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**UTERINE CERVIX**

* Mucosa of uterine cervix does not undergo cyclic dequamation as the body of uterus.
* Regular changes in the cervical mucus under influence:

Estrogens (ovulation) mucus thinner and more alkaline-promotion of survival and transport of sperm, spinnbarkeit at ovulation.

Progesterone (after ovulation, during pregnancy) mucus thick, tenacious, cellular.

**VAGINAL CYCLE**

* Under the influence of estrogens vaginal epithelium becomes cornified (cornified epithelial cells found in vaginal smear)
* Under the influence of progesterone: thick mucus secretion, proliferation of epithelium, leukocytes infiltration.

 **MENSTRUAL CYCLE**

The menstrual cycle is the regular natural change that occurs in the female reproductive system (specifically the uterus and ovaries) that makes pregnancy possible.

**Menstruation** is a woman’s monthly bleeding, often called **PERIOD.** When you menstruate, your body discards the monthly buildup of the lining of your uterus (womb). Menstrual blood and tissue flow from your uterus through the small opening in your cervix and pass out of your body through your vagina. Menstrual cycle is defined as cyclic events that take place in a rhythmic fashion during the reproductive period of a woman’s life. Menstrual cycle starts at the age of 12 to 15 years, which marks the onset of puberty. The commencement of menstrual cycle is called menarche. Menstrual cycle ceases at the age of 45 to 50 years. Permanent cessation of menstrual cycle in old age is called menopause. Duration of menstrual cycle is usually 28 days. But, under physiological conditions, it may vary between 20 and 40 days. During each menstrual cycle, series of changes occur in ovary and accessory sex organs.**These changes are divided into four groups:**

* Ovarian changes
* Uterine changes
* Vaginal changes
* Changes in cervix

**Stages of menstrual cycle.**

* menstrual phase
* follicular phase
* ovulation phase
* luteal phase

The length of each phase can differ from woman to woman, and it can change over time.

**MENSTRUAL PHASE** The menstrual phase is the first stage of the menstrual cycle. It’s also when you get your period. This phase starts when an egg from the previous cycle isn’t fertilized. Because pregnancy hasn’t taken place, levels of the hormones estrogen and progesterone drop.The thickened lining of your uterus, which would support a pregnancy, is no longer needed, so it sheds through your vagina. During your period, you release a combination of blood, mucus, and tissue from your uterus.You may have period symptoms like these: cramps, tender breasts, bloating, mood swings, tiredness, Irritability, Headaches, Low back pain.

On average women are in the menstrual phase of their cycle for 3 to 7 days. Some women have longer periods than others.

**FOLLICULAR PHASE** The follicular phase starts on the first day of your period (so there is some overlap with the menstrual phase) and ends when you ovulate. It starts when the hypothalamus sends a signal to your pituitary gland to release follicle-stimulating hormone (FSH). This hormone stimulates your ovaries to produce around 5 to 20 small sacs called follicles. Each follicle contains an immature egg.Only the healthiest egg will eventually mature. (On rare occasions, a woman may have two eggs mature.) The rest of the follicles will be reabsorbed into your body. The maturing follicle sets off a surge in estrogen that thickens the lining of your uterus. This creates a nutrient-rich environment for an embryo to grow.

The average follicular phase lasts for about 16 days. It can range from 11 to 27days, depending on your cycle.

**OVULATION PHASE**

Rising estrogen levels during the follicular phase trigger your pituitary gland to release luteinizing hormone (LH). This is what starts the process of Ovulation.

Ovulation is when your ovaries releases a mature egg. The egg travels down the fallopian tube toward the uterus to be fertilized by sperm.

The ovulation phase is the only time during your menstrual cycle when you can get pregnant. You can tell that you are ovulating by symptoms like these:

* A slightly rise in basal body temperature
* Thicker discharge that has the texture of egg whites

Ovulation happens at around day 14 if you have 28day cycle right in the middle of your menstrual cycle. It lasts about 24hours. After a day, the egg will die or dissolve if it is not fertilized.

**LUTEAL PHASE** After the follicle releases its egg, it changes into the corpus luteum. This structure releases hormones, mainly progesterone and some estrogen. The rise in hormones keeps your uterine lining thick and ready for a fertilized egg to implant. If you do get pregnant, your body will produce human chorionic gonadotropin (hCG). This is the hormone pregnancy tests detect. It helps maintain the corpus luteum and keeps the uterine lining thick. If you don’t get pregnant, the corpus luteum will shrink away and be resorbed. This leads to decreased levels of estrogen and progesterone, which causes the onset of your period. The uterine lining will shed during your period.During this phase, if you don’t get pregnant, you may experience symptoms of premenstrual syndrome (PMS). These includes: Bloating**,** Breast swelling, pain,Mood changes**,** Headache**,** Weight gain**,** Changes in sexual desire**,** Food cravings**,** Trouble sleeping**.** The luteal phase lasts for 11 to 17 days.

Every woman’s menstrual cycle is different. Some women get their period at the same time each month. Others are more Irregular. Some women bleed more heavily or for a longer number of days than others. Menstrual cycle can also change during certain times of a woman’s life. For example, it can get more irregular as you get close to menopause.

One way to find out if there are any issues with your menstrual cycle is to track your periods. Write down when they start and end. Also record any changes to the amount or number of days you bleed, and whether you have spotting between periods.

**Any of these things can alter/ change your menstrual** **cycle:**

* Birth control: The birth control pill may make your periods shorter and lighter. While on some pills, you won’t get a period at all.
* Pregnancy: Your periods should stop during pregnancy. Missed periods are one of the most obvious first sign that you are pregnant.
* Eating disorder:Anorexia, bulimia, and other eating disorders can disrupt your menstrual cycle and make your periods stop.

**Signs of a problem with your menstrual cycle:**

* Skipped periods
* Irregular periods
* You bleed for more than seven days.
* Periods less than 21 days or more than 35 days apart.
* Bleeding between periods (heavier than spotting)

**MENSTRUAL SYMPTOMS**

Menstrual symptoms are the unpleasant symptoms with discomfort, which appear in many women during menstruation. These symptoms are due to hormonal withdrawal, leading to cramps in uterine muscle before or during menstruation. These menstrual symptoms are:

* Abdominal pain
* Dysmenorrhea (menstrual pain)
* Headache
* Occasional nausea and vomiting.
* Irritability
* Depression
* Migraine

 **PREMENSTRUAL SYNDROME.**

Premenstrual syndrome (PMS) is the symptom of stress that appears before the onset of menstruation. It is also called premenstrual stress syndrome, premenstrual stress or premenstrual tension. It lasts for about 4 to 5 days prior to menstruation. Symptoms appear due to salt and water retention caused by estrogen.Common Features

* Mood swings
* Anxiety
* Irritability
* Emotional instability
* Headache
* Depression
* Constipation
* Abdominal cramping
* Bloating (abdominal swelling)