



The Menstrual Cycle

The menstrual cycle is a recurring cycle of physical changes that occurs in females of reproductive age. The average cycle length is 28 days, although each woman is slightly different and each individual cycle may also vary slightly.

The menstrual cycle is divided into several phases: the lead up to ovulation, ovulation itself, the phase leading to menstruation and finally menstruation (your period).

Day one of the menstrual cycle is measured as the day on which your period begins. However, to appreciate the hormonal changes leading up to your period, it is useful to understand the physical processes that occur from the lead up to ovulation through to menstruation.

The lead up to Ovulation

During this phase, the womb lining thickens in response to gradually increasing amounts of oestrogen. A rise in hormone levels in the ovary causes the development of one, or possibly two, eggs.

Ovulation

When the egg has nearly matured at about day 12 of the menstrual cycle, the level of oestrogen in the body triggers a surge of hormones which can last for about 48 hours. This matures the egg and causes the release of the egg, which then enters the fallopian tube. This is known as ovulation.

Some women may experience minor pain during ovulation and the sudden hormonal changes can also sometimes cause a light flow or spotting of blood, at mid-cycle.

The lead up to Menstruation

After ovulation, your body produces large amounts of progesterone, which causes the womb lining to change in preparation for the potential implantation of an egg.

When pregnancy occurs

The most fertile period (the time when you are most likely to become pregnant) is from about five days before ovulation, until one to two days afterwards. However, very few women have a menstrual cycle that is exactly 28 days, with ovulation occurring exactly on day 14.

If a sperm cell fertilizes the egg it will continue on through the fallopian tube to reach the womb about three days later, where it will implant into the wall of the womb. However if an egg is not fertilised, it will disintegrate in the fallopian tube

Menstruation

If implantation does not occur, the levels of progesterone and oestrogen will drop sharply, causing the womb to shed its lining. This is known as menstruation and marks the beginning of the next cycle.

It usually takes two weeks from the time of ovulation until the beginning of menstruation, although the process could take anywhere from 10 to 16 days depending on the individual.

Menstruation usually lasts for three to five days, but anywhere from two to seven days is considered normal. The fluid lost during a period menstrual fluid is a mixture of blood and soft tissue from the womb lining. The amount of fluid lost is usually only about 80ml, which is about half a small cup, although it may actually seem like a lot more.

Age of menstruation

A healthy girl or woman will have periods throughout most of her reproductive life (unless using hormonal contraceptives, or pregnant). The average age for a first period is about 12 years old and the monthly menstrual cycle continues until the menopause, which occurs at the average age of 51.¹

Period pains

Period pains are the abdominal cramping pains that many women experience before and during their period. For up to 15 percent of women, the symptoms can be severe enough⁴ to interfere with their daily activities, causing them to take time off school, work or other activities.

Period pains may be caused by prostaglandins, natural chemicals in the body that contract the walls of the womb. It is thought that higher levels of prostaglandins cause more intense contractions of the womb and thus more pain. The pain is greater because there is reduced blood supply to the wall of the womb during the contractions².

While cramps may start in the lower abdomen, they may also spread to the lower back and the thighs. In more severe cases, abdominal pain may also be accompanied by various other potential alarming symptoms such as nausea, vomiting, diarrhoea or constipation, faintness and headaches. However, in most cases, there is no underlying serious condition.

Painful Periods

The medical definition for painful periods is dysmenorrhoea and there are two categories. Primary dysmenorrhoea is when there's no underlying medical

problem for painful periods. This condition is particularly common among teenagers and younger women, as period pains tend to lessen as women get older.

Secondary dysmenorrhoea describes period pain that's caused by an underlying gynaecological problem such as endometriosis⁴. Secondary dysmenorrhoea is less common than primary dysmenorrhoea and tends to affect older women.

Who's affected by period pains?

Primary dysmenorrhoea usually begins 6 to 12 months after a girl's first period (known as Menarch). The pain usually lasts 8 to 72 hours, either just before or during the onset of the period.

Studies show that 25 to 50 percent of adult women and about 75 percent of adolescents experience period pain. Between 5 and 20 percent report severe dysmenorrhoea or pain that prevents them from participating in their usual activities.

Premenstrual Syndrome (PMS or PMT)

PMS stands for Premenstrual Syndrome. Most women have at least some of the symptoms of PMS in the days leading up to the start of their period. These symptoms include bloating, tender breasts, a swollen stomach, back and lower abdominal pain, headaches, lack of concentration, mood swings, clumsiness and tiredness. A lot of women also crave things like chocolate and crisps at this time of the month.

Self-help

You may be able to ease the symptoms of PMS and period pains with the following self-help remedies:

- Hold a hot water bottle, or microwavable heat pack, to the abdomen and lower back
- Soak in a warm bath with aromatherapy oils to help to ease muscular tension
- Rub your abdomen or receive a back massage to soothe the pain
- Gentle exercise can help to ease pain by relaxing the uterine muscles and increasing the blood supply to the pelvis.
- Eat a healthy diet, high in fibre with plenty of vegetables and cut down on refined sugar
- To help prevent water retention that may make you feel bloated, eat less salt and drink more water.

Supplements

- To help maintain hormonal balance, try taking vitamin B6 supplement or a supplement that contains gamma linolenic acid (GLA) such as starflower oil or evening primrose oil
- Taking thiamine (vitamin B1) or magnesium supplements may also help to ease period pains.

Painkillers

- Over the counter painkillers such as ibuprofen and paracetamol can often help to ease period pains
- To provide relief from period pain and cramps you could alternatively choose an over the counter painkiller that contains naproxen, which specifically targets period pain
- Previously only available on prescription, naproxen works by reducing the production of prostaglandins, which in turn reduce the contractions of the uterus.

Prescribed medicines

- Anti-inflammatory drugs available on prescription, such as mefenamic acid, can relieve pain by decreasing the levels of prostaglandins
- They work best when taken regularly from the onset of pain, or the day before a period is due. However, these drugs are not suitable for everyone, for example if you have asthma or a sensitive stomach

Transcutaneous electronic nerve stimulation (TENS)

A TENS machine (available from many pharmacies) helps to block pain, by releasing small electrical impulses that stimulate the nerves in your pelvic area and help to block the pain signals being sent to the brain. The impulses are released through sticky pads

Contraceptive Methods

The combined contraceptive pill

Taking the combined contraceptive pill may make your monthly period lighter and shorter, as well as more regular and less painful. However sometimes, you might get breakthrough bleeding, especially when you first start on a pill. If you suffer from this, and the problem doesn't go away, speak to your doctor or other healthcare professional, as changing to another pill may help.⁵

Intra-uterine system (IUS)

The IUS is a long-acting reversible contraceptive method often referred to as "the coil". Many women who use IUS often benefit from periods which are shorter and lighter. The IUS is a small device which sits inside your womb, releasing a small amount of progestogen directly into the womb where it's

needed. If you decide to use this method, a doctor or nurse will take about five minutes to place an IUS inside your uterus, and it lasts for up to five years. Your doctor or nurse can remove the IUS at any time, and you could quickly be able to become pregnant.⁶

References:

1. <http://www.patient.co.uk/showdoc/27000591>
2. http://hcd2.bupa.co.uk/fact_sheets/html/Dysmenorrhoea.html
3. http://clinicalevidence.bmj.com/ceweb/conditions/woh/0813/0813_background.jsp
4. <http://www.hmc.psu.edu/healthinfo/d/dysmenorrhea.htm>
5. fpa: Your guide to the combined pill. www.fpa.org.uk.
6. fpa: Your guide to the IUS. www.fpa.org.uk.

A wide range of women's health resources are available at www.healthywomen.org.uk

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