

# Menstrual Cycle Problems

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The menstrual cycle has been the subject of many traditional tales, myths and mystery. The menstrual cycle may affect women physically, psychologically and behaviorally, but for the majority the changes experienced do not interfere with their lives. Some women however do experience menstrual disturbances, either psychological or physical, which profoundly affect their ability to function as they would like.

## Facts about menstruation:

- The normal range of age for the onset starting periods is 9–17 years. Most girls begin puberty at around 10 years of age with an initial phase of accelerated growth and breast development known as breast budding. Shortly after, pubic hair appears, and by 12 years more than 50 per cent of young girls have underarm hair. By the age of 12.8 years, 50 per cent have menstruated. The peak growth spurt in girls occurs about a year before menstruation begins;
- Most young women do not settle down to regular ovulatory cycles until two to three years after starting their periods;
- **The first day of each cycle is designated as the first day of menstruation. Ovulation** (release of a mature egg) usually occurs on the 14th day of a 28 day cycle, however normal cycles vary in length from 21 to 35 days. Shorter or longer cycles are considered abnormal;
- Ovulation only occurs when the brain, the pituitary gland and the ovaries are in balance. Physical or emotional stress can disrupt the balance, with some women being more vulnerable than others. Examples of physical stress include regular strenuous exercise or weight loss;
- Normal bleeding occurs for one to seven days. During this time a total of less than 80ml (four tablespoons) of blood is lost. Losses greater than this are considered abnormal as are the passing of clots during menstruation;
- Some women have some very light transient blood loss, commonly known as 'spotting' just after ovulation. This appears to be related to the drop in oestrogen immediately following ovulation. Heavier bleeding between periods is not uncommon, but is considered abnormal;
- You should speak to your doctor about abnormal uterine bleeding, whether prolonged or heavy menstruation or irregular mid-cycle bleeding;
- A Pap smear at least every two years, is essential in all sexually active women as well as a thorough pelvic examination; and
- Iron deficiency is not uncommon in women with a history of heavy periods. To make a diagnosis of iron deficiency iron stores need to be assessed by a blood test.

## Common menstrual cycle problems

1. Painful menstruation (Dysmenorrhoea);
2. Premenstrual Syndrome (PMS);
3. Menstrual Migraine;
4. Menstrual Epilepsy; and
5. Irregular or Absent Menstruation (Amenorrhoea).

## Painful menstruation

The medical term for painful periods is DYSMENORRHOEA. (Direct Greek translation is 'difficult menstrual flow'.) Dysmenorrhoea (Pronounced dis-men-or-eah) is severe spasmodic crampy menstrual pain which is experienced on the background of lower back and lower abdominal pain which peaks just before and during the first 24 hours of heavy menstrual bleeding. Nausea, vomiting and diarrhoea often accompany the pain.

- Painful menstruation is a feature of menstrual cycles in which ovulation occurs;
- 60 per cent of adolescent girls suffer significant menstrual pain at some stage; and
- 14 per cent of adolescent girls regularly miss school because of severe menstrual symptoms. As many young girls do not ovulate regularly for the first two to three years following the start of their periods, painful periods are uncommon in the early teenage years. Significant menstrual pain is more of a problem in late adolescence and reportedly affects 72 per cent of 17 year old females as opposed to less than 40 per cent of 12 year olds.

## Causes of menstrual pain?

A biological chain of events gives rise to the pain of menstruation. Psychological stress may decrease pain tolerance and anxiety, stress and fear will worsen the pain of menstruation. Specific psychosocial problems, such as sexual anxiety or experiences of sexual abuse or other serious personal or family problems, can cause heightened anxiety about menstruation.

The lining of the uterus is shed during menstruation and the fluid lost with it contains chemicals called *Prostaglandins*. These chemicals stimulate contraction of the uterus resulting in pain. Pain may be classified as mild, moderate or severe to assist with treatment.

**Mild** menstrual – pain only occurs during the first day of bleeding, there are minimal other symptoms and the individual can continue to function normally.



**Moderate** menstrual pain lasts for two-three days with troublesome additional symptoms, for example nausea, vomiting, diarrhoea or headache requiring time-out from usual activities.

**Severe** menstrual pain – pain which significantly disrupts normal life. Women experiencing severely painful menstruation should be medically assessed to make sure an underlying medical problem is not the cause for the pain. A Pap smear and samples for microbiology culture are essential for all sexually active women suffering significant menstrual pain to check for infections and changes in the cells of the cervix. A full pelvic examination or an abdominal ultrasound may be required to exclude other abnormalities.

Women experiencing moderate to severe menstrual pain need to speak to their doctor about being further assessed.

**Endometriosis** is a common cause of severe menstrual pain occurring in up to 10 per cent of women. Endometriosis occurs when endometrial cells (the cells that form the inner lining of the uterus) grow outside the uterus, most commonly elsewhere within the abdomen. These cells grow and divide during the cycle when oestrogen levels increase and 'bleed' during menstruation. When these cells 'bleed' they irritate the lining of the abdomen and cause inflammation and pain. The definitive diagnosis of endometriosis is by a procedure known as a 'laparoscopy' which requires a general anaesthetic and is performed by a gynaecologist. Treatment of endometriosis may be with medication or surgical, depending on how severe the endometriosis is.

### Treatment of Menstrual Pain

Frequently, no specific medical intervention is necessary.

### Anti Prostaglandin Therapy

The mainstay of medical treatment is with a group of drugs called anti-inflammatory agents which block the production of prostaglandins which cause the pain. To be effective, the tablets should be taken from the first sign of menstruation which may be pain or bleeding according to the individual. Starting treatment earlier does not appear to offer any advantage. The most commonly prescribed and effective agents are mefenamic acid, ibuprofen and naproxen. Treatment with these drugs results in pain relief in 60–95 per cent of women with an average reduction of 50 per cent.

### Combined oral Contraceptive Pill (OCP)

Up to 50 per cent of women experience complete relief of menstrual pain with OCP use, and 30–40 per cent have marked relief. The OCP blocks ovulation, thus the lining of the uterus stays fairly thin and the monthly production of the pain-inducing prostaglandins reduced.

### Combined Treatment

Occasionally a combination of the OCP and an anti-prostaglandin is necessary to induce relief of menstrual pain in severely affected women.

### Additional Therapies

Rest, relaxation, and massage or local heat to the lower back and pelvic area can be effective in relieving symptoms.

**Raspberry Leaf Tea**, an infusion prepared from the dried leaves of *Rubus idaeus L.*, has been used as a traditional therapy for menstrual pain and heavy bleeding. Raspberry leaf appears to have several active constituents which separately cause both smooth muscle stimulation and relaxation and it is not known which effect, if any, predominates on the uterus. Therefore, the use of this therapy cannot be recommended with any sound scientific basis.

### Premenstrual syndrome (PMS)

There is still hot debate as to whether PMS is a biological entity or a social phenomenon. Although the cause of PMS is not known, there is research that supports a link between mood and the hormonal changes of the menstrual cycle. Ovulation, which occurs in the middle of the cycle is preceded by a surge in oestrogen. Many women report a heightened sense of wellbeing at this time. Ovulation is followed by an abrupt and brief fall in blood oestrogen levels and up to 5 per cent of women with PMS describe transient PMS-like symptoms of headache, depression or tension around mid-cycle.

Ovulation is followed by the luteal phase of the cycle when progesterone levels increase in order to prepare the uterus for a possible pregnancy. It is during this time many women report the onset of PMS which then peaks around the onset of menstruation. PMS symptoms do not always immediately resolve when menstruation begins. Some women are at their worst for the first 24–48 hours of menstruation and then experience resolution of their symptoms over the next few days.

About 3–8 per cent of women suffer significant disabling PMS at some stage during their reproductive years. The commonly reported symptoms include:

- **weight gain;**
- **abdominal bloating and constipation;**
- **fluid retention:** Diuretics, fluid tablets, should not be used for premenstrual fluid retention. Diuretics remove excess water from the blood vessels, and make users thirsty, resulting in increased water consumption and even further fluid retention;
- **breast swelling and tenderness:** this may be due to the increase in progesterone at this time;
- **increased appetite compared with the other days of the cycle;**
- **reduced libido;**
- **headaches:** these range from mild through to full-blown migraines; and
- **emotional changes:** Anxiety, nervous tension, irritability, depression, fatigue, reduced ability to concentrate, lowered self-esteem and sense of being less able to cope are common symptoms.

### Criteria for diagnosis of PMS

PMS is diagnosed when several of the above physical and psychological symptoms are experienced consistently in the premenstrual (luteal) days in the absence of any other medical condition or psychological illness.

True PMS only occurs in women who ovulate

- The symptoms must occur premenstrually, every month, with at least one symptom free week after each menstrual period;
- The symptoms are so severe that they interfere with the affected women's work, domestic responsibilities and/or their normal relationships, ie. the experience significantly impacts on and disrupts the individual's normal life;
- An identifiable psychiatric disorder is excluded. A daily diary recorded over two to three months that includes a list of troublesome symptoms, given a numerical rating will assist with the diagnosis. For example breast tenderness would be rated as 'zero' when it did not occur, 'one' for mild breast tenderness through to 'five' for 'It couldn't be worse'!

- PMS is uncommon in adolescence;
- Many women experience PMS or menstrual migraines for the first time in the years just before menopause; and
- Women who suffer severe PMS are more likely to have suffered post-natal depression and experience problematic menopausal psychological symptoms in the future.

It is possible for some women to continue to suffer PMS whilst taking the oral contraceptive pill. This is because either the low dose pill has not suppressed their natural cycle and they continue to ovulate or because they are experiencing PMS-like side effects of the progesterone component of the combined oral contraceptive.

### Treatment of PMS

Treatment of PMS requires symptom documentation, pattern recognition and most importantly reassurance by the doctor and understanding by the affected woman that she is suffering genuine symptoms. All treatment needs to be individualized. Options you should discuss with your doctor include:

**Lifestyle Modification** Review diet and exercise and reduce stress.

**The Combined Oral Contraceptive Pill** suppresses natural ovulation and in many women results in relief of symptoms. A continuous unvarying dose (monophasic) OCP is preferable to one of the triphasic pills. **Oral contraceptive pills containing drospirenone** can be very effective in controlling PMS symptoms. This progestin has what is known as anti-mineralocorticoid actions thus it reduces fluid retention and breast tenderness.

**Fluoxetine** is a well-known treatment for depression that has been found to be effective as a treatment in the management of PMS. Fluoxetine can be taken continuously, however it appears to be equally effective when taken in a dose of 20mg/day from day fourteen of the cycle (mid-cycle) until menstruation each month.

**Other Therapies:** Various other therapies are prescribed to alleviate the symptoms of PMS. Therapies shown to be no better than placebo (sugar tablets) in controlled scientific studies include **Vitamin B6** and **Evening Primrose Oil** from the wildflower *Oenothera Biennis L.* **Borage Seed Oil** (from the seed of *Borago Officinalis L.*) contains similar oils to evening primrose oil. It also contains toxic alkaloids which can cause liver damage and therefore its use cannot be recommended. **Chaste Berry Tree** (*Vitex agnus-castus L.*) is sometimes prescribed for PMS and menopausal symptoms. However efficacy has not been established and awaits further evaluation. A common side effect is an itchy rash.

### Menstrual migraine

Menstrual migraine is defined as cyclical severe headache which begins at the onset or during menstruation. Cyclical headaches that occur premenstrually are classified as PMS. 60 per cent of female migraine sufferers report an association with their migraines and menstruation and 14 per cent of women with migraine only experience headaches during menstruation.

Menstrual migraine is thought to result from the precipitous drop in hormone levels at the onset of menstruation. Increased circulating prostaglandin levels probably also play a role.

### Treatment

The most effective medications for a menstrual migraine that has already developed are anti-prostaglandin agents also known as nonsteroidal anti-inflammatory drugs (NSAID's) such as naproxen sodium, mefenamic acid or ibuprofen. A reduction in the severity and duration of headache with use of any of these medications as well as alleviation of the associated symptoms of nausea, vomiting and visual disturbances have been established.

### Menstrual epilepsy

There appear to be two peaks of increased epileptic risk, at midcycle and from the onset of menstruation. Menstrual epilepsy is seizures occurring predominantly at, or exacerbated by, menstruation. A relationship between the menstrual cycle and seizure occurrence has been noted in up to 70 per cent of women who suffer epileptic seizures.

Research into hormones and the occurrence of epilepsy indicates possible roles for both oestrogens and progesterone. Progesterone may have an anti-epileptic effect such that menstrual epilepsy is precipitated by the sudden fall in progesterone levels just prior to menstruation and that treatment with synthetic progestogens (medroxyprogesterone acetate or norethisterone) may reduce epileptic attacks in women with menstrual epilepsy. Oestrogens, on the other hand may enhance epileptic activity in the brain. None of this has been conclusively demonstrated.

Acetazolamide (Diamox) a weak diuretic, may be effective in preventing menstrual epilepsy when taken for ten days before the expected start of menstruation, and continued until bleeding ends. The usually recommended dose is 250–500 mg per day. The main side effects of Diamox include drowsiness and tingling in the extremities.

### Irregular or absent menstruation

There are many different causes of irregular or absent menstruation (Amenorrhoea). Failure to menstruate can occur because of anatomical abnormalities, many of which are correctable, or can be due to a problem involving primarily the ovaries, the pituitary or the central brain control centre for ovulation, the hypothalamus. Alternatively, menstruation may commence normally but then the cycles can unexpectedly stop, and there are several possible reasons why this may happen.

Stress, significant weight loss (anorexia nervosa), regular strenuous exercise and depression are all common causes of loss of periods. The most common cause of infrequent periods is a condition called polycystic ovarian syndrome or PCOS, which is associated with excess body hair, acne and elevated blood testosterone levels. All sexually active women should have a pregnancy test if their periods stop unexpectedly.