

# Menstrual Dysfunction

Menstrual periods (periods or menstruation) denote the regular shedding of the lining of the womb that occurs in women of childbearing age. It is a natural process and indicates normal functioning of the body.

## **Menarche**

The very first period in a woman's life is known as 'menarche' and the average age of the menarche in the UK now is 11 years. There usually is a short phase of irregularity of periods after the menarche before it eventually settles to a regular pattern.

## **Menopause**

The very last period in a woman's life is known as 'menopause'. The average age of the menopause in the UK now is 51 years. There usually is a variable phase of irregularity of periods before the menopause.

## **Normal menstrual patterns**

Periods vary in duration and amount of blood loss over time in the same woman as well as between different women. We accept as normal periods that last between 2 and 7 days. The amount of loss is a subjective one and so we rely on women to tell us what they perceive their loss to be (whether light, average or heavy). The interval from one period to another is called the 'menstrual cycle' and its length varies from one woman to another and even from cycle to cycle in the same woman. We accept as normal cycle lengths that range from 21 to 35 days and that do not vary by more than 7 days. Cycle lengths do not always remain the same and can change with advancing years; this is not abnormal and should not cause concern.

## **Care during periods**

A few lifestyle changes may be necessary during periods. It is advisable for women to have regular showers rather than baths and to avoid swimming during this period. Various forms of sanitary pads and tampons that cater for all patterns of menstrual loss are readily available for use during periods. They all come with their manufacturer's information detailing their good and bad points, and women need to consult these to decide which best suit their circumstances. Pads and tampons need to be changed regularly, the number of times depending on individual circumstances (for instance amount of blood loss). There is no medical reason why a pad and tampon cannot be used at the same time so long as advice regarding both is adhered to, but a need for this may indicate excessive blood loss. Wearing a tampon for longer than is advised can lead to sores and infections in the vagina, as well as a potentially life-threatening illness called 'toxic shock syndrome'. Any woman who experiences ill health (especially fever and a rash) while using a tampon needs to see her doctor urgently to find out why.

## **Myths**

Women are not unclean during a period! The material that is lost during a period is a mix of blood, broken down tissues from the lining of the womb and body water, and is mostly clean before passing out of the womb. There is no medical reason why a woman cannot have sex during a period so long as both partners appreciate the aesthetic aspects of this. During a period is in fact the safest time in the cycle to avoid getting pregnant. Women are however more likely to acquire or transmit sexually transmitted infections if they have unprotected sex during a period.

## **Heavy periods (menorrhagia)**

Menorrhagia means menstrual blood loss that is heavier than normal and this might relate to the duration and/or flow. Menstrual blood loss varies enormously and what one woman considers excessive might be normal to another. It is therefore difficult to establish a standard for normality and so we rely on women to tell us what they perceive their loss to be. Any period that lasts longer than 7 days or during which greater than 80mls of blood is lost is generally regarded as heavy. For practical purposes however, doctors will investigate and treat any woman who reports her periods are heavy. The magnitude of this problem is reflected by the fact that 2 in 5 women visit a gynaecologist because of period problems (mostly heavy).

### ***What causes heavy periods?***

Periods may naturally be heavy in some women and this may run in some families. Many women with heavy periods have no disease of the womb or ovaries (a condition known as 'dysfunctional uterine bleeding'). Causes of heavy periods can be placed in categories for convenience:

- *Hormonal problems* - these include abnormal levels of thyroid hormone (hyperthyroidism and hypothyroidism) and excessive blood levels of steroid hormones (Cushing's disease).
- *Diseases* - including those that alter blood clotting (like von Willebrand's disease).
- *Infection* - including infections of the womb, fallopian tubes and ovaries (pelvic inflammatory disease).
- *Inflammation* - any condition that causes inflammation of the pelvis (such as endometriosis).
- *Tumours* - certain non-cancerous tumours of the womb (like fibroids and adenomyosis) and ovaries (like functioning cysts). Cancers of the womb and cervix can also cause heavy periods.
- *Foreign bodies* - presence of foreign bodies in the womb like the coil (IUCD).

- *Psychological* - periods may appear heavier after women come off the pill simply because the pill reduces the amount of menstrual blood loss. Women who do not make this connection may thus complain of sudden onset of heavier periods. Some women also complain of heavier periods following sterilisation although most of this effect is due to their coming off the pill.

#### **Problems of heavy periods**

Heavy periods may cause anaemia increasing the need for blood transfusion. Association of heavy periods with cancer of the womb or cervix makes it important that the cause is found and treated. Besides these, heavy periods mainly have a nuisance factor.

#### **How we investigate heavy periods**

We sometimes use a picture chart to monitor the number of pads and/or tampons used throughout the period. Blood tests are done to check for anaemia, other blood disorders and to determine hormone levels. Ultrasound scans of the pelvis are used to look for tumours. We sometimes inspect the inside of the womb with a telescope passed through the neck of the womb (hysteroscope) and take a scrape (biopsy) from the womb to check for cancer.

#### **How we treat heavy periods**

In many cases explanation and reassurance may be all that is required. Treatment of the underlying cause usually sorts the problem. Where no cause is found (dysfunctional uterine bleeding) treatment will depend on the woman's age and future fertility plans. The available treatment options include:

- *Medical* - these are tried first especially when women wish to preserve their fertility. Simply using the oral contraceptive pill may solve the problem. Other helpful medicines include those that help with blood clotting and anti-inflammatory/hormone tablets. A very effective form of treatment is placement of a medicated coil (Mirena) in the womb.
- *Surgery* - these are useful when medical treatment is unsuccessful and/or there is no wish for future fertility. Applying extremely hot or cold treatment can destroy the lining of the womb. The womb lining can be cut off using a hot cutting instrument. These procedures are performed usually as day cases through a telescopic device (hysteroscopy) under general anaesthesia. The ultimate surgical option is a hysterectomy (removal of the womb).

#### **Painful periods (dysmenorrhoea)**

Painful menstrual periods are also simply known as dysmenorrhoea. Women's perceptions of period pains vary as much perhaps as their individual pain thresholds. Therefore what one woman considers painful another might accept as just another fact of life. Also, while some women may wish for completely pain-free periods others may consider some degree of pain acceptable. Dysmenorrhoea may start with a woman's first few menstrual periods (primary) or it may start after the woman has had pain-free periods for some time (secondary). The nature and intensity of the pain experienced with each type varies considerably:

- *Primary dysmenorrhoea* - this is the commoner variety in young girls. It typically starts on the day the period begins, lasts about 48 hours and usually stops before the period finishes. Primary dysmenorrhoea typically causes sharp and spasmodic (colicky) pain in the lower abdomen.
- *Secondary dysmenorrhoea* - this type affects women of all ages and follows a variety of patterns. It may be present for a few days before the period begins, continue for the duration of the period and even persist for a few days after the period finishes. Secondary dysmenorrhoea typically causes a more generalised and intense aching pain in the lower abdomen.

#### **What causes dysmenorrhoea?**

Primary dysmenorrhoea usually has no underlying cause. The hormonal fluctuations that occur in cycles where ovulation (release of an egg) has taken place are thought to increase the levels of a substance called prostaglandin in the womb. This substance leads to very intense contractions of the womb muscles giving rise to the intense pain of primary dysmenorrhoea. Secondary dysmenorrhoea is usually due to an underlying cause although this is not always detectable. Causes include endometriosis, swellings of the womb (fibroids and adenomyosis), polyps in the lining of the womb and pelvic infections. Heavy periods may lead to secondary dysmenorrhoea by causing blood clots to form in the womb.

#### **Problems of dysmenorrhoea**

Dysmenorrhoea can be a devastating condition with the potential to disrupt the family, social and work life of the woman.

#### **How we investigate dysmenorrhoea**

We will normally investigate and treat any woman who finds painful periods a problem. The history and examination are crucial to making a correct diagnosis. We take genital tract swabs to exclude infection and perform an ultrasound scan of the pelvis and sometimes day case laparoscopy (keyhole inspection of the pelvis).

#### **How we treat dysmenorrhoea**

Treatment of primary dysmenorrhoea is primarily relief of pain. This is achieved with mild to moderate strength painkillers and anti-inflammatory medicines. The combined oral contraceptive pill is also useful in relieving this pain because it prevents ovulation, a necessary event for primary dysmenorrhoea to occur. Occasionally, we offer to place a Mirena coil in the womb under local or general anaesthesia. Treatment of

secondary dysmenorrhoea is treatment of the underlying cause. Endometriosis can be treated by medicines to suppress the disease or surgery to remove the deposits in the pelvis. Antibiotics are used to treat pelvic infections and surgery may be used to deal severe complications like pelvic pus collection. Polyps of the womb can be removed by surgery. Treatment of fibroids and adenomyosis depends on the woman's wishes regarding future fertility; medicines are used to reduce the size of the womb and relieve pain until the fibroids can be removed by surgery (myomectomy). Ultimately, removal of the womb (hysterectomy) is an option for women who have no wish for future fertility.

### **Absence of Periods (amenorrhoea)**

Amenorrhoea refers to the continuous absence of menstrual periods for a period of six months or more.

- *Primary amenorrhoea* - refers to absence of periods in a woman who has never had menstrual periods (menarche has not occurred). Some of these women may have developed normal female body shape, breasts and pubic hair (secondary sex characteristics present) while others may not have (secondary sex characteristics absent).
- *Secondary amenorrhoea* - refers to absence of periods in a woman who has had periods before (menarche has occurred).

### **Causes of amenorrhoea**

There are several causes of amenorrhoea that we can place in categories for convenience:

- *Physiological (not abnormal)* - it is not unusual for women to have periods of amenorrhoea around the extremes of reproductive life (around the menarche and menopause). Amenorrhoea also occurs for the duration of pregnancy and for a variable length of time after delivery (especially in breastfeeding mothers).
- *Congenital (from birth)* - these might be due to abnormalities of the vagina (imperforate hymen, vaginal septum, absent vagina), the womb (absent womb), and/or the ovaries (absent or malformed ovaries).
- *Hormonal* - these are the commonest causes of amenorrhoea. Polycystic ovary syndrome accounts for most cases. Other hormonal causes include excessive blood levels of prolactin (hyperprolactinaemia), abnormal blood levels of thyroid hormone (hyperthyroidism or hypothyroidism), and diabetes. Some tumours of the pituitary gland (a gland in the brain), ovaries, and adrenals (a gland around the kidneys) can produce excessive amounts of certain hormones that give rise to amenorrhoea. Amenorrhoea in some women may be a sign of failure of the ovaries long before the natural age of menopause (premature ovarian failure).
- *Medicines* - some medicines can cause amenorrhoea, including those used to treat psychiatric disorders, anxiety, peptic ulcer, and high blood pressure. Some women may have a period of amenorrhoea after stopping the oral contraceptive pill (post-pill amenorrhoea) or following use of injectable contraception (Depo-Provera).
- *Illnesses* - any severe illness can cause amenorrhoea, as can severe malnutrition, sudden loss of greater than 15% of body weight (such as in anorexia), and gross obesity.
- *Stress* - stressful situations can affect the fine control of female hormones by the brain leading to amenorrhoea. Examples include deaths in the family, relationship difficulties, moving house, leaving home for the first time, moving to a new school and examination times. Amenorrhoea from these causes is usually short lasting, with a return to normal periods after the stress is over.
- *No reason* - as with any other system in the body, things can go temporarily wrong with the ovaries for no reason at all. This form of amenorrhoea is usually due to absence of ovulation and there is a quick return of periods once ovulation resumes.

### **Is amenorrhoea harmful?**

It depends on the underlying cause. Absence of periods is not on its own harmful, but harm may come from lack of the hormone oestrogen. Amenorrhoea that persists for longer than six months increases the risk of osteoporosis and sometimes pre-cancer of the lining of the womb. Women with low oestrogen levels (as in anorexia) will be at increased risk of osteoporosis while those with normal or high oestrogen levels (as in polycystic ovary syndrome) will be at increased risk of pre-cancer. Women may experience hot flushes during this period.

### **How we investigate amenorrhoea?**

This depends on what we think is the most likely cause. Common tests include blood tests (for hormones and chromosomes), ultrasound scan of the pelvis and special scans of the brain (CT or MRI scan). We sometimes perform a hormone (progesterone) challenge test by giving hormone tablets for 7-14 days; a positive result is the commencement of a period after the tablets are stopped. Some women will require operative investigations like laparoscopy to inspect the inside of the pelvis.

### **How we treat amenorrhoea**

Treatment depends on what is causing the condition. Simply inducing ovulation may be all that is required in women with fertility problems. Women with low oestrogen levels at risk of osteoporosis will be offered appropriate protective strategies that might include 'hormone replacement therapy'. We induce periods in women with normal or high oestrogen levels are at risk of pre-cancer of the womb to ensure a minimum of four periods a year. Women with premature ovarian failure will be offered counselling (including discussion

about future fertility) and support to help them cope with the problem. They will be offered appropriate protective strategies that might include 'hormone replacement therapy'. We will discuss egg/embryo donation for IVF treatment if they wish to have children subsequently.

### **Irregular periods (oligomenorrhoea)**

Irregular periods or oligomenorrhoea affect a good number of women with menstrual difficulties and refers to menstrual cycles that last longer than 42 days or occur less than six times a year.

#### ***What causes irregular periods?***

The causes of oligomenorrhoea are similar to those of amenorrhoea and can be placed into categories:

- *Physiological (not abnormal)* - it is not unusual for women to have irregular periods at the extremes of reproductive life (around the menarche and menopause) and for the first few cycles after a pregnancy (especially if breastfeeding).
- *Hormonal problems* – this is the commonest cause of oligomenorrhoea. Most of these are due to polycystic ovary syndrome and other causes of anovulation. Other hormone causes include excessive blood levels of prolactin (hyperprolactinaemia) and thyroid hormone (hyperthyroidism), and diabetes. Some tumours of the pituitary gland, ovaries and adrenals may produce excessive amounts of certain hormones that give rise to oligomenorrhoea. Oligomenorrhoea in some women may be an early sign of failure of the ovaries long before the age of the menopause (premature ovarian failure).
- *Medicines* - some medicines can cause oligomenorrhoea, including those used to treat psychiatric complaints, anxiety, peptic ulcer and high blood pressure. Some women may have periods of oligomenorrhoea after stopping the oral contraceptive pill or following use of injectable contraception (Depo-Provera).
- *Illnesses* - any severe illness can cause oligomenorrhoea, as can severe malnutrition, sudden and marked loss of body weight (such as in anorexia), and gross obesity.
- *Stress* - stressful situations can affect the fine control of female hormones by the brain leading to oligomenorrhoea. Such situations include deaths in the family, relationship difficulties, moving house, leaving home for the first time, moving to a new school and examination times. Oligomenorrhoea from these causes is usually short lasting, with a return to normal periods after the stress is over.
- *No reason* - as with any other system in the body things can go temporarily wrong with the ovaries for no reason at all. This form of oligomenorrhoea is usually due to anovulation and there is a quick return of normal cycles once ovulation resumes.

#### ***Problems of oligomenorrhoea***

Oligomenorrhoea on its own is not harmful but its underlying cause could be. Women with normal or high blood oestrogen levels are at increased risk of developing pre-cancerous changes of the tissue lining the womb.

#### ***How we investigate oligomenorrhoea***

The causes of oligomenorrhoea are similar to those of amenorrhoea and the tests done are similar; they depend on what we think is the most likely cause. Common tests include blood tests (for hormones and chromosomes), ultrasound scan of the pelvis and special scans of the brain (CT or MRI scan). Some women will require operative investigations like laparoscopy to inspect the inside of the pelvis.

#### ***How we treat oligomenorrhoea***

The treatment of oligomenorrhoea depends on its cause. Simply inducing ovulation may be all that is required in women with associated fertility problems. Where there is no cause, treatment will depend on the risks and the woman's wishes. Periods can be regularised with hormone tablets every 1-2 months. Women with premature ovarian failure will be offered counselling (including discussion about future fertility) and support to help them cope with the problem. They will be offered appropriate protective strategies that might include 'hormone replacement therapy'. We will discuss egg/embryo donation for IVF treatment if they wish to have children subsequently.

**'women can conceive during periods of oligo/amenorrhoea so if you wish to avoid pregnancy use adequate contraception'**