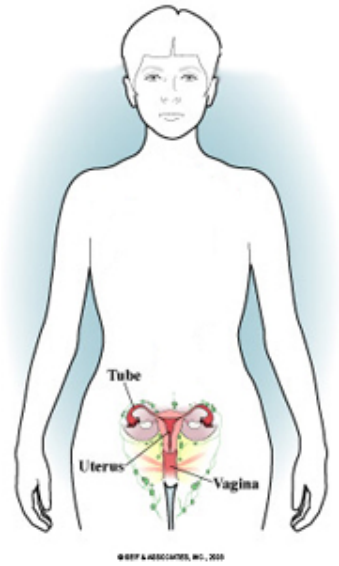
Menstruation

Menstruation is the monthly passing of blood, tissue, fluid and mucus, also know as a period. Your body is shedding the lining of the uterus (*womb*). The flow, or amount of blood, usually lasts from 3 to 7 days each month. It is hormones that control the menstrual cycle. *Hormones* are a chemical substance produced by endocrine glands in the body to regulate different bodily functions.



The first menstrual period may start any time between age 8 to 16 years. However, it usually starts around age 11 or 12. Some girls have regular monthly menstrual cycles right from the beginning. However, it is not unusual to have only a couple of drops of blood or spotting when you first start menstruating. It is also not unusual to have two periods a month or miss a month or two when first starting your periods.

SYMPTOMS

- Mild to moderate abdominal cramps.
- Aching or pain in the lower back area.

Symptoms that may occur 5 to 10 days before your menstrual period starts, which is referred to as premenstrual syndrome (PMS). These symptoms can include:

- Headache.
- Breast tenderness and swelling.
- Bloating.
- Sleepiness (*fatigue*).
- Mood changes.
- Craving for certain foods.

These are normal signs and symptoms and can vary in severity. To help relieve these problems, ask your caregiver if you can take over-the-counter medications for pain or discomfort. If the symptoms are not controllable, see your caregiver for help.

HORMONES INVOLVED WITH MENSTRUATION ARE:

Menstruation comes about because of hormones produced by the pituitary gland in the brain and the ovaries that affect the uterine lining.

First, the pituitary gland in the brain produces the hormone Follicle Stimulating Hormone (FSH). FSH stimulates the ovaries to produce estrogen, which thickens the uterine lining and begins to develop an egg in the ovary. About 14 days later, the pituitary gland produces another hormone called Luteinizing Hormone (LH). LH causes the egg to come out of a sac in the ovary (*ovulation*). The empty sac on the ovary called the corpus luteum is stimulated by another hormone from the pituitary gland called luteotropin. The corpus luteum begins to produce the estrogen and progesterone hormone. The progesterone hormone prepares the lining of the uterus to have the fertilized egg (egg and sperm) attach to the lining of the uterus and begin to develop into a fetus. If the egg is not fertilized, the corpus luteum stops producing estrogen and progesterone, it disappears, the lining of the uterus sloughs off and a menstrual period begins. Then the menstrual cycle starts all over again and will continue monthly unless pregnancy occurs or menopause begins.

The secretion of hormones is complex. Various parts of the body become involved in many chemical activities. Female sex hormones have other functions in a woman's body as well. Estrogen increases a woman's sex drive (*libido*). It naturally helps body get rid of fluids (*diuretic*). It also aids in the process of building new bone. Therefore, maintaining hormonal health is essential to all levels of a woman's well being. These hormones are usually present in normal amounts and cause you to menstruate. It is the *relationship between the (small) levels of the hormones that is critical*. When the balance is upset, menstrual irregularities can occur.

HOW DOES THE MENSTRUAL CYCLE HAPPEN?

- Menstrual cycles vary in length from 21 to 35 days with an average of 29 days. The cycle begins on the first day of bleeding. At this time, the pituitary gland in the brain releases FSH that travels through the

bloodstream to the ovaries. The FSH stimulates the follicles in the ovaries. This prepares the body for ovulation that occurs around the 14th day of the cycle. The ovaries produce estrogen, and this makes sure conditions are right in the uterus for implantation of the fertilized egg.

- When the levels of estrogen reach a high enough level, it signals the gland in the brain (*pituitary gland*) to release a surge of LH. This causes the release of the ripest egg from its follicle (*ovulation*). Usually only one follicle releases one egg, but sometimes more than one follicle releases an egg especially when stimulating the ovaries for invitro fertilization. The egg can then be collected by either fallopian tube to await fertilization. The burst follicle within the ovary that is left behind is now called the *corpus luteum* or "yellow body." The corpus luteum continues to give off (*secrete*) reduced amounts of estrogen. This closes and hardens the *cervix*. It dries *up the mucus* to the naturally infertile condition.
- The corpus lutuem also begins to give off greater amounts of progesterone. This causes the lining of the uterus (*endometrium*) to thicken even more in absolute preparation for the fertilized egg. The egg is starting to journey down from the fallopian tube to the uterus. It also signals the ovaries to stop releasing eggs. It assists in returning the cervical mucus to its infertile state.
- If the egg implants successfully into the womb lining and pregnancy occurs, progesterone levels will continue to raise. It is often this hormone that gives some pregnant women such a feeling of well being, like a "natural high." Progesterone levels drop again after childbirth.
- If fertilization does not occur, the corpus luteum dies, stopping the production of hormones. This sudden drop in progesterone causes the uterine lining breaks down, accompanied by blood (*menstruation*).
- This starts the cycle back at day 1. The whole process starts all over again. Woman go through this cycle every month from puberty to menopause. Women have breaks only for pregnancy and breastfeeding (*lactation*), unless the woman has health problems that affect the female hormone system or chooses to use oral contraceptives to have unnatural menstrual periods.

HOME CARE INSTRUCTIONS

- Keep track of your periods by using a calendar.
- If you use tampons, get the least absorbent to avoid toxic shock syndrome.
- **Do not** leave tampons in the vagina over night or longer than 6 hours.
- Wear a sanitary pad over night.
- Exercise 3 to 5 times a week or more.
- Avoid foods and drinks that you know will make your symptoms worse before or during your period.

SEEK MEDICAL CARE IF:

- You develop a fever of 100º F (37.8º C) or higher with your period.
- Your periods are lasting more than 7 days.
- Your period is so heavy that you have to change pads or tampons every 30 minutes.
- You develop clots with your period and never had clots before.
- You cannot get relief from over-the-counter medication for your symptoms.
- Your period has not started, and it has been longer than 35 days.

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