

## FEMALE REPRODUCTIVE SYSTEM

Both sexes have reproductive organs called GENITALS or GENITALIA, designed for the purpose of intercourse and conception. Only the female has organs for pregnancy and childbirth.

- 1. OVARIES:** two solid egg-shaped structures about the size of a peach pit. They are attached to the uterus by ligaments. They are the counterpart of the male testicles. They have two main functions: 1-produce female sex hormones ESTROGEN and PROGESTERONE. 2-stores and releases the ova or female egg cell.
- 2. ESTROGEN:** is responsible for the secondary sex characteristics and the sex drive in females. It spurs the onset of puberty and is responsible for OVULATION.
- 3. PROGESTERONE:** builds up the lining of the uterus called the endometrium in preparation for the fertilized ovum,
- 4. OVA:** The female baby is born with all the ova she will ever have (about 200,000 in each ovary). Some of the ova disappear; others are dormant until each is ripened and released after puberty. Nature is very generous since only about 50,000 ova survive at adolescence and about 400 will never ripen to become available for fertilization. After menopause the remaining ova no longer ripen or develop.
- 5. OVULATION:** The time when the egg is released from the ovary. AT the age of puberty , the pituitary gland located in the head, begins monthly cycles of releasing a tiny dose of FSH (follicle stimulating hormone), a substance to the surface of the ovary in a bubble. It then waits on the surface for LH luteinizing hormone:, which causes the bubble (follicle) to burst, allowing the ovum to fall into the opening of fallopian tube. When the follicle bursts, a crater is left on the ovary. The crater begins to produce progesterone.
- 6. FALLOPIAN TUBES:** two tubes shaped like arched and twisting bridges, high on either side of the uterus. They are about four inches long and 3/16 inch in diameter (the size of cooked spaghetti). The oviducts carry egg cells toward the uterus and sperm cells toward the egg cell. They are the location for fertilization. Fertilization takes place in the outer third of the oviduct. The oviducts are funnel shaped and near the ovary. They have finger-like projections that reach out and encircle the ovum after ovulation takes place. Each oviduct is lined with many hair like fibers called cilia. The cilia beat a flowing motion toward the uterus. This motion carries the egg cell toward the uterus.
- 7. UTERUS:** the uterus is a hollow, muscular organ shaped somewhat like an upside-down pear, about three inches long and two inches wide. The uterus is lined with endometrium. The uterus has one main function—to protect and nourish a fetus until it is ready to live outside the mother's body. The walls of the uterus stretch much like a balloon that is blown up. After childbirth the uterus shrinks back to the original shape in 6-8 weeks.
- 8. CERVIX:** the neck or opening of the uterus. A normal healthy cervix is the strongest muscle in the body. It dips down about half an inch into the vagina. It is normally plugged by mucus. It stays tightly closed during pregnancy, but thins and opens for the delivery of the baby.
- 9. VAGINA:** female organ of intercourse, it is actually an empty passageway leading from the vaginal opening to the uterus. It is only 3-4 inches long and shaped like a flattened funnel. The vaginal walls are made of many small folds of membrane that stretch greatly to accommodate a baby during birth. The vagina has three main functions: 1-channel for the menstrual flow, 2-receptacle for the male penis during intercourse, 3-birth canal.

- 10. URETHRA:** below the clitoris, the opening to the bladder.
- 11. CLITORIS:** the center of sexual sensation and stimulation in the female. It is composed of erectile tissues and many sensitive nerve endings. It is found where the folds of the labia minora meet in the front.
- 12. FERTILIZATION:** A sperm entering an ovum The sperm enter the vagina goes up through the cervix, uterus and into both fallopian tubes. IF an ovum is present in the fallopian tube, the sperm surround it. One sperm (only one) penetrates the ovum. The other sperm move on.

### 13. THE MENSTRUAL CYCLE

The start of the menstrual cycle will occur after the beginning of puberty, approximately ages 8-13. During the menstrual cycle, one ovary produces a mature egg cell, the lining of the uterus prepares for a fertilized egg, and the lining breaks down if an egg is not fertilized. The first menstrual cycle is called MENARCHE.

The menstrual cycle does not start in the sex organ, but in the brain. During the first phase of the cycle the pituitary gland secretes FSH (Follicle Stimulating Hormone). FSH stimulates the follicle or egg nest in the ovary to produce estrogen. Estrogen stimulates the uterus to prepare for the egg. The follicle also produces a maturing egg cell. As the egg cell matures it moves to the surface of the ovary and is released. This process is called OVULATION. The mature egg moves through the fallopian tube to the uterus. After ovulation the part of the follicle left in the ovary changes and forms a temporary endocrine gland called the corpus luteum. The second phase of the menstrual cycle is after ovulation. A second pituitary hormone LSH (Lutein Stimulating Hormone) stimulates the corpus luteum to produce the hormone progesterone. This hormone stimulates the lining of the uterus (endometrium) to build up or thicken. The uterus is now ready to support a fertilized egg. If fertilization takes place the corpus luteum continues to produce progesterone during pregnancy

If fertilization does not take place, the corpus luteum breaks down and progesterone production ceases. Cells in the endometrium die, the lining is shed and the dead tissue and the unfertilized egg passes out of the body through the vagina. The release of this tissue and blood is called the menstrual flow or MENSTRUATION. Menstruation occurs each month about two weeks after ovulation and usually lasts three to seven days. During this time, about two ounces of blood may be lost. Every females' cycle is different as to the length of time between menstruation and how long the menstrual flow will last.

The menstrual cycle normally continues until a woman is in her 40s or 50s. As the function of the ovaries decrease with age, menstrual cycles become irregular and eventually cease. This is called MENOPAUSE.

- Day 1 – Menstruation begins (bleeding)
- Day 5 – Menstruation is usually ended
- Day 14 – Ovum has matured and bursts out of the ovary
- Day 15 – After 24 hours the egg is done
- Day 26 – In the absence of fertilization, estrogen/progesterone levels drop and the endometrium lining breaks down
- Day 28 – Menstruation begins again.

### OTHER RELATED CONCERNS

- 14. D&C:** Dilation and curettage, a common minor operation on women. The canal of the uterus is dilated and the lining of the uterus is scraped with a spoon-shaped instrument called a curet.

- 15. ENDOMETRIOSIS:** presence in abnormal locations of fragments of the membrane which lines the uterus (endometrium). The displaced tissue menstruates where it should not and tends to form cysts. No one knows for sure why some women have endometriosis. Some experts think it is caused by retrograde menstruation which means the menstrual fluid backs up through the fallopian tubes and spills out onto the pelvic organs. Others think that stray endometrial cells are in the pelvic cavity from birth. For more information, contact your hospital education department.
- 16. ORGASM:** Orgasm is characterized by the massive release of muscle tension which has built up during excitement. It is a series of rhythmic contractions in the vagina and uterus. This release is accompanied by very pleasurable sensations.
- 17. HYSTERECTOMY:** surgical removal of the uterus, either through an abdominal incision, or through the vagina, which leaves no abdominal scar.
- 18. TUBAL LIGATION:** an operation for sterilization of women. The surgeon makes a small incision in the abdomen and cuts and ties the oviducts. This prevents the meeting of the sperm and egg and makes conception impossible. Tubal ligation does not interfere with menstruation or sexual capacity; the ovaries continue to produce hormones. The operation should not be undertaken unless permanent sterility is desired.
- 19. PMS (PREMENSTRUAL SYNDROME):** a syndrome whose symptoms may become incapacitating: emotions get out of control, headaches, water retention, irritability, and painful uteral cramps. Between ovulation and menstruation try exercising vigorously, increasing protein in the diet, taking a Vitamin B6 (50-100 mg.) supplement 1-2 times daily.
- 20. TOXIC SHOCK SYNDROME:** caused by bacteria that live in the vagina, which multiply and causes infection. Toxic Shock is often fatal; symptoms are diarrhea, high fever, and low blood pressure. Methods of prevention: do not wear tampons all night (use a pad instead), change tampons often, do not use super-absorbent tampons. A man can get toxic shock from the heavy packing of a wound or sore (after a severe nosebleed or major injury), if the packing is not changed often enough. Careful cleaning and proper care of a wound is vital.
- 21. MENOPAUSE:** around the age of 45-55, the menstrual cycle stops. A woman is no longer capable of getting pregnant. The associated hormonal changes will cause come transient physical and emotional changes.