

Menstrual Cycle

Overview:

- The menstrual cycle starts on the first day of the menstrual period and ends with the start of the following period.
- It is made-up of four phases during which hormones change to prepare women for pregnancy each month.
- It is natural to experience some discomfort during the menstrual cycle while other issues might require a visit to the doctor.
- Treating these problems depends on their causes.
- There are several methods and advice to relieve pain before and during a menstrual period.

Structure of the female reproductive system:

- **The vagina:** It is the canal between the uterus and the external reproductive organs.
- **The uterus:** It is a hollow pear-shaped organ where the fetus grows during pregnancy. It is separated from the vagina by a narrow canal called: the cervix.
- **Fallopian tubes:** They are narrow canals connected to the upper part of the uterus. Through them, the eggs travel from the ovaries to the uterus, and inside them, the egg meets the sperm (fertilization). Then, the fertilized egg travels through the tubes to the uterus where it can stick to the uterine wall and form an embryo.
- **Ovaries:** They are small oval-shaped glands located on the sides of the uterus. Eggs form inside the ovaries that also produce female hormones.

Menstrual cycle:

- A menstrual cycle consists of natural changes that occur in a woman's body every month in preparation for pregnancy. Menstruation starts at puberty and ends at menopause.
- The cycle lasts an average of 28 days but may vary between 20 and 40 days. The first day of a cycle is the first day of a menstrual period and the last day is that of the following period.

First menstrual period:

The menstrual cycle often begins at puberty between the ages of 8 and 15 (average age of 12). It usually starts two years after breasts and pubic hair start to develop.

Phases of the menstrual cycle:

There are four phases: menstruation, the follicular phase, ovulation and the luteal phase.

- **Menstruation:**

Menstruation is the elimination of the internal lining of the uterine wall along with other secretions from the body through the vagina. It usually lasts three to seven days but this could change to more or less days from month to month and depending on each woman.

- **The follicular phase:**

The follicular phase starts on the first day of menstruation and ends with ovulation. During this phase the pituitary gland (situated at the base of the brain) releases a follicle (cyst) stimulating hormone. This hormone produces 10 to 20 follicles in the ovary and each follicle houses an immature egg. These follicles produce the hormone estrogen, which in turn thickens the lining of the endometrium in preparation to receive a fertilized egg. Often, only one follicle keeps growing and travels to the ovarian surface while the remaining follicles gradually fade and are absorbed back into the body.

- **Ovulation:**

Ovulation occurs 12 to 16 days before the following period but not necessarily in the middle of the cycle. The term “ovulation” indicates the formation of a mature egg by one of the ovaries. The release of estrogen during the follicular phase causes the brain to produce a gonadotrophin-releasing hormone that prompts the pituitary gland to produce raised levels of luteinising hormone (luteotropic hormone). This extracts the mature egg from the follicle (cyst) and transports it from the ovary to the fallopian tube. If fertilization does not occur during this phase, the egg continues to the uterus and dissolves within 6 to 24 hours.

- **The luteal phase:**

During this phase, the follicle from which the mature egg burst out (now called the yellow body of the ovary or corpus luteum) released a large quantity of progesterone and some estrogen. The two hormones help thicken the lining of the endometrium and maintain its thickness. If fertilization does not occur, the yellow body degrades and progesterone levels decrease, leaving the lining unstable. The lining then falls away and a new menstrual cycle period begins.

Premenstrual syndrome (PMS):

Some psychological and physical changes may occur during the luteal phase. These include:

Physical changes:

- Breast tenderness and swelling
- Diarrhea or constipation
- Bloating and gas
- Cramps
- Headaches or backaches
- Fluid retention
- Fatigue and vertigo
- Inability to tolerate noise or bright lights
- Acne

Psychological changes:

- Aggressive behavior and irritability
- Trouble sleeping (too much or too little)
- Changes in appetite
- Difficulty concentrating and remembering
- Stress and anxiety
- Mood swings
- Depression or sadness
- Reduced libido

These changes occur due to the sudden drop in progesterone and estrogen. However, they disappear a few days after menstruation once hormones are back to their elevated levels.

Common issues accompanying the menstrual cycle:

- **Cramps:**

Many women experience stomach spasms during the first few days of their cycle. They occur because of chemicals in the body that cause the uterine muscles to contract to help shed the uterine lining.

- **Dysmenorrhea (painful periods):**

It is the most common menstruation problem. The pain varies from one woman to the other. There are two types of dysmenorrhea:

- **Primary dysmenorrhea:**

It is a very common condition that occurs because of the contraction in uterine muscles. It typically occurs during adolescence and fades away with age. **You are more likely to suffer from primary dysmenorrhea if you:**

- Started menstruating before the age of 11
- Have heavy and long periods
- Smoke
- Experience psychological pressures

- **Secondary dysmenorrhea:**

It is the pain resulting from physical problems. The pain becomes worse with age and lasts longer than the pain of primary dysmenorrhea. **The most common health issues that may cause it are:**

- Endometriosis
- Uterine fibroids
- Ovarian cysts

▪ **Irregular periods:**

A girl's body begins to regulate her menstrual period 2-3 years after the cycle starts. During this time, the body tries to adjust to the hormonal changes it is experiencing. A cycle is considered to be irregular if it is shorter or longer than usual. However, it is normal for it to be irregular before menopause. Irregularities general occur for the following reasons:

- Eating disorders
- Thyroid disorders
- Some medicines (e.g. epilepsy medication)
- Polycystic ovary syndrome
- Premature ovarian failure
- Pelvic inflammatory disease
- Psychological pressures
- Irregular blood sugar levels (diabetes)
- Obesity

A woman experiences an absence of menstruation, or amenorrhea, in the following cases (excluding pregnancy and breastfeeding):

- Absence of menstrual blood for over three consecutive months.
- A girl is over 15 years old but hasn't started her cycle.

▪ **Excessive bleeding:**

Excessive bleeding may occur due to the following causes:

- Ovulation issues: An imbalance of hormones during ovulation may lead to the excessive formation of an internal uterine lining, which in turn increases the amount of blood shed during menstruation.
- Thyroid disorders
- Uterine fibroids They are muscle tissues that form on the uterine wall and are usually benign.
- Benign tumors
- Some medicines
- Problems conceiving (e.g. miscarriage, ectopic pregnancy)
- Bleeding disorders (e.g. Haemophilia)
- Obesity
- Use of an intrauterine device (IUD)

▪ **Bleeding outside the menstrual period:**

This may occur due to the following causes:

- Hormonal changes during puberty or before menopause
- Endometriosis
- Ovarian cysts
- Malignant tumors (cancerous), such as: Uterine, ovarian or cervical cancer.

When to see a doctor:

See a doctor if any of the following problems occurs during puberty:

- If the menstrual cycle begins before the age of 8
- If a girl is 15 years old but hasn't started her cycle
- If the cycle doesn't start within three years of breast development
- If the menstrual cycle remains irregular after the first three years

See a doctor if the following problems occur during menstruation:

- If the symptoms are severe to the point of hindering daily activities
- If painkillers don't help relieve menstrual pains
- If large and abnormal clots are discharged with the blood
- If cramps are felt outside the usual times (before and during menstruation)
- If menstruation continues for over 8 days
- If you need to change sanitary napkins every one or two hours
- If you experience symptoms of iron deficiency anemia (including: dizziness, weakness, fatigue, chest pain, difficulty breathing)
- If you experience changes in menstruation (unusually heavy periods)

See a doctor if the following problems occur outside menstruation:

- Bleeding after intercourse (more than once)
- Bleeding outside menstrual period
- Bleeding after menopause

Diagnosis:

- **Family history:** The pattern of a girl's menstrual cycle follows that of her mother's.
- **Clinical tests**
- **Laboratory tests:** Blood or urine tests
- **Scans:** X-rays or CT scans

Treatments for common menstruation problems:

The treatment depends on the causes. It may consist of:

- **Medicine:** Prescribing painkillers or hormone treatment (e.g. birth control pills, Thyroid hormone treatment, etc.)
- **Surgery:** Surgery is considered a last resort. It includes: Cyst removal.

General advice:

- Try to eat healthy foods with lots of fruit and vegetables.
- Reduce your salt intake as it causes fluid retention.
- Consume less caffeine as it causes stress.
- Eat foods rich in calcium as calcium alleviates PMS symptoms.
- Use painkillers such as Ibuprofen to help alleviate the pain from cramps.
- It is best to monitor and record menstruation dates and the accompanying symptoms to help diagnose problems when they arise.
- Change sanitary napkins every three or four hours.
- Stop smoking.
- Place warm compresses on your stomach.
- Go for a light walk to reduce psychological stress.
- Consult a doctor before using any contraceptive method.

FAQ:

- **Does period pain affect fertility?**
No, period pain does not affect fertility. A painful period is usually a period where ovulation has occurred. If pain is due to endometriosis, it is usually chronic and is not easily alleviated by painkillers. If the endometriosis is advanced, it may block the fallopian tubes and cause infertility.
- **Do some beverages (e.g. coffee, cinnamon, cumin, etc.) help clean the uterus and reduce period pains?**
Some herbs may alleviate menstrual cramps and pain but have no link to cleaning the uterus.
- **Are intimate washes useful for girls and women?**
It is advised not to overuse intimate washes. Once to twice a month is enough. Overusing these washes may undermine the vagina's immunity and put it at risk of yeast infections.
- **Is the discharge of brown blood after bleeding has stopped part of menstruation?**
Yes, if it is linked to period days and doesn't occur days after bleeding has stopped.
- **Are mood swings normal during a menstrual cycle?**
Yes, several studies have noticed this link.
- **Is it normal to have several menstrual periods in one month?**
Yes, the shortest natural menstrual cycle is 25 days, including bleeding days. This may be more noticeable during the years before menopause.

Myths:

- Consuming beverages rich in Vitamin C (e.g. orange juice, lemon, etc.) is harmful during menstruation.

Truth: This isn't true. They are not harmful and there is no scientific basis for this idea.

- Brown discharge at the start of menstruation indicates blood remaining from the previous cycle and is a sign of a problem.

Truth: Brown discharge at the start of the menstrual cycle comes from the surface of the endometrium before the lining is shed from the uterine wall. It forms part of the current cycle and not the previous cycle.

- Bathing during menstruation is harmful.

Truth: This isn't true, but it is preferable not to lie down in a bath to avoid infections.

- Irregular periods are a sign of infertility.

Truth: Not necessarily, unless the irregularity includes delays over several months.

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