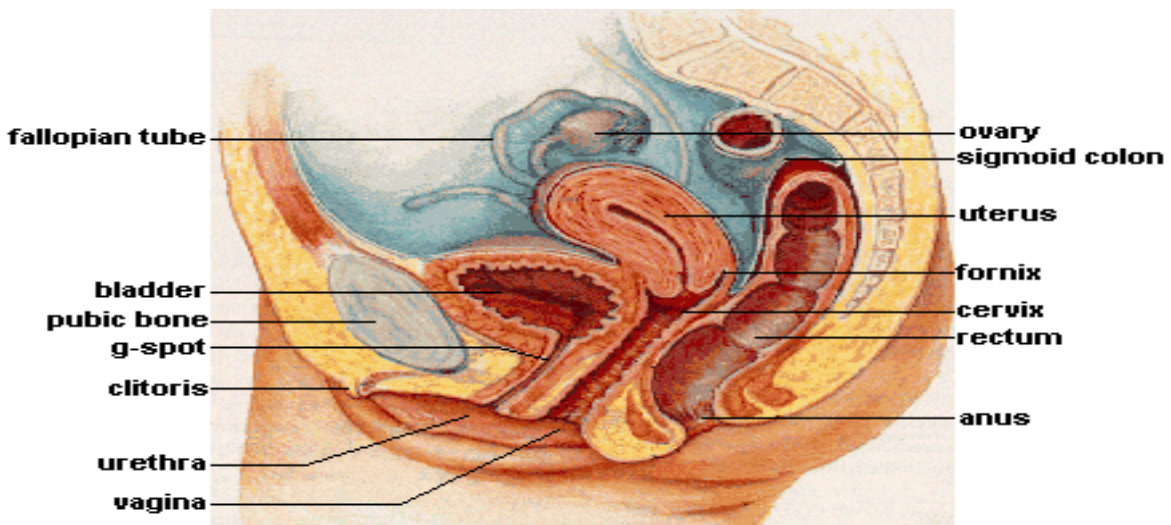


Reproduction

Reproduction can be defined as the process by which an organism continues its species. In the human reproductive process, two kinds of sex cells (gametes), are involved: the male gamete (sperm), and the female gamete (egg or ovum). These two gametes meet within the female's uterine tubes located one on each side of the upper pelvic cavity, and begin to create a new individual. The female needs a male to fertilize her egg; she then carries offspring through pregnancy and childbirth.

Similarities between male and female reproductive systems

The reproductive systems of the male and female have some basic similarities and some specialized differences. They are the same in that most of the reproductive organs of both sexes develop from similar embryonic tissue, meaning they are homologous. Both systems have gonads that produce (sperm and egg or ovum) and sex organs. And both systems experience maturation of their reproductive organs, which become functional during puberty as a result of the gonads secreting sex hormones.



External Genitals

Vulva

The external female genitalia is referred to as vulva. It consists of the labia majora and labia minora (while these names translate as "large" and "small" lips, often the "minora" can protrude outside the "majora"), mons pubis, clitoris, opening of the urethra, vaginal vestibule, vestibular glands.

Clitoris

The clitoris, visible as the small white oval between the top of the labia minora and the clitoral hood, is a small body of spongy tissue that functions solely for sexual pleasure.

Urethra

The opening to the urethra is just below the clitoris. Although it is not related to sex or reproduction, it is included in the vulva. The urethra is actually used for the passage of urine. The urethra is connected to the bladder. In females the urethra is 1.5 inches long, compared to males whose urethra is 8 inches long. Because the urethra is so close to the anus, women should always wipe themselves from front to back to avoid infecting the vagina and urethra with bacteria. This location issue is the reason for bladder infections being more common among females.

Hymen

The hymen is a thin fold of mucous membrane that separates the lumen of the vagina from the urethral sinus. Because of the belief that first vaginal penetration would usually tear this membrane and cause bleeding, considered a guarantor of virginity. However, the hymen is a poor indicator of whether a woman has actually engaged in sexual intercourse because a normal hymen does not completely block the vaginal opening. The normal hymen is never actually since there is always an opening in it. Furthermore, there is not always bleeding at first vaginal penetration. but not always, observed after first penetration can be due to tearing of the hymen, but it can also be from injury to nearby tissues.

Internal Genitals

Vagina

The vagina is a muscular, hollow tube that extends from the vaginal opening to the cervix of the uterus. It is situated between the urinary bladder and the rectum. It is about three to five inches long in a grown woman. The muscular wall allows the vagina to expand and contract. The muscular walls are lined with mucous membranes, which keep it protected and moist. A thin sheet of tissue with one or more holes in it, called the hymen, partially covers the opening of the vagina. The vagina receives sperm during sexual intercourse from the penis. The sperm that survive the acidic condition of the vagina continue on through to the fallopian tubes where fertilization may occur. The vagina is made up of three layers, an inner mucosal layer, a middle muscularis layer, and an outer fibrous layer. These also help with stimulation of the penis. microscopically the vaginal rugae has glands that secrete an acidic mucus (pH of around 4.0.) that keeps bacterial growth down. The outer muscular layer is especially important with delivery of a fetus and placenta.

Cervix

The cervix (from Latin "neck") is the lower, narrow portion of the uterus where it joins with the top end of the vagina. During childbirth, contractions of the uterus will dilate the cervix up to 10 cm in diameter to allow the child to pass through. During orgasm.

Uterus

The uterus is shaped like an upside-down pear, with a thick lining and muscular walls. Located near the floor of the pelvic cavity, it is hollow to allow a blastocyte, or fertilized egg, to implant and grow. It also allows for the inner lining of the uterus to build up until a fertilized egg is implanted, or it is sloughed off during menses.

The uterus contains some of the strongest muscles in the female body. These muscles are able to expand and contract to accommodate a growing fetus and then help push the baby out during labor. It is thought that this is to help push or

guide the sperm up the uterus to the fallopian tubes where fertilization may be possible. Helping support the uterus are ligaments that attach from the body of the uterus to the pelvic wall and abdominal wall. During pregnancy the ligaments prolapse due to the growing uterus, but retract after childbirth. In some cases after menopause, they may lose elasticity and uterine prolapse may occur.

Fallopian Tubes

At the upper corners of the uterus are the fallopian tubes. There are two fallopian tubes, also called the uterine tubes or the oviducts. Each fallopian tube attaches to a side of the uterus and connects to an ovary. Within each tube is a tiny passageway no wider than a sewing needle. At the other end of each fallopian tube is a fringed area that looks like a funnel. This fringed area, called the infundibulum, lies close to the ovary. The ovaries alternately release an egg. When an ovary does ovulate, or release an egg.

Once the egg is in the fallopian tube, tiny hairs in the tube's lining help push it down the narrow passageway toward the uterus. The oocyte, or developing egg cell, takes four to five days to travel down the length of the fallopian tube. If enough sperm are ejaculated during sexual intercourse and there is an oocyte in the fallopian tube, fertilization will occur. After fertilization occurs, the zygote, or fertilized egg, will continue down to the uterus and implant itself in the uterine wall where it will grow and develop.

If a zygote doesn't move down to the uterus and implants itself in the fallopian tube, it is called an ectopic or tubal pregnancy. If this occurs, the pregnancy will need to be terminated to prevent permanent damage to the fallopian tube, possible hemorrhage and possible death of the mother.

Mammary glands

Mammary glands are the organs that produce milk for the sustenance of a baby.

These exocrine glands are enlarged and modified sweat glands.

Colostrum is secreted in late pregnancy and for the first few days after giving birth. True milk secretion (lactation) begins a few days later due to a reduction in

circulating progesterone and the presence of the hormone prolactin. The suckling of the baby causes the release of the hormone oxytocin which stimulates contraction of the myoepithelial cells.

The Female Reproductive Cycle

Towards the end of puberty, girls begin to release eggs as part of a monthly period called the female reproductive cycle, or menstrual cycle . Approximately every 28 days, during ovulation, an ovary sends a tiny egg into one of the fallopian tubes. Unless the egg is fertilized by a sperm while in the fallopian in the two to three days following ovulation, the egg dries up and leaves the body about two weeks later through the vagina. This process is called menstruation. Blood and tissues from the inner lining of the uterus (the endometrium) combine to form the menstrual flow, which generally lasts from four to seven days. The first period is called menarche. During menstruation arteries that supply the lining of the uterus constrict and capillaries weaken. Blood spilling from the damaged vessels detaches layers of the lining, not all at once but in random patches. Endometrium mucus and blood descending from the uterus, through the liquid creates the menstruation flow.

The reproductive cycle can be divided into an ovarian cycle and a uterine cycle .During the uterine cycle, the endometrial lining of the uterus builds up under the influence of increasing levels of estrogen .Follicles develop, and within a few days one matures into an ovum, or egg. The ovary then releases this egg, at the time of ovulation.

After ovulation the uterine lining enters a secretory phase, or the ovarian cycle, in preparation for implantation, under the influence of progesterone. Progesterone is produced by the corpus luteum and enriches the uterus with a thick lining of blood vessels and capillaries so that it can sustain the growing fetus. If fertilization and implantation occur, the embryo produces Human Chorionic Gonadotropin (HCG), which maintains the corpus luteum and causes it to continue producing progesterone until the placenta can take over production of progesterone. Hence, progesterone is and maintains the uterine lining during

all of pregnancy. If fertilization and implantation do not occur the corpus luteum degenerates into a corpus albicans, and progesterone levels fall. This fall in progesterone levels cause the endometrium lining to break down and sluff off through the vagina. This is called menstruation, which marks the low point for estrogen activity and is the starting point of a new cycle.

Menopause

is the physiological cessation of menstrual cycles associated with advancing age. Menopause is sometimes referred to as or climacteric. Menopause occurs as the ovaries stop producing estrogen, causing the reproductive system to gradually shut down. As the body adapts to the changing levels of natural hormones, psychological symptoms such as increased depression, anxiety, irritability, mood swings and lack of concentration, and atrophic symptoms such as vaginal dryness and urgency of urination appear. Together with these symptoms, the woman may also have increasingly scanty and erratic menstrual periods.

Perimenopause

refers to the time preceding menopause, during which the production of hormones such as estrogen and progesterone diminish and become more irregular. During this period fertility diminishes. Menopause is arbitrarily defined as a minimum of twelve months without menstruation. Perimenopause can begin as early as age 35, although it usually begins much later. It can last for a few months or for several years. The duration of perimenopause cannot be predicted in advance.

Premenstrual Syndrome (PMS)

It is common for women to experience some discomfort in the days leading up to their periods. PMS usually is at its worst the seven days before a period starts and can continue through the end of the period. PMS includes both physical and emotional symptoms: acne, bloating, fatigue, backaches, sore breasts, headaches, constipation, diarrhea, food cravings, depression, irritability, difficulty concentrating or handling stress.

Infertility

Infertility is the inability to naturally conceive a child or the inability to carry a pregnancy to term. There are many reasons why a couple may not be able to conceive without medical assistance. Infertility affects approximately 15% of couples.

Factors of Infertility

- **General factors**

- Diabetes mellitus, thyroid disorders, adrenal disease
- Significant liver, kidney disease
- Psychological factors

- **Uterine factors**

- Uterine malformations
- Uterine fibroids

- **Vaginal factors**

- Vaginismus
- Vaginal obstruction

Vulvovaginitis

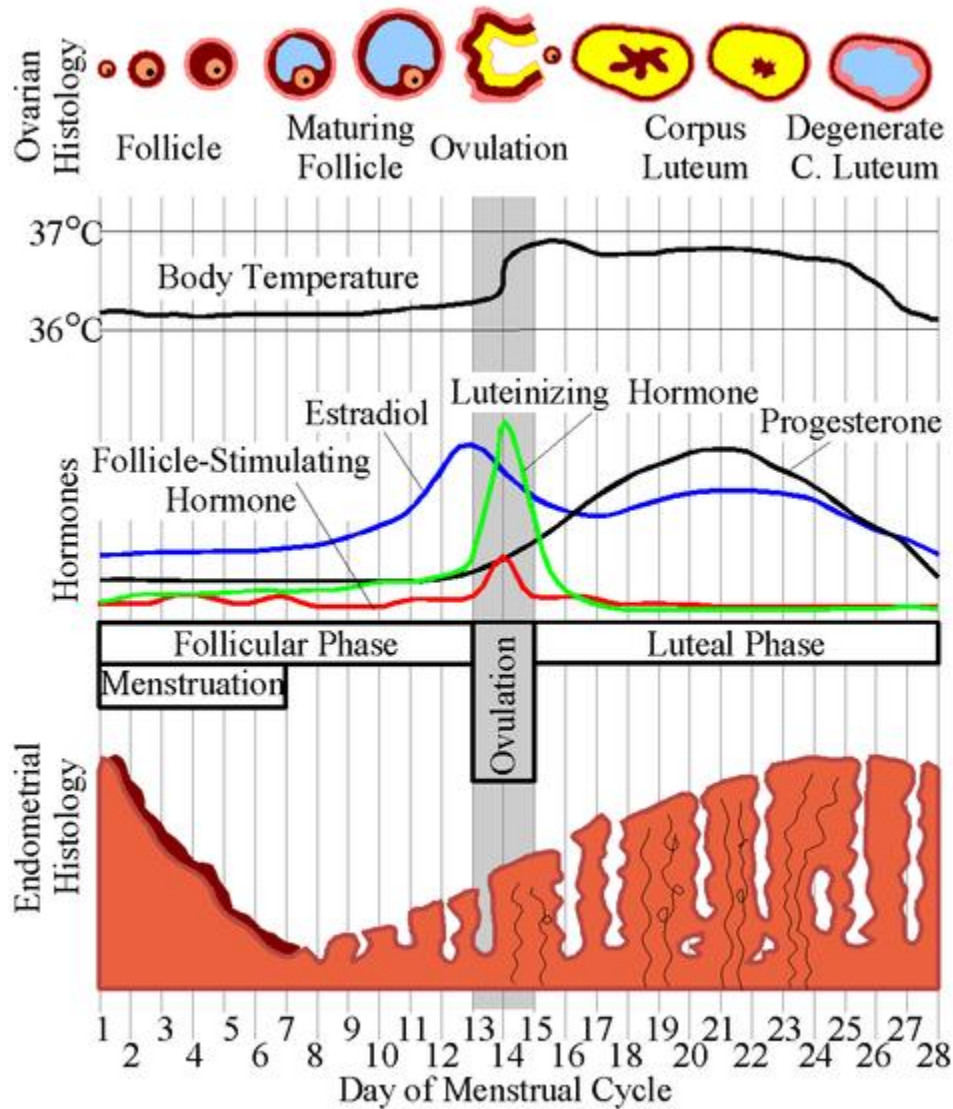
It may be caused by irritating substances such as laundry soap, bubble baths or poor hygiene such as wiping from back to front. Symptoms include redness and itching in these areas and sometimes vaginal discharge. It can also be caused by an overgrowth of candida, a fungus normally present in the vagina.

Ectopic Pregnancy

occurs when a fertilized egg or zygote doesn't travel into the uterus, but instead grows rapidly in the fallopian tube. Women with this condition can develop severe abdominal pain.

Trichomonas vaginalis

inflammatory condition of the vagina usually a bacterial infection also called vaginosis.



(Average values. Durations and values may differ between different females or different cycles.)