

Premenstrual syndrome and menopause

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balance
the menopause support app

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What is Premenstrual syndrome/PMS?

Premenstrual syndrome (also known as PMS) is when you have distressing symptoms in the days or even weeks leading up to starting your period. PMS encompasses a vast array of psychological symptoms such as depression, anxiety, irritability, loss of confidence and mood swings. There are also physical symptoms, such as bloatedness and breast tenderness.

PMS is identified when symptoms occur – and have a negative impact – during the luteal phase of your

menstrual cycle. The luteal phase occurs between ovulation (normally mid-cycle, around day 14) and starting your period (usually around day 28). Although the average length of the menstrual cycle is 28 days, it can vary greatly from person to person and you may find the length of your cycle varies from month to month.

The symptoms of PMS are usually thought to be caused by your body's response to low or changing hormone levels.

Types of PMS

It is common to notice your premenstrual symptoms, but most of you won't really be affected by them in any significant way. This would not be considered as a premenstrual disorder as such, merely a typical physiological process. Unfortunately, for many others the symptoms that occur in the premenstrual part of their cycles do have a negative effect on their lives and relationships.

There are several types of premenstrual disorders (PMD) and they are classified into two groups: 'core' premenstrual disorders and 'variant' premenstrual disorders. The most commonly encountered and widely recognised types of PMS are the core premenstrual disorders.

Core PMDs

People with premenstrual disorders have symptoms that are severe enough to affect daily functioning, interfere with work, school performance or interpersonal relationships. The symptoms occur and recur in ovulatory cycles. Symptoms must be present during the luteal phase and improve when you start your period. You should then have a symptom-free week after your period.

Variant PMDs

There are also PMDs that do not meet the criteria for core PMDs. These are called 'variant' PMDs and examples of these include when you experience PMS symptoms but do not have periods (for various medical reasons), when you have PMS symptoms that are triggered

by progestogen treatments or when you have an existing medical condition that is exacerbated in the premenstrual phase.

Premenstrual dysphoric disorder (PMDD)

This term is becoming increasingly used and is an extreme version of a

core premenstrual disorder; there are strict criteria for diagnosing PMDD. Certain symptoms must be present, and this always includes mood. The symptoms must occur in the luteal phase and must be severe enough to disrupt daily functioning.

Diagnosing PMS

It is the timing of symptoms and the degree of impact on daily activity that supports a diagnosis of PMS, rather than merely the types of symptoms themselves. Identifying the timing of the symptoms is crucial as there are no blood tests to confirm PMS; keeping a symptom diary is the most reliable method of diagnosis. You should keep the diary over the length of two cycles as a minimum and write in it as it happens rather than relying on your memory a week or two later.

There are charts or questionnaires developed for this purpose. The DRSP tool (Daily Record of Severity of Problems) is a questionnaire that is widely used by doctors; The National Association for Premenstrual Syndrome (NAPS) has a **chart that can be downloaded** (<https://www.pms.org.uk/support/menstrual-diary/>) and the IAPMD also has a **symptom tracker** (<https://iapmd.org/symptom-tracker>) to record your symptoms over the month. Alternatively, some women find using a period tracking app useful for logging symptoms and monitoring how they change over the course of a cycle. The **Balance menopause support app** allows you

to log and track your periods and symptoms, as well as providing a wealth of personalised information and advice about your hormones.

Using such tools will accurately reflect what days symptoms occur, which days they are absent, the days of menstruation and the duration of the menstrual cycle. It provides your clinician with an evidence base from which to both diagnose and treat the PMS. This information should be established and shared with your doctors or nurse before any treatment is commenced.

If a symptom diary is inconclusive, there is an alternative way of diagnosing PMS and that is to 'shut off' the ovaries by using medication. GnRH (gonadotropin releasing hormone) analogues are a group of drugs that are modified versions of a naturally occurring hormone in the body, which help to control the menstrual cycle. Shutting down the body's production of estrogen and progestogen for three months, by using a GnRH analogue, will stop the menstrual cycle occurring and should in theory stop PMS symptoms. If symptoms do not stop then other medical or psychiatric causes should be investigated.

Impact of PMS

PMS can occur in anyone of child-bearing age. It is estimated that as many as 30% of women experience moderate to severe PMS and 5–8% of these women suffer with very severe PMS or PMDD. This means that for 5 million women in the UK, PMS is having a significant and detrimental effect on their quality of

life, if left untreated.

PMS can affect not only the individual but their whole network of relationships: partners, children, relatives, friends and work colleagues. The fluctuating nature of symptoms can be unsettling for all involved.

Causes of PMS

Although the precise causes of PMS are yet to be identified – there may be a genetic susceptibility for some people – there is compelling evidence that symptoms are directly related to the fluctuation of hormone levels in the monthly cycle. PMS is not seen in young girls who are yet to start their periods, in pregnancy, or after the menopause in most women. (Those with a history of severe PMS/PMDD may still be affected by their hormones,

postmenopause, and time is often needed to find the right HRT regimen for these people).

PMS appears to begin, or increase in severity, at times of marked hormonal change such as in puberty (even before the first period happens), starting or stopping the oral contraceptive pill, after pregnancy, and during the perimenopause and menopause.

Symptoms of PMS

PMS is characterised by a number of symptoms (over 150 have been identified) and they are usually grouped into psychological and behavioural, and physical symptoms.

Common psychological and behavioural symptoms are mood swings, depression, tiredness, fatigue or lethargy, anxiety, feeling out of control, irritability, aggression, anger, disordered sleep, and food cravings.

Common physical symptoms are breast tenderness (mastalgia), bloating, clumsiness, and headaches.

Most individuals will experience only a few of these symptoms – one or two may be dominant – and each symptom can vary in severity during a cycle, and from one cycle to another. New symptoms may present at any time during a your experience of PMS.

PMS symptoms may be experienced continuously from ovulation to menstruation, for just the 7 days before menstruation, at ovulation for 3 or 4 days, and/or just prior to

menstruation. Some individuals do not experience relief from symptoms until the day of the period's heaviest flow.

Treatments for PMS

Treatments for mild to moderate PMS

There are different levels of management for PMS, depending on the severity of symptoms and how a person has responded to previous treatments. The first line approach most GPs will adopt is to try one or more of the following: lifestyle changes and exercise, vitamin B6 supplements, the combined oral contraceptive pill, Cognitive Behavioural Therapy (CBT), and a low-dose SSRI (antidepressant).

Lifestyle changes

Making healthy changes to your lifestyle can be beneficial if you experience milder PMS symptoms. This includes reducing stress, limiting alcohol and caffeine, and cutting down or stopping smoking. Alcohol may contribute to anxiety symptoms and hormone imbalance; it is best consumed in moderation. High caffeine consumption has been associated with an increased incidence of PMS, and it may make breast tenderness worse for some women. Studies have shown that smokers are more likely to develop PMS and the more severe form, PMDD.

Important lifestyle changes also involve improving your diet and getting the right amount and type of exercise:

Diet

There are several changes to your diet that can help symptoms of PMS, starting with cutting down excess salt and sugar. White refined carbohydrates such as pizza and white bread cause a rapid release of blood glucose – which may affect mood swings and cravings, as well as contributing to weight gain. Changing to carbohydrates that releases glucose more slowly (low glycaemic index/GI carbohydrates) such as wholegrain bread, brown or basmati rice, pulses, beans or sweet potatoes and having plenty of low GI vegetables such as salad or greens, can be beneficial. Avoiding meat in the 7–10 days before your menstrual cycle may help to reduce the pain associated with PMS.

The essential fats in oily fish, such as salmon, mackerel and sardines, or in plant-based foods such as chia seeds, edamame, or kidney beans, may improve PMS symptoms. It is recommended that you eat foods high in Omega 3 oils two times a week or in the form of a quality fish oil supplement or algae-based EPA/DHA.

Green vegetables are rich in fibre, magnesium and folic acid and are important for hormone balance,

foods rich in B vitamins, particularly B1 and B2, such as cereals, legumes and nuts, and leafy vegetables can sometimes help with PMS symptoms.

Studies have also shown that women whose diet is rich in calcium and vitamin D are less likely to suffer from PMS. In addition to dairy products, calcium can be found in green vegetables like cabbage, kale and broccoli, as well as nuts and seeds, and vitamin D is made by the skin in response to sunlight. During autumn and winter months (when there is less sunlight) it is recommended that you take a vitamin D supplement.

Exercise

If you experience fatigue and mood swings in the days leading up to your period, regular aerobic exercise may lessen these symptoms. Anything that boosts your heart rate is considered aerobic exercise. Brisk walking, running, biking, and swimming are all good choices. Exercise helps improve your mood by boosting endorphins – chemicals produced by the body to help relieve stress and pain. Yoga is another activity that might help with symptoms such as bloating, it can also help reduce stress and improve your energy levels and mood.

Combined oral contraceptive pill (COCP)

There are various ways to artificially modify the hormone levels in your body; the most common hormonal treatment for PMS is to use the combined oral contraceptive pill (widely known as 'the pill'). Because the pill works to stop ovulation happening, there is not the typical

rise and fall in hormone levels in the luteal phase that can trigger PMS.

Studies have shown that COCPs containing drospirenone reduce the severity of PMS symptoms, especially when the pill is taken continuously right through the month, rather than having a 7-day break to bleed. Research has shown that for people who take this type of contraception every day for every month, their mood, headache and pelvic pain scores improves.

For other people however, the COCP may bring on PMS symptoms if they have a particular sensitivity to progestogen, this may also happen with contraceptive injections or some types of HRT. You can be affected by both a core premenstrual disorder and also experience PMS symptoms that are triggered by progestogen treatments.

Cognitive Behavioural Therapy (CBT)

For women that have severe PMS, the use of CBT is widely recognised as beneficial and should be tried before other pharmaceutical and surgical interventions. In simple terms, CBT is talking therapy based on the idea that how we think, feel and act all interacts with each other. Studies have shown it to be of the same benefit in reducing depression, anxiety and behavioural problems as antidepressant medication. Women who had CBT were better able to maintain the improvements after the course was over compared to women who were given antidepressants for the same length of time.

Use of low dose SSRIs (antidepressants)

Serotonin is a 'messenger' chemical that carries signals between nerve cells in the brain. It is thought to be a positive influence on mood, emotion and sleep. SSRIs (selective serotonin reuptake inhibitors) are the most commonly used type of antidepressant and work by increasing serotonin levels in the brain.

Women that suffer with PMS have been shown to have low levels of serotonin in their blood and these levels can vary throughout their cycle. SSRIs are often used in the first instance as a treatment option for severe PMS and they can help not only your psychological symptoms but your physical premenstrual symptoms as well.

In particular, citalopram and sertraline have been shown to be beneficial; you may have them prescribed for just the premenstrual (luteal) phase of your cycle or be advised to take them continuously throughout the month.

If taking SSRI for PMS, improvement can often be noticed within a matter

of days. This is in contrast to taking the same medication for depression, as symptoms may not improve for 4-6 weeks after starting the medication.

There can be side effects with SSRIs such as nausea, insomnia, fatigue and a reduction in your sex drive. When a decision is made to stop taking them, SSRIs that are taken on a continuous basis (rather than just in the premenstrual phase) should be discontinued gradually, to avoid withdrawal symptoms.

If there is any chance of you becoming pregnant, the use of SSRIs is not recommended.

Complementary Therapies

There is some evidence that calcium, vitamin D and Vitex (also known as chasteberry) can help alleviate symptoms of PMS. Other studies have shown mixed results about the benefits of reflexology, vitamin B, magnesium, Isoflavones, and St. John's Wort for reducing PMS symptoms. However, there is no good quality evidence available to recommend any of these preparations.

Treatments for moderate to severe PMS

If none of the above treatments are found to be of benefit, there are further options that can be explored with your clinician, these include additional hormonal and non-hormonal medications and – for the most severe cases – surgery can be considered.

Hormonal treatments:

Estrogen gel, patches and implants

Medications that stabilise hormone levels during the luteal phase of the cycle can help reduce the occurrence of PMS. In a normal luteal phase, estrogen (estradiol) drops sharply just before ovulation and

then rises and falls again in the subsequent 14 days running up to the next period. Progesterone levels show an even greater rise and fall in the luteal phase. It is believed that as these medications stop ovulation occurring, these sharp fluctuations that trigger PMS will not occur, therefore treatments are focussed on evening out the balance and levels of these hormones.

Introducing estrogen (estradiol) into the body – via a patch, gel or with an implant – has been found to improve both physical and psychological PMS symptoms and can be used as a treatment for those with more severe symptoms, when first line options have been tried with little benefit. This would usually mean a referral to a specialist in PMS, or a GP with a special interest in the subject.

It is important to note that although the aim of this type of estrogen therapy is to stop ovulation happening, it has not been proven as a reliable contraceptive, so alternative methods of contraception should be used if a pregnancy is not desired.

Using estrogen on its own (via a patch, gel or implant) can adversely affect the lining of your uterus (womb). Cells can overgrow making the lining abnormally thick which can cause a small risk of cancer. You can prevent this from happening by using a progesterone treatment; for this reason, your doctor should always discuss the use of a progesterone when recommending estrogen treatments (if you still have a womb). Micronised progesterone or the Mirena IUS (a type of coil) is the favoured treatment option to

combat the adverse effects of estrogen on the lining of your womb. The Mirena has the additional advantage of providing contraception, should you need it.

Discontinuation of treatment could lead to a return of premenstrual symptoms. A reliable long-term treatment is therefore essential for people with moderate to severe forms of PMS and should be seriously considered when weighing up treatment options.

There is no evidence to suggest that treating PMS with progesterone treatments *alone* will be of any benefit; some menopause specialists have observed, anecdotally however, that for a small minority of women progesterone (or a progestogen) – either orally or vaginally – can be beneficial.

GnRH analogues

GnRH analogues are medications that ‘shut off’ the ovaries altogether and are highly effective in treating severe PMS. This type of treatment would usually be reserved for those with the most severe symptoms and is not recommended routinely. These medications are usually started in a specialist clinic.

When treating women with severe PMS using GnRH analogues for more than 6 months, ‘add-back’ hormone therapy should be used in the form of continuous combined HRT or tibolone, to prevent associated risks and improve future health.

Women on long-term treatment should have regular measurement of their bone density (bone strength) to monitor for signs of bone weakness and osteoporosis, this is

usually by having a DEXA (or DXA) scan.

Surgery

For women who have very severe PMS or PMDD, a final option – after other treatments have failed – is to consider having surgery to remove both ovaries (bilateral oophorectomy) and/or womb (hysterectomy). This should only be discussed after a trial of GnRH analogues has been done and indicated that surgery will be beneficial and replacement hormone therapy will be well tolerated.

As this surgery involves total removal of the ovarian cycle it can be very effective in treating PMS, even

though a heightened sensitivity to hormonal changes will always remain.

If you have surgery to remove your ovaries and the whole womb, taking replacement estrogen is recommended to protect your future health; you do not usually need to take progesterone. If you have just had your ovaries removed, you will still need to take progesterone.

It may also be beneficial to replace testosterone, (which the ovaries produce) as a sudden lack of testosterone can affect your levels of energy, mental focus and your interest in and pleasure from sex.

PMS, perimenopause and menopause

In theory, when the menopause occurs, PMS will cease, along with the monthly period. However, during the perimenopause (the time leading up to the last period and a year afterwards) PMS symptoms are often heightened, due to fluctuating hormones. As you approach the perimenopause – this is most commonly in your mid-40s – hormone fluctuations become more exaggerated as the ovaries begin to slow down the production of eggs. Both PMS and menopause symptoms can affect your wellbeing and quality of life at this time.

The symptoms of PMS can be similar to those experienced during the menopause. However, it is possible to differentiate between

the two as PMS symptoms will stop or improve once a period has finished, whereas symptoms may be present at any time of the month or be continuous during the perimenopause.

Studies have shown that PMS sufferers are twice as likely to experience hot flushes and mood swings in their perimenopause, than if you do not have a history of PMS. If you have been troubled by PMS throughout your life, this may be a predictor that you will experience unwanted symptoms during your perimenopause. Alternatively, those who may never have experienced noticeable PMS in the past may start struggling with PMS symptoms when they are in their mid to late

forties as their ovary function slows down and hormone levels change and reduce.

Treatments for PMS in the perimenopause are the same as those already described. If perimenopause is diagnosed, then treatments for PMS will be discussed alongside decisions around the use of Hormone Replacement Therapy (HRT) for perimenopausal symptoms. This usually involves taking replacement estrogen, as well as progesterone to protect the lining of the womb (if it hasn't been removed by surgery). Testosterone may also be beneficial.

PMS symptoms will often cease when you become postmenopausal – typically one year after your last period. On average this is around the age of 51–52 years. This is because hormone levels begin to even out throughout the month and become much calmer, eventually settling down completely. However, as there are health risks of having low hormone levels (such as an increased risk of developing heart disease and osteoporosis in the future), many people continue to take HRT in the long term, with no adverse effects, in order to protect their future health.

Useful resources

National Association for Premenstrual Syndromes

<https://www.pms.org.uk/>

Balance menopause support app to track periods and symptoms

<https://www.balance-menopause.com/balance-app/>

Guidelines for health professionals

<https://www.rcog.org.uk/globalassets/documents/guidelines/gt48managementpremenstrualsyndrome.pdf>



Dr Louise Newson is a GP and menopause specialist in Stratford-upon-Avon, UK and the founder and writer of the balance app and website.

The website and app contain evidence-based, non-biased information about the perimenopause and the menopause. She created both platforms to empower women with information about their perimenopause and menopause and to inform them about the treatments available.

Her aim is for people to acquire more knowledge and confidence to approach their own GP to ask for help and advice about their hormones. She is passionate about improving awareness of safe prescribing of HRT in all stages of the perimenopause and menopause.

Louise is also the director of the not-for-profit company Newson Health Research and Education and Chair of the Newson Health Menopause Society.



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