HUMAN REPRODUCTION

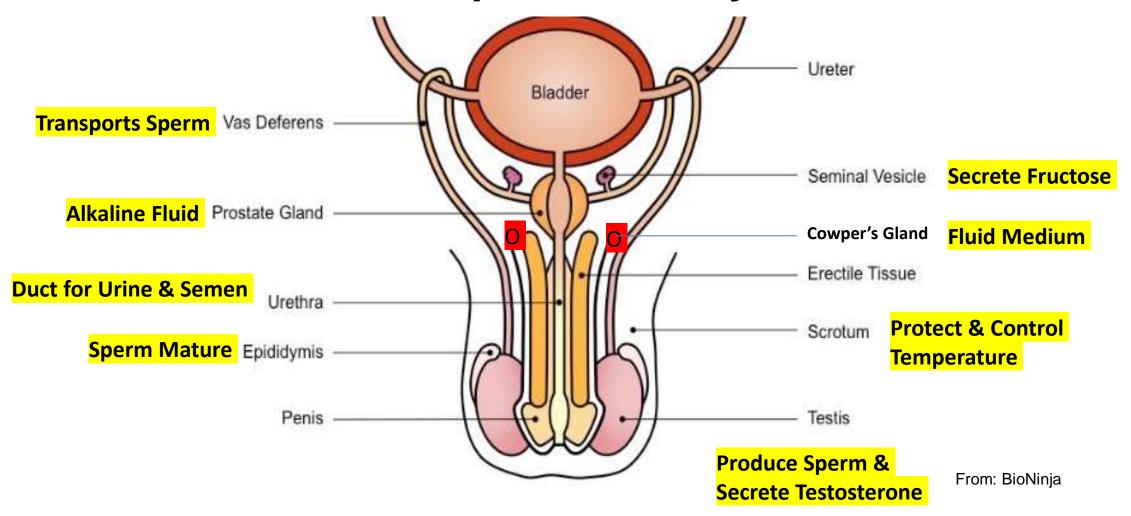
Life Sciences

Key Points: Human Reproduction

- Role of Meiosis, Fertilisation and Mitosis
- The Male System Structure and Functions
- Female System Structure and Functions
- Gametogenesis
- Diagrams of a Sperm cell and Ovum
- The Menstrual Cycle



Male Reproductive System



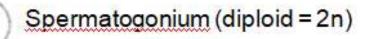
Male System – What are the Functions of ...?

- Testes
- Epididymis
- Vas Deferens
- Seminal Vesicles
- Prostate Gland
- Cowper's Gland
- Urethra

Spermatogenesis

The major function of the testes is to produce sperm in a process called spermatogenesis

1. Under Influence of Testosterone



2. Diploid Cells in Seminiferous Tubes

Meiosis I

3. Undergo Meiosis

(haploid = n)

Meiosis II

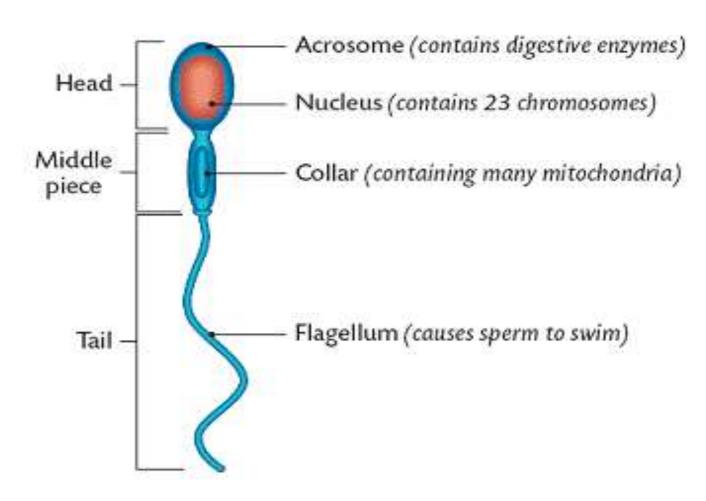
Spermatids (haploid = n)

Maturation

Spermatozoa (haploid = n)

4. To Form Haploid Sperm Cells

Human Sperm Cell



Female Reproductive System

1. Produce Ova & Female Hormones – Oestrogen & Progesterone Ovary Fallopian Tube Where Fertilisation Occurs **Implantation of Embryo** Endometrium Uterus **Nurtures & Protects the Foetus Barrier to Germs**

Female System – What are the Functions of …?

- Ovaries
- Fallopian Tubes
- Uterus
- Endometrium
- Cervix

oogenesis

Oogonium (diploid = 2n) Mitosis

Primary oocyte (haploid = 2n)

Secondary oocyte (large cell) and first polar body (both n)

Meiosis I

1. Diploid Cells in Ovary Undergo Mitosis

2. to form many follicles during puberty

3. Under the influence of FSH

4. One cell in a follicle undergoes Meiosis

Meiosis II



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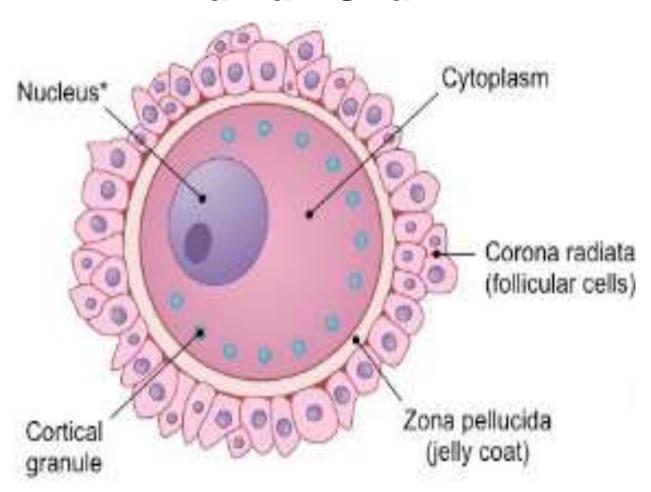
5. Of 4 cells produced, 1 becomes a mature haploid ovum

Mature ovum (n) and three polar bodies (n)

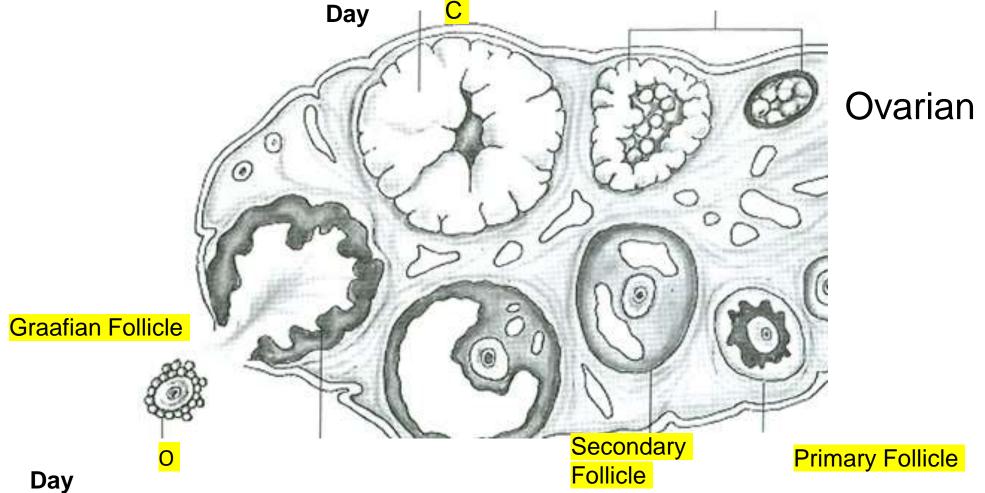
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6. This occurs in a monthly cycle

Human Ovum

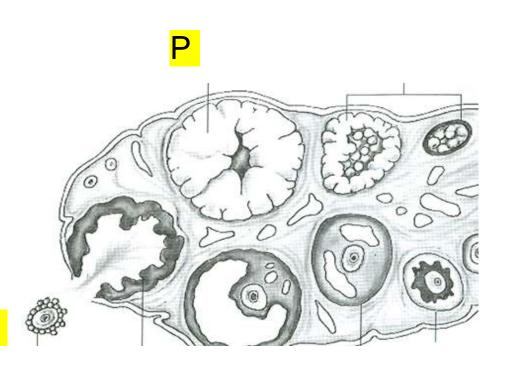


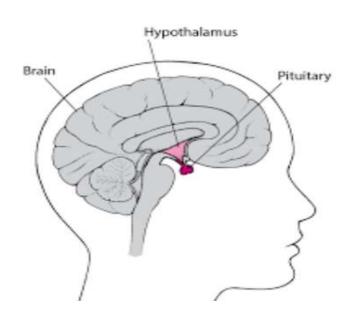
Internal structure of an Ovary



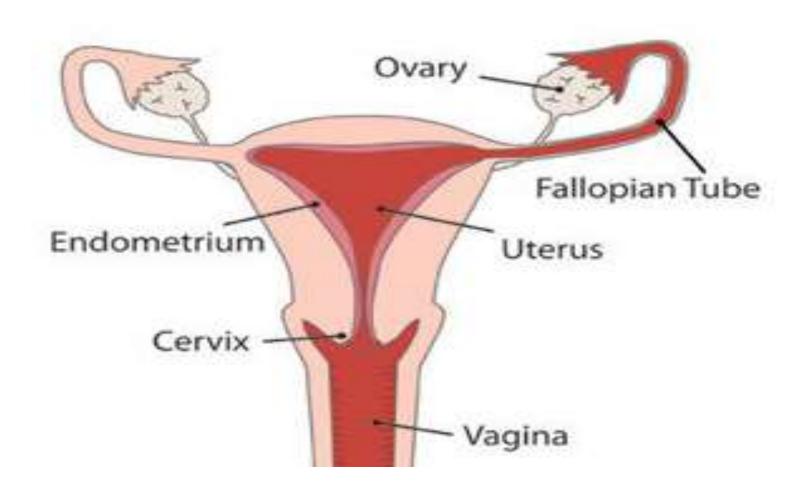
Ovarian Cycle – 28 days

Female Hormones during the Ovarian Cycle

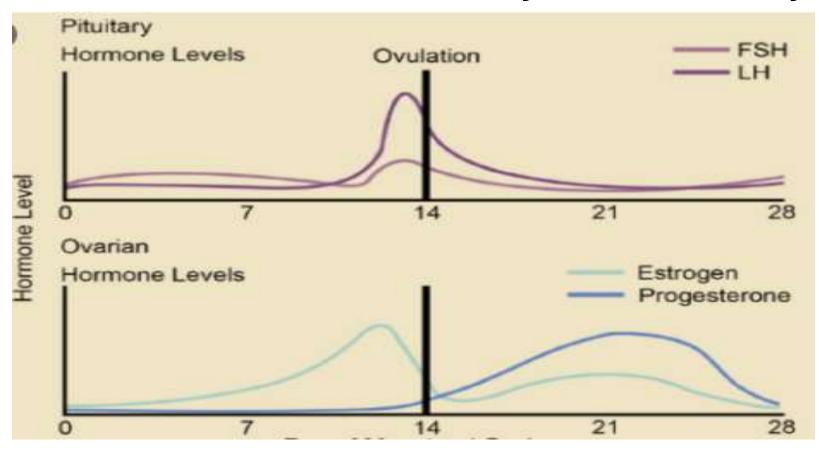




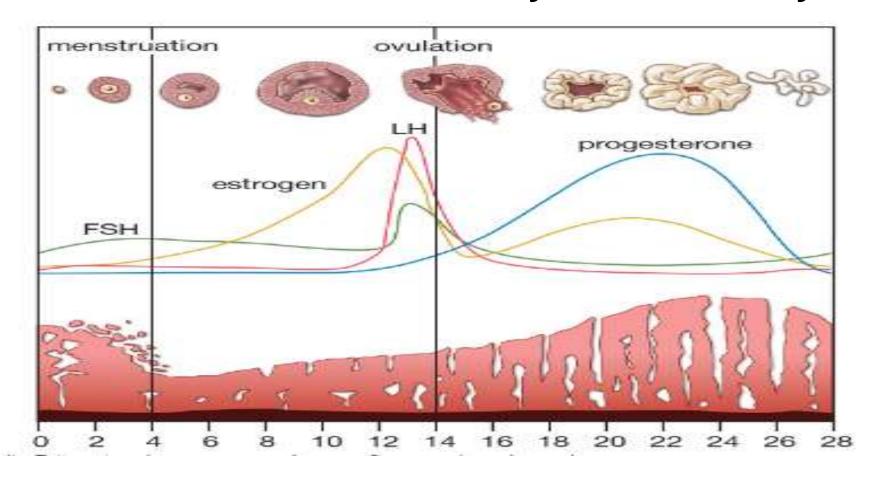
Menstrual Cycle: The effect of Oestrogen and Progesterone on the Uterus every 28 days



Hormone Levels of the - 28 day - Menstrual Cycle



Hormone Levels of the - 28 day - Menstrual Cycle



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