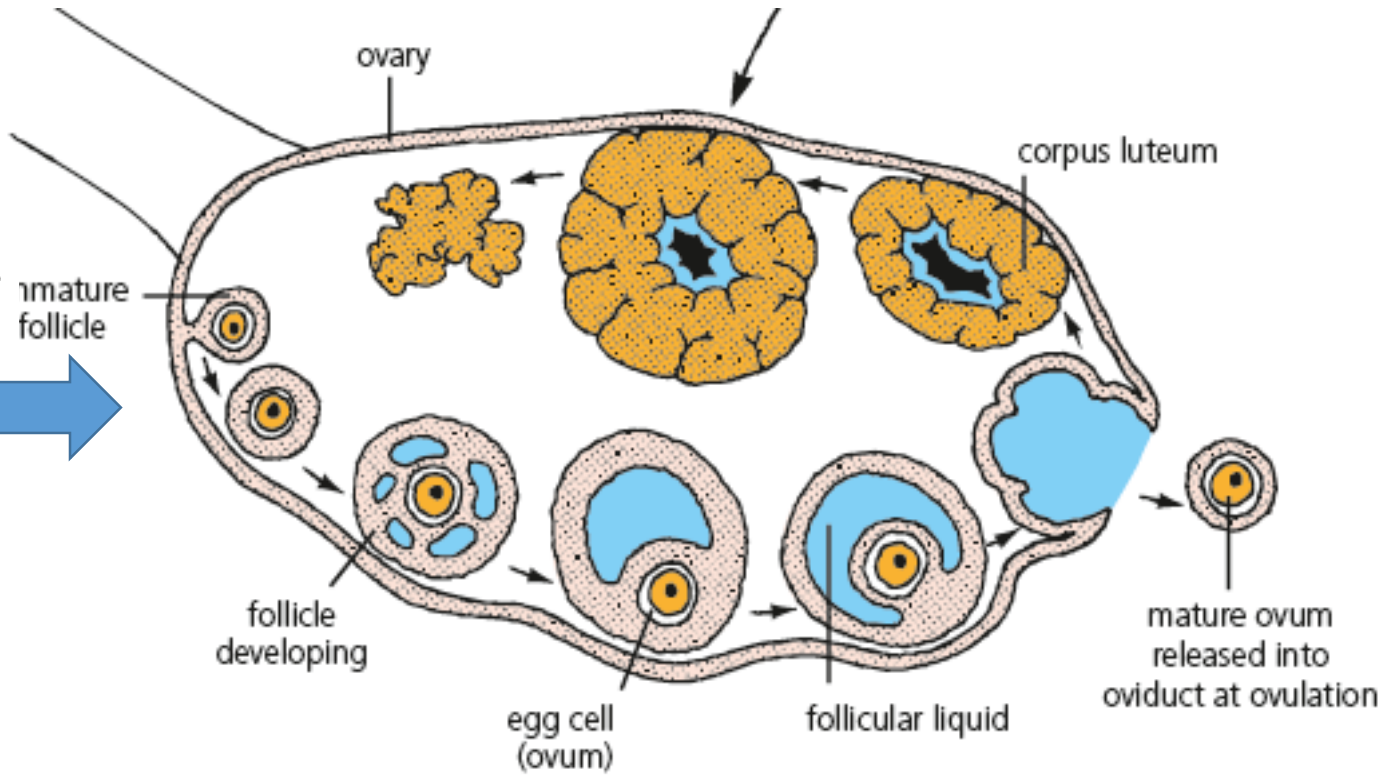
L.I. Structure & Function of reproductive organs

I can describe gamete production in females.

Each ovum is surrounded by a follicle that protects the developing ovum and secretes hormones.

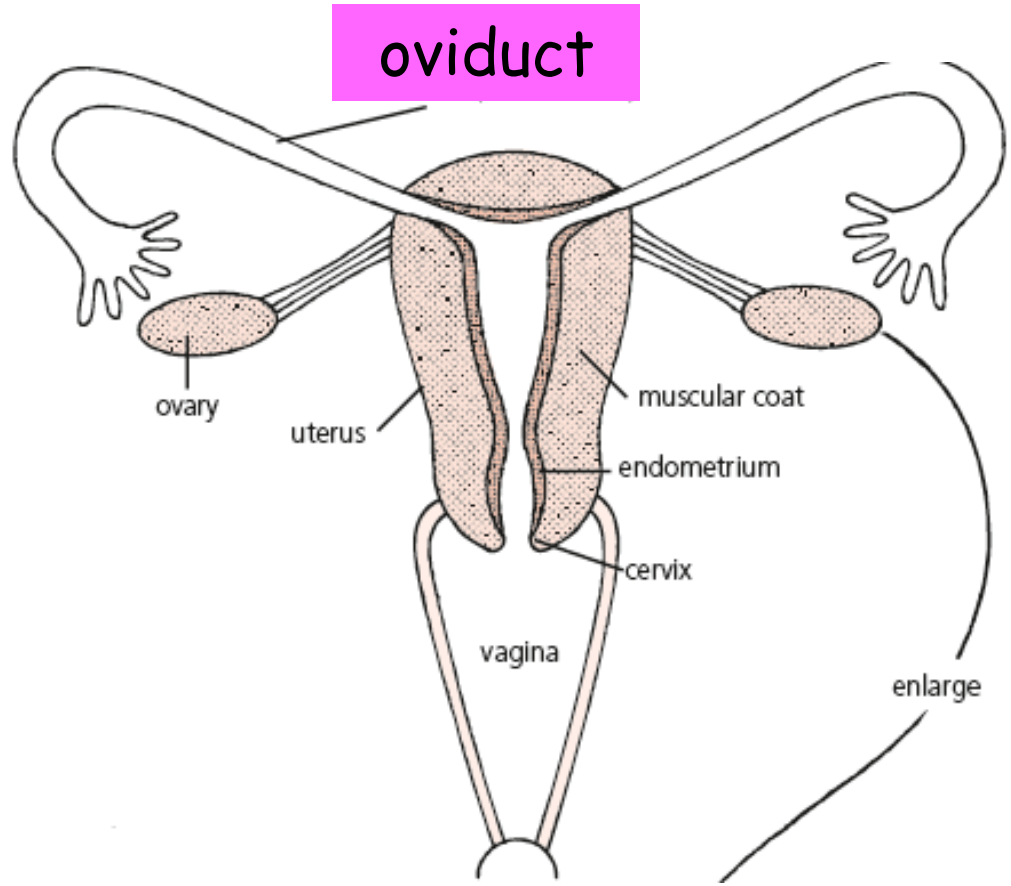


Enlarge ovary



L.I. Structure & Function of reproductive organs

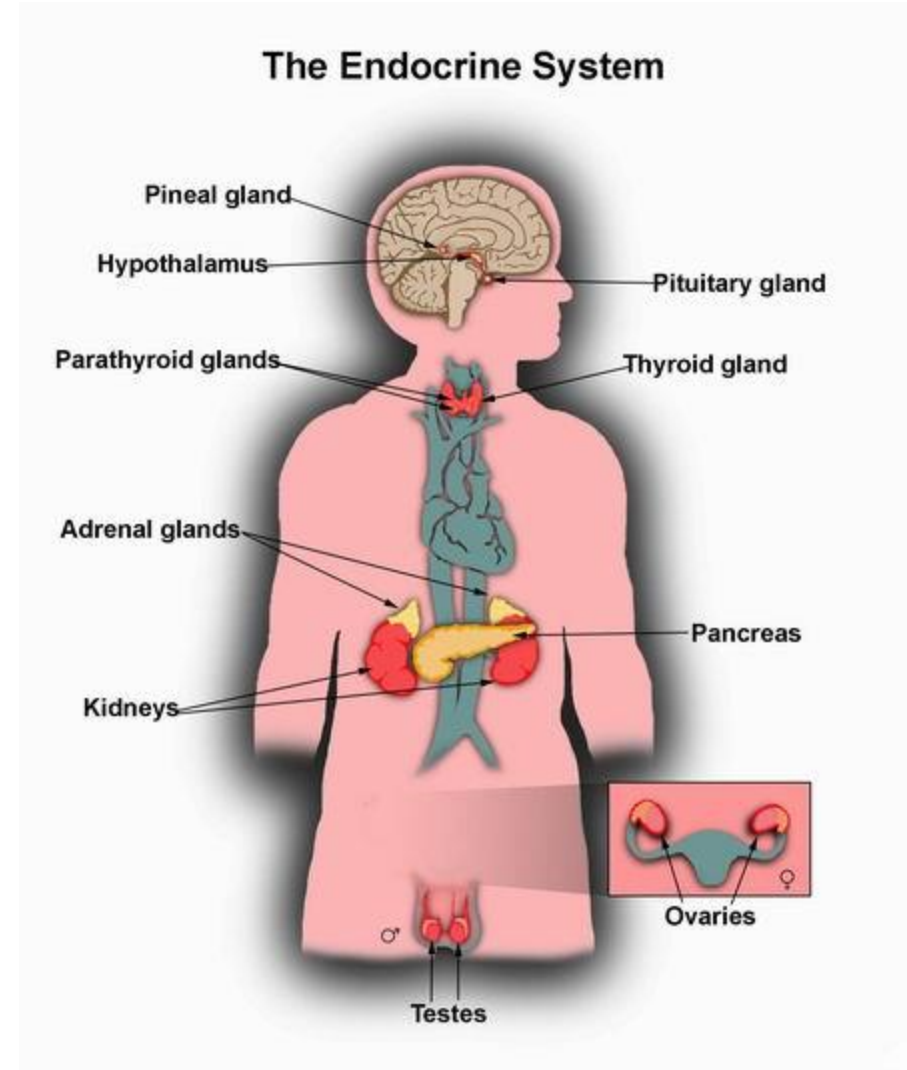
I can describe gamete production in females.



Mature ova are released into the oviduct where they may be fertilised by a sperm to form a zygote.

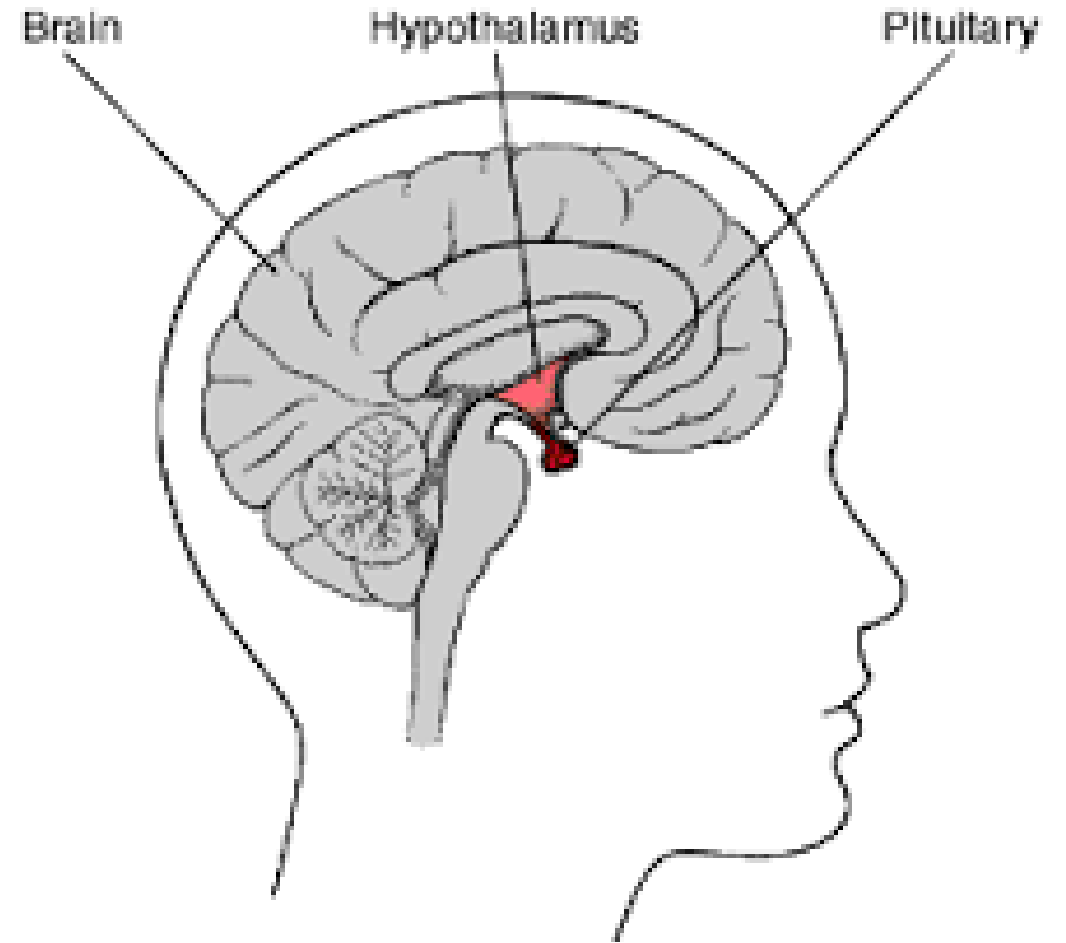
I can state the function of hormones

- **Hormones** are chemical messengers, produced in the endocrine (ductless) glands then secreted into the bloodstream.
- When a hormone reaches its **target tissue** it brings about a specific effect.
- Hormones control the onset of puberty, sperm production and the menstrual cycle.



I can describe hormonal onset of puberty.

During puberty, the **hypothalamus** secretes a releaser hormone which stimulates the **pituitary gland**.



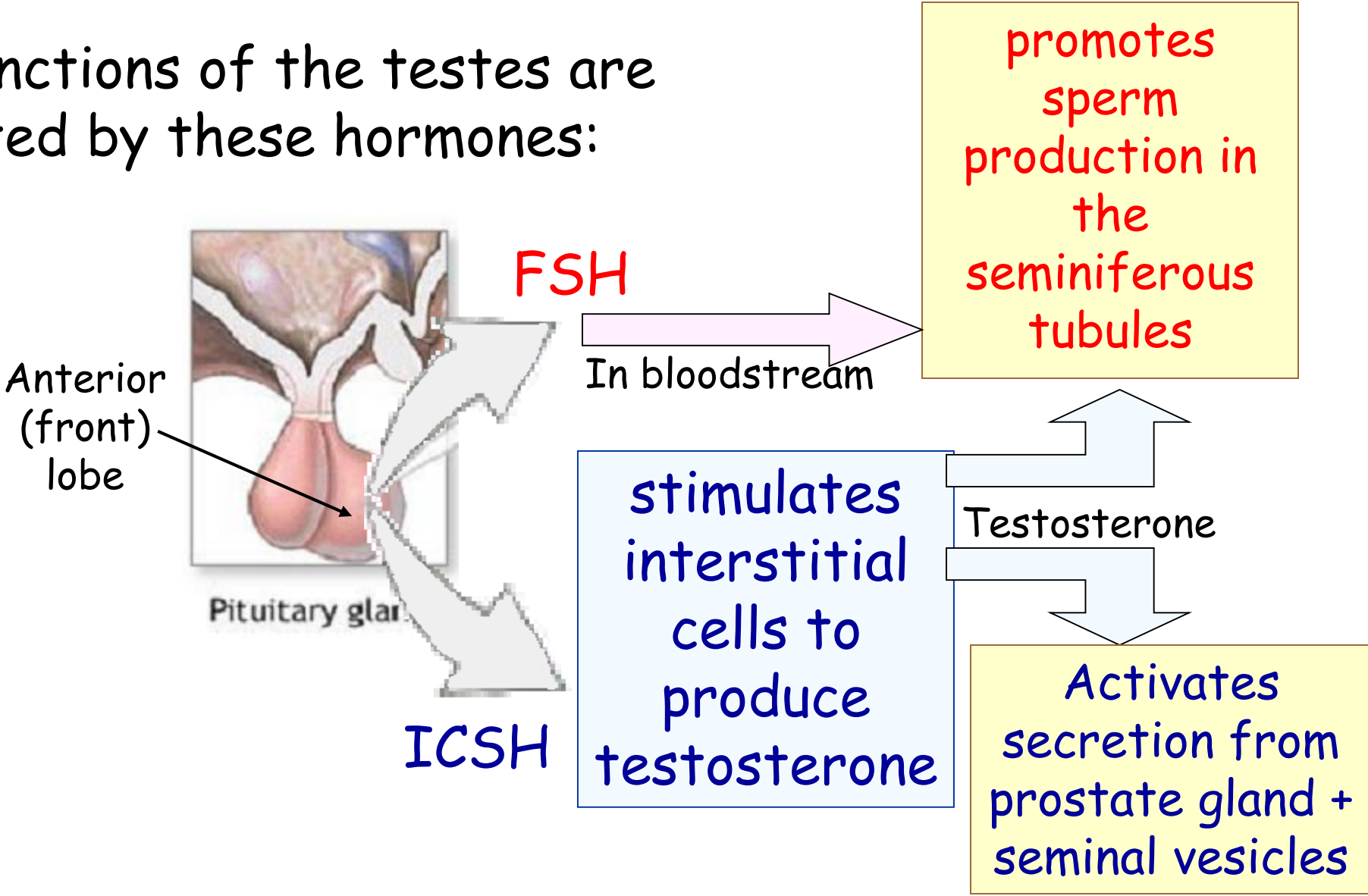
I can describe hormonal onset of puberty.

The pituitary gland releases

1. Follicle stimulating hormone (FSH) and
2. ICSH (interstitial cell-stimulating hormone) in men
or
LH (luteinising hormone) in women.

I can describe hormonal onset of puberty in males.

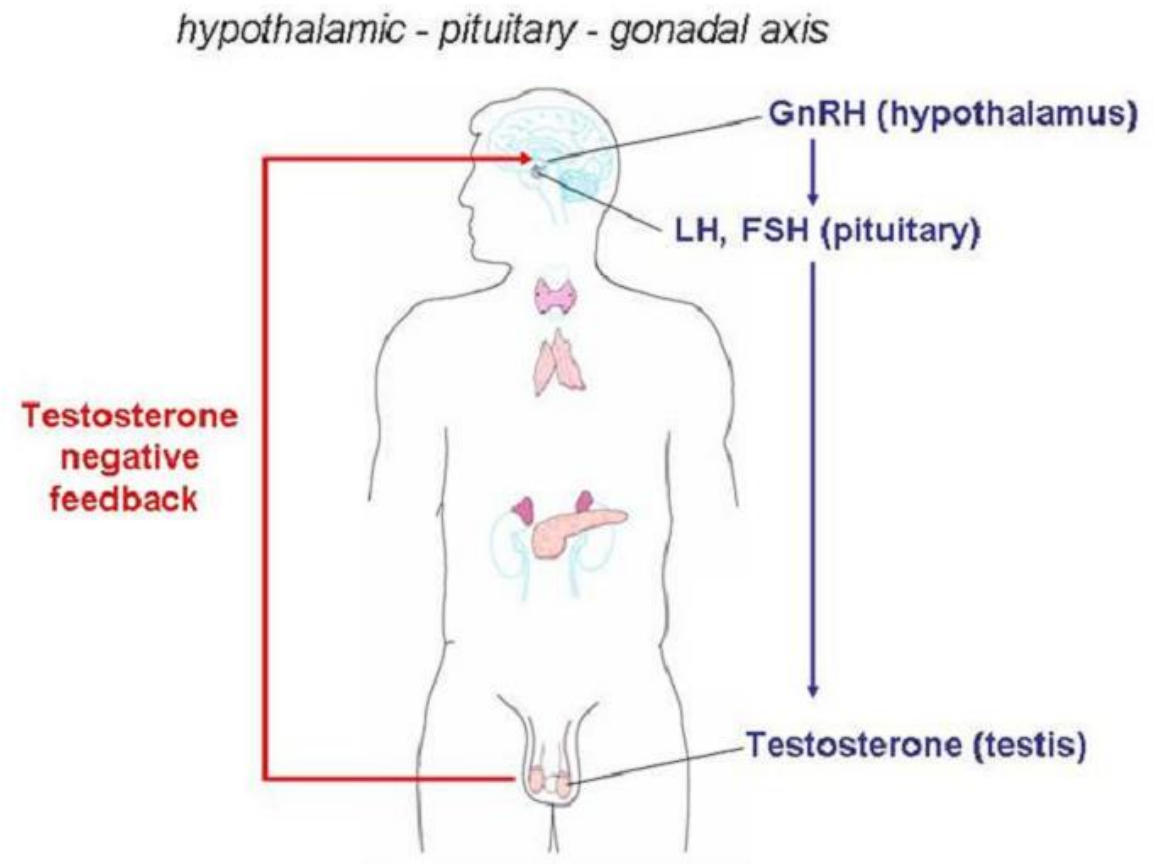
The functions of the testes are regulated by these hormones:



I can describe negative feedback control.

The body has self-regulating mechanisms, called **negative feedback control**, that allows the body to correct changes.

When the concentration of testosterone increases to a certain level it inhibits the secretion of FSH & LH, which in turn causes a decrease in testosterone concentration. FSH and LH are secreted again by the pituitary.

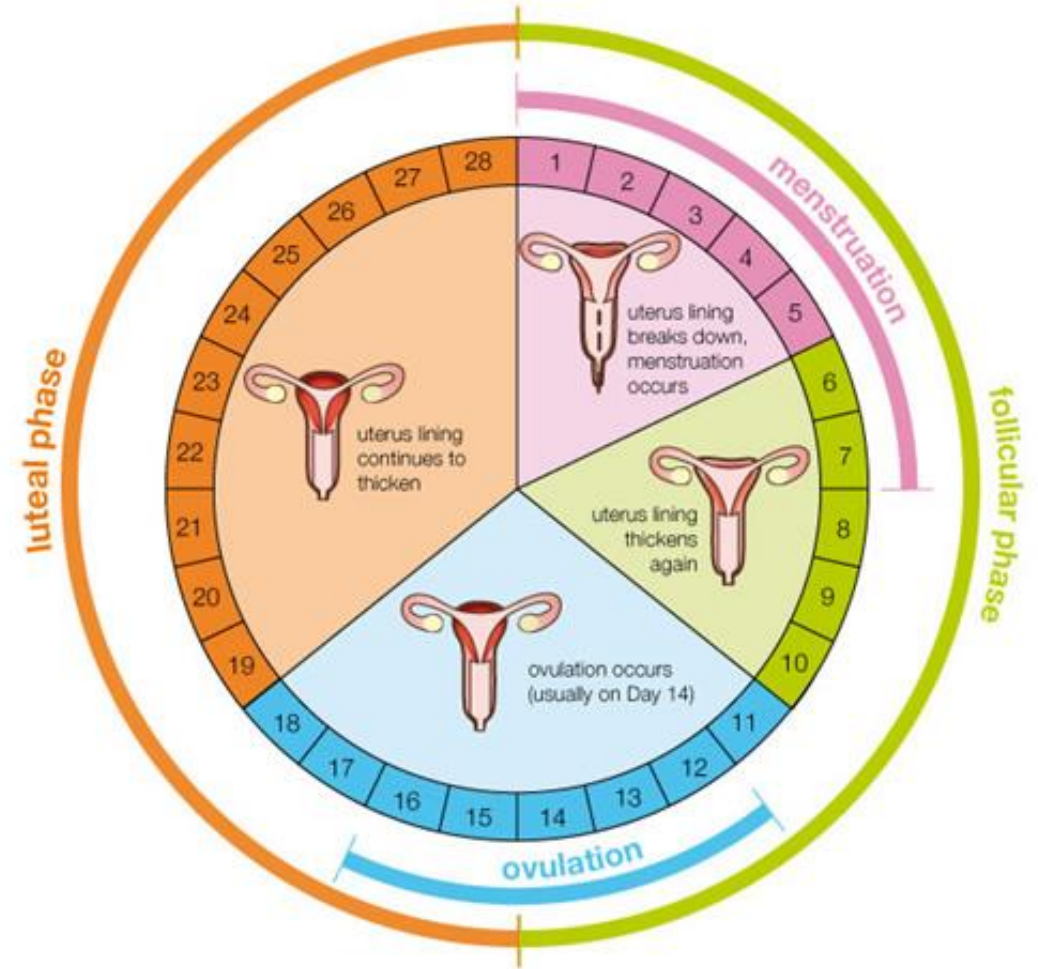


I can describe hormonal onset of puberty in females.

- **The menstrual cycle** takes approximately 28 days with the first day of menstruation regarded as day one of the cycle.

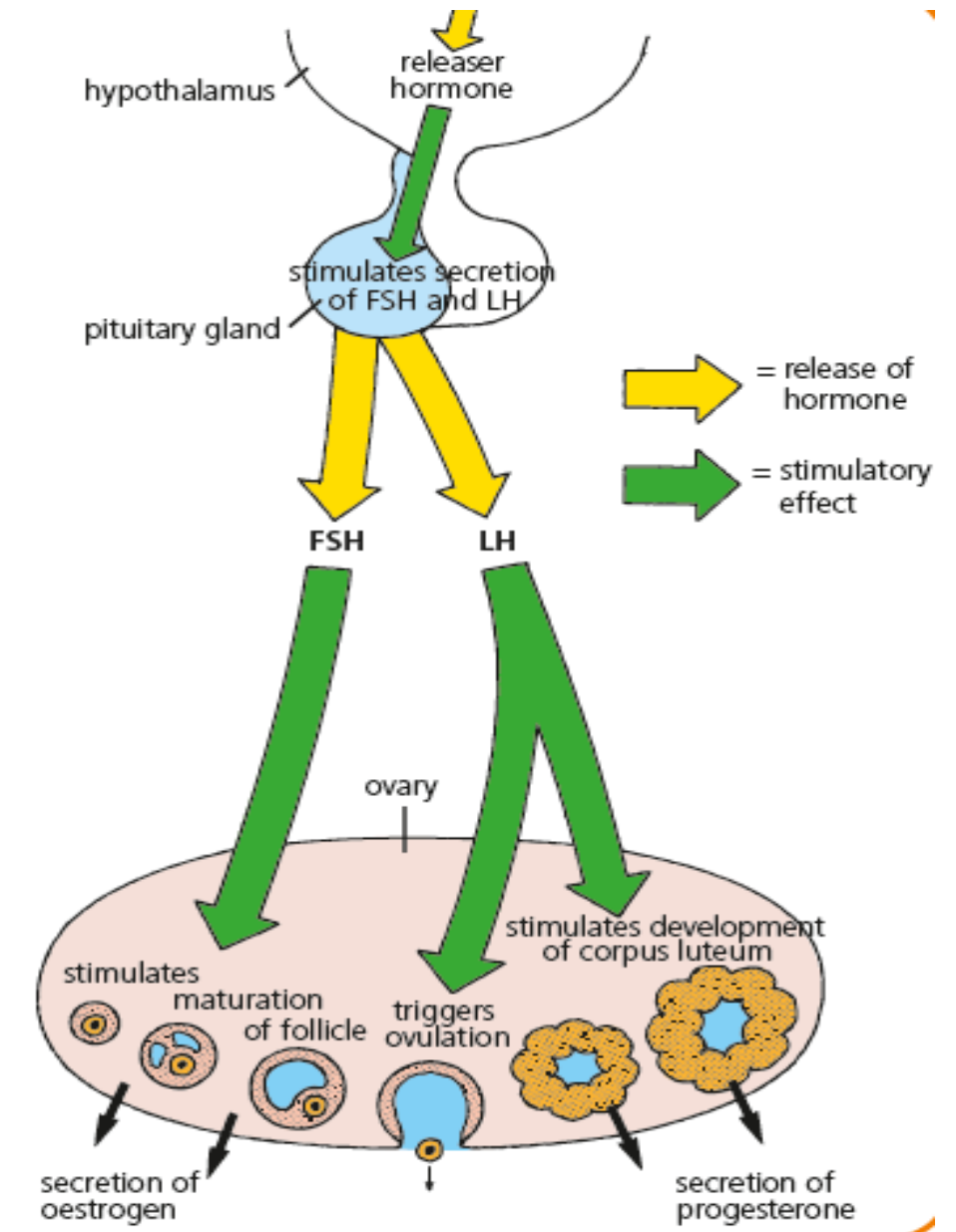
<http://www.bbc.co.uk/education/clips/z9d8q6f>

<http://www.bbc.co.uk/education/clips/z8jw2hv>



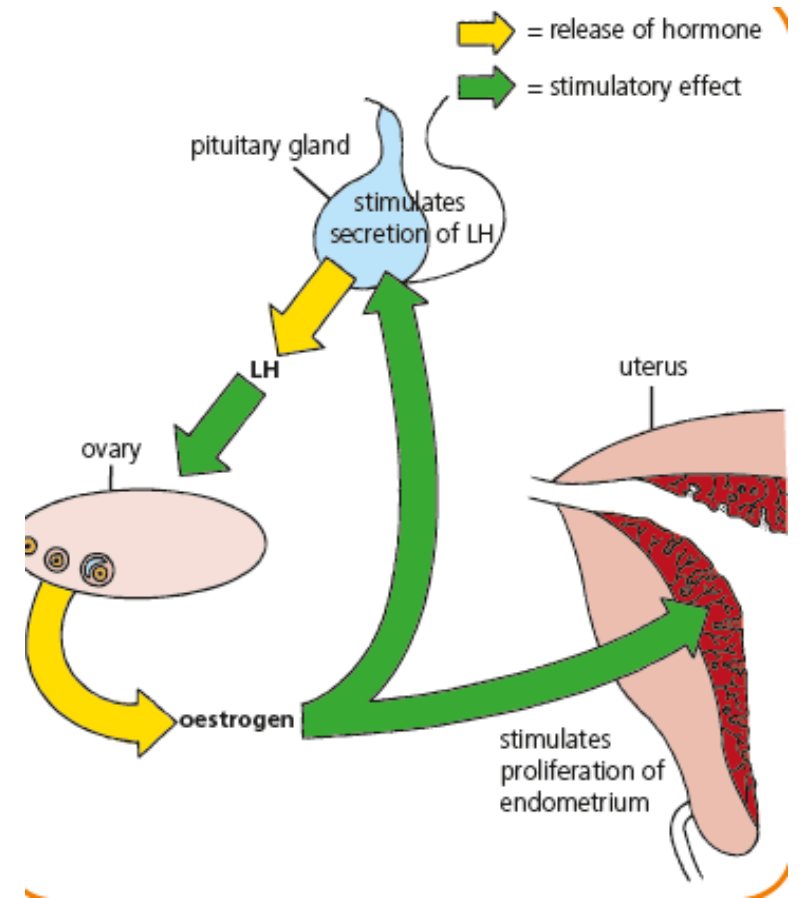
I can describe hormonal onset of puberty in females.

- **FSH** stimulates the development of a follicle and the production of **oestrogen** by the follicle in the follicular phase.
- Peak levels of oestrogen stimulate a surge in the secretion of **LH** which triggers ovulation.
- In the luteal phase the follicle develops into a corpus luteum and secretes **progesterone**.



Ovarian hormones

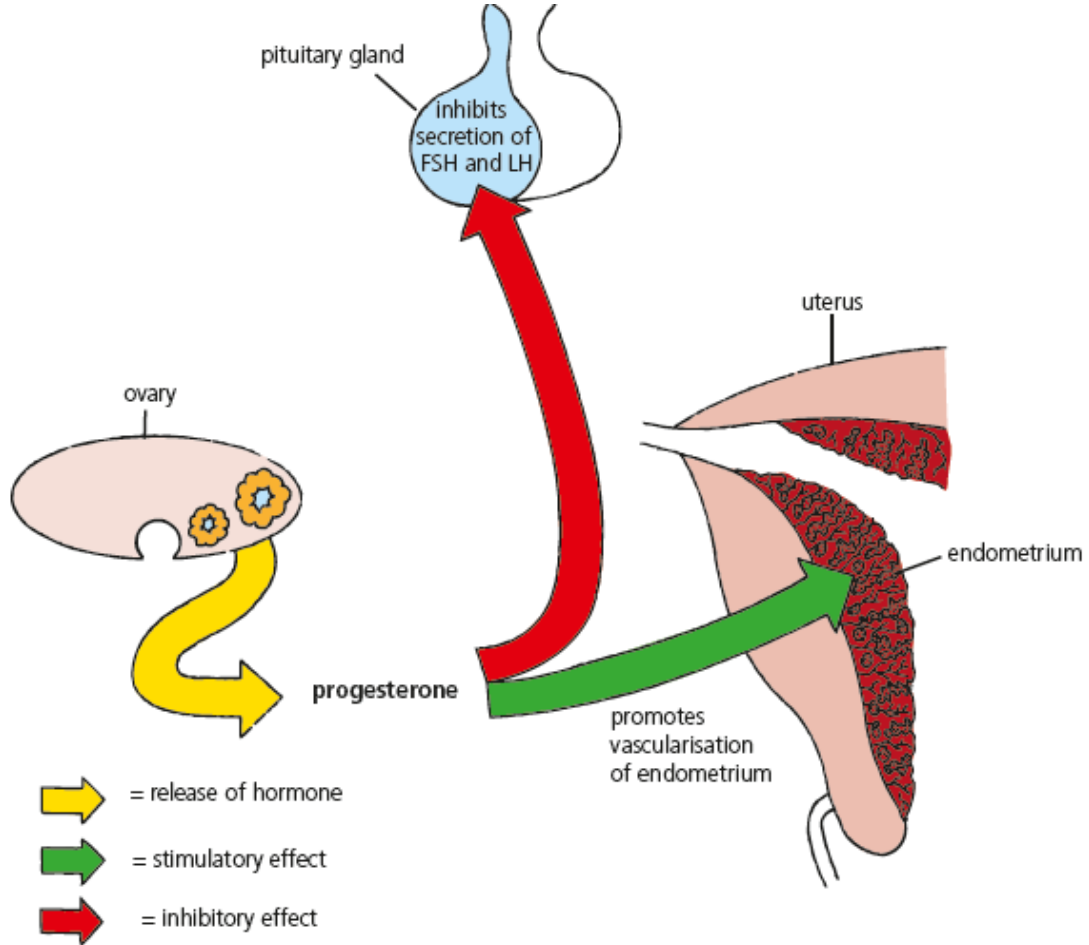
- **Oestrogen** stimulates **proliferation of the endometrium** preparing it for implantation and affects the **consistency of cervical mucus** making it more easily penetrated by sperm.



Ovarian hormones

Progesterone promotes further development and vascularisation of the endometrium preparing it to receive a blastocyst if fertilisation occurs.

The **negative feedback** effect of the ovarian hormones on the pituitary gland and the secretion of FSH and LH prevent further follicles from developing.



L.I. Hormonal Control of reproduction.

I can describe hormonal onset of puberty in females.

The **lack of LH** leads to a degeneration of the corpus luteum with a subsequent drop in progesterone levels leading to menstruation.

