**Chapter 15 Urinary System**

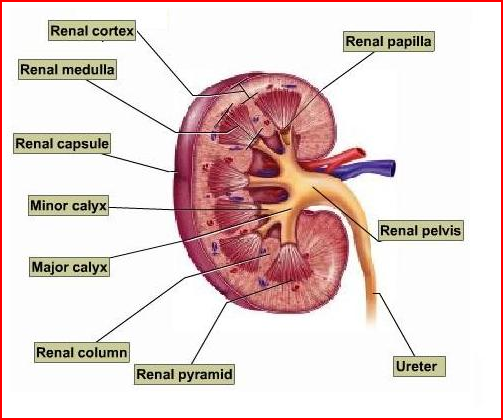
**Kidneys**

**1.filteration of blood**

**2.exrection of fluid waste products**

**3.maintenenc of salt and water balance in body tissues**

**4.regulation of acid-base balance**

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**renal capsule-**

**Adipose capsule-**

**Blood supply**

**Nephrons-**

**Renal vein**

**Organization**

**Helium**

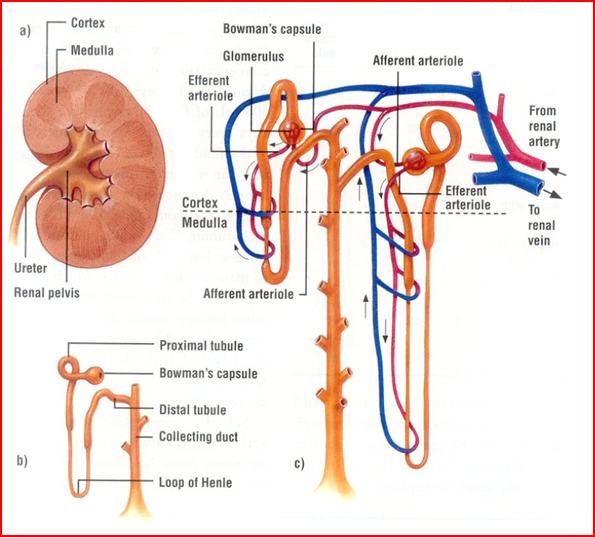
**Renal cortex-**

**Renal medulla-**

**Renal pyramid**

**Renal pelvis-**

**Calyces-**

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**Ureters**

**urinary bladder-**

**urethra-**

**1.famale urethra is embedded in the muscle of the front wall of the vagina between the clitoris and vaginal opening and is around 1.5**

**2.male urethra passes through the prostate gland where two ducts carrying the male sex cells joint it where it than leads through the penis to the outside and is around 8 inches long**

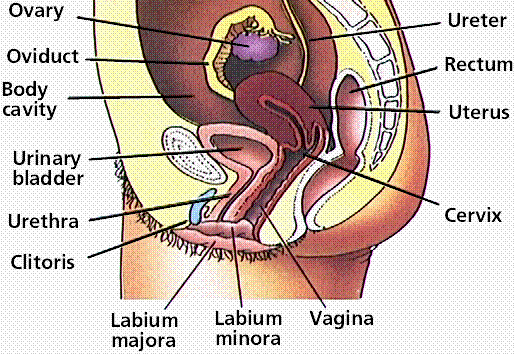
**General Information on urination:**

**-micturition-**

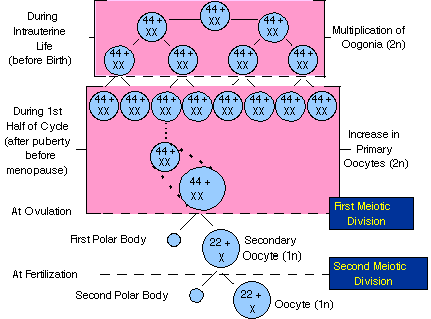
**Chapter 16 Female Reproductive System**

**The Female Reproductive System**

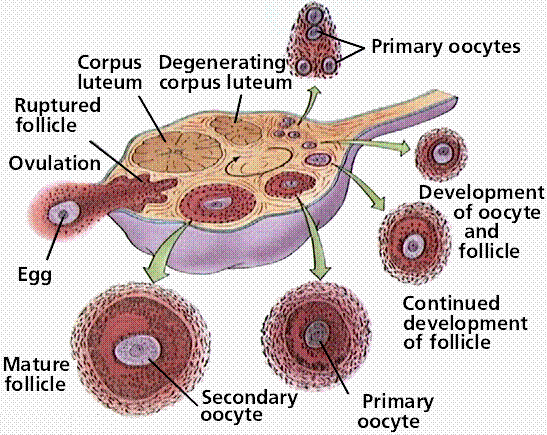
**The female gonads, ovaries, are located within the lower abdominal cavity**

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**-The ovary contains many** [**follicles**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossF.html#follicles (ovary)) **composed of a developing egg surrounded by an outer layer of follicle cells**

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**Ovarian Cycles**

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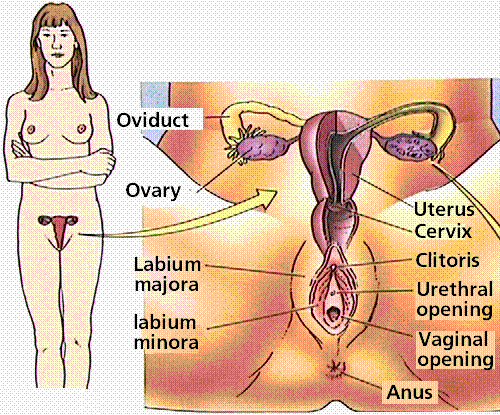
**External Genitals**

**Vulva-**

[**labia minora**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossL.html#labia minora)**-**

[**labia majora**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossL.html#labia majora)**-**

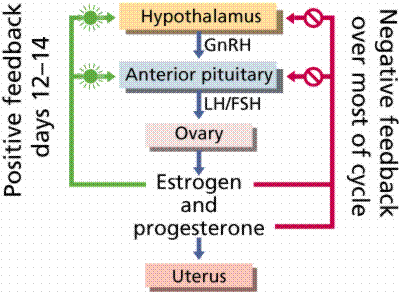
[**clitoris**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossC.html#clitoris)**-**

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**Hormones and Female Cycles**

**The ovarian cycle is hormonally regulated in two phases**

[**estrogen**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossE.html#estrogen)**-secreted by follicles before ovulation; the corpus luteum secretes both estrogen and** [**progesterone**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossPQ.html#progesterone) **after ovulation. -Hormones from the hypothalamus and anterior pituitary control the ovarian cycle.**

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**-Menstrual cycles vary from between 15 and 31 days**

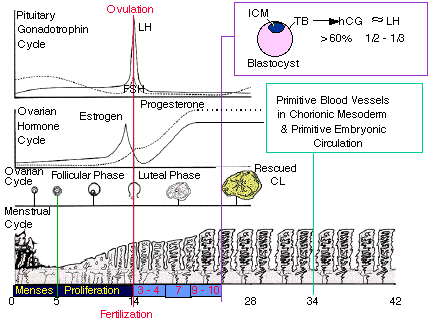
**-Rising levels of estrogen in the blood trigger secretion of LH, which stimulates follicle maturation and ovulation (day 14, or midcycle)**

**-LH stimulates the remaining follicle cells to form the corpus luteum, which produces both estrogen and progesterone**

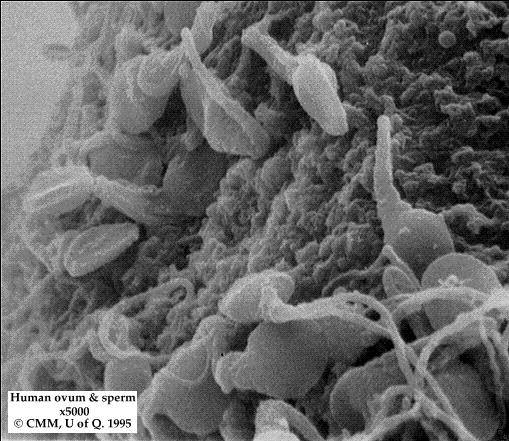
**-Estrogen and progesterone stimulate the development of the endometrium and preparation of the uterine inner lining for implantation of a zygote**

**-If pregnancy does not occur, the drop in FSH and LH cause the corpus luteum to disintegrate**

**-The drop in hormones also causes the sloughing off of the inner lining of the uterus by a series of muscle contractions of the uterus.**

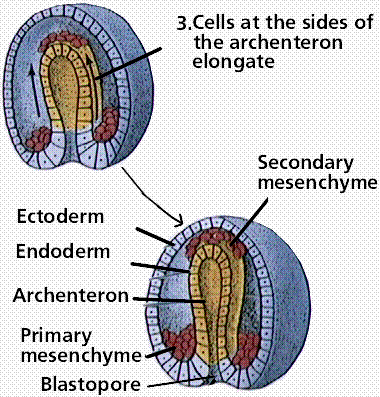
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**Fertilization**



**Zygote**

**Blastocyst-**



**Implantation**

**-**[**Human chorionic gonadotropin (hCG)**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossH.html#human chorionic gonadotropin (h) **is secreted by the chorion, and prolongs the life of the corpus luteum until the** [**placenta**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossPQ.html#placenta) **begins to secrete estrogen and progesterone**

**The First Trimester**

**The Second Trimester**

**The Last Trimester**

**Birth**

**Birth is a** [**positive feedback**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossPQ.html#positive feedback) **hormonal mechanism**

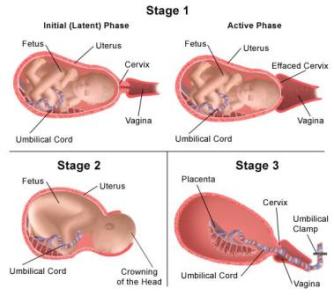
**-During birth the cervix dilates to allow passage of the fetus**

**-Uterine contractions propel the fetus through the birth canal, usually head first**

**First Stage**

**Second Stage**

**Third Stage**



**Milk Production**

**-Nursing mothers have their hormone levels and uterine size return to normal much faster than non-nursing mothers -Breasts develop the capability for milk secretion about the mid point of pregnancy**

**-Secretion of milk does not occur until delivery, and the action of** [**prolactin**](http://www.emc.maricopa.edu/faculty/farabee/biobk/BioBookglossPQ.html#prolactin)

**-Suckling by the infant causes production of oxytocin to promote release of milk into the ducts emptying into the nipple.**