

Patient information from the BMJ Group

Painful periods

In this section

[What is it?](#)

[What are the symptoms?](#)

[How is it diagnosed?](#)

[How common is it?](#)

[What treatments work?](#)

[What will happen?](#)

[Questions to ask](#)

Painful periods

Painful periods can make life miserable. But there are things you can do to feel better.

We've brought together the best research about painful periods and weighed up the evidence about how to treat them. You can use our information to talk to your doctor and decide which treatments are best for you.

What are painful periods?

Many women get pains in their lower abdomen (pelvis) and sometimes their back or legs, during or just before their period. The pain can be mild or very bad.



Pain during your period is very common and has a number of causes.

Pain during a period is called **menstrual pain** or **menstrual cramps**. Your doctor may call it **dysmenorrhoea**.

There are two types of painful periods: pain that is not caused by another medical problem, and pain that is caused by a medical condition. We have looked at treatments for both types of pain.

Pain that is not caused by a medical condition usually begins shortly after you start having periods.^[1] Researchers think it is caused by the body making a lot of chemicals called **prostaglandins**. These chemicals help the womb to squeeze (contract) and push out its lining during a period.^[2]

Pain can also be caused by a medical condition, such as **endometriosis**, an **infection**, or **cysts** on your **ovaries**. This type of pain sometimes starts later in life, when a woman is in her 40s or 50s.^[2]

Your period pain may be worse if you:^[3]

Painful periods

- Have longer periods
- Have periods that started at a younger age
- Smoke (about 40 in 100 women who smoke get bad period pain, compared with about 25 in 100 who don't smoke).

What are the symptoms of painful periods?

The symptoms you have will depend on what's causing your pain.

If you have pain during your periods that isn't caused by another medical condition, you may get: ^[1] ^[4]

- Sharp spasms (cramps), usually in the middle of your lower abdomen (pelvis)
- Pain that shoots to the back of your legs
- Pain that shoots to your lower back
- Nausea or vomiting
- Diarrhoea
- Constipation
- Fever
- Headaches
- A light-headed feeling
- A tired feeling.

The pain usually comes on when your bleeding starts, and is worst during the heaviest days of your period.

If you have period pain that is caused by a medical condition such as **endometriosis**, an **infection**, or a **cyst**, you may have: ^[5]

- Pain that starts later in life
- Pain that's not just in your middle or lower abdomen.
- Pain at times other than the first couple of days of your period

Painful periods

- Pain during sexual intercourse
- Pain that is not helped by medication
- A discharge from your vagina.

You should talk to your doctor if you have any of these symptoms. Your doctor will want to find out what is causing your menstrual pain.

How common are painful periods?

We don't know exactly how many women have period pain but it is very common.

Somewhere between half and nearly all women in Western countries have had pain during periods. ^[1] ^[6]

What treatments work for painful periods?

There are lots of treatments that relieve painful periods. Painkillers work and you can get some of these over the counter. Some vitamins also work. If you don't want to take tablets, applying heat can help.

- Painkillers called nonsteroidal anti-inflammatory drugs (NSAIDs) work well to relieve period pain. Ibuprofen is a common NSAID.
- Other painkillers, such as aspirin or paracetamol, are also likely to help.
- You can try vitamin E, vitamin B-1, or a herbal remedy called toki-shakuyaku-san.
- Using heat may help as much as taking NSAIDs.
- Many women take contraceptive pills to prevent period pains. But there hasn't been much research about this.
- If your period pain is caused by another condition, such as **endometriosis**, you may need other treatments.

Which treatments work best? We've looked at the research and given a rating for each treatment according to how well it works.

Treatment Group 1

Treatments for painful periods

Treatments that work

- [Nonsteroidal anti-inflammatory drugs \(NSAIDs\)](#)

Painful periods

Treatments that are likely to work

- [Aspirin or paracetamol](#)
- [Vitamin B-1 \(thiamine\)](#)
- [Herbal treatments](#)
- [Heat](#)
- [Transcutaneous electrical nerve stimulation \(TENS\)](#)
- [Vitamin E](#)
- [Acupressure](#)
- [Relaxation and exercise](#)
- [Contraceptive pills](#)

Treatments that need further study

- [Acupuncture](#)
- [Fish oil](#)
- [Uterine nerve ablation](#)
- [Vitamin B-12](#)
- [Intra-uterine system \(IUS\)](#)

Treatments that are unlikely to work

- [Spinal manipulation](#)

Treatments that are likely to be ineffective or harmful

- [Uterine nerve ablation](#)

What will happen to me?

What happens to you if you get painful periods seems to depend on your age and whether you have another medical condition.

Painful periods

It's hard to say what will happen to you if you get painful periods, because there's been very little research looking at this. But if you get painful periods when you're young, there's some research to suggest that it may get better by your 30s or after you have a baby. ^[3]

There's less information about what will happen to you if you get painful periods in your 40s or 50s. But there's a chance that another medical condition could be causing your pain. For example, you could have **endometriosis** or **cysts** on your **ovaries**. It's a good idea to talk to your doctor if you get painful periods at this age. Getting treatment for another condition may help reduce pain during your periods. To learn more, see our information on [endometriosis](#).

Treatments:

Nonsteroidal anti-inflammatory drugs (NSAIDs)

In this section

Lots of studies have shown that these drugs work well for period pain. ^{[7] [8] [9] [10] [11]} One big study (called a **systematic review**) found that women taking NSAIDs miss less work and school, and take less of other pain medication. ^[7] Most NSAIDs work equally well.

Some NSAIDs (and their brand names) are ibuprofen (Brufen, Nurofen), diclofenac (Voltarol), mefenamic acid (Dysman, Meclam, Opustan, Ponstan), naproxen (Naprosyn, Arthoxen), and celecoxib (Celebrex). You need a prescription from your doctor for some of these but you can get others over the counter, including ibuprofen (Nurofen, Cuprofen) and naproxen (Feminax Ultra).

NSAIDs can cause side effects, including stomach ulcers and bleeding. Taking high doses of some NSAIDs every day for a long time can increase your risk of a **heart attack** or **stroke**. This isn't likely to be a problem if you take an NSAID for a short time to treat pain. If you'd like to read more, see [Warnings about side effects of NSAIDs](#).

Some NSAIDs may also have minor side effects such as headache and stomach upset. ^[7]

Aspirin or paracetamol

In this section

Painkillers are likely to work for period pain. They include aspirin and paracetamol. You can get these over the counter.

The research on aspirin and paracetamol isn't as good as it is for [nonsteroidal anti-inflammatory drugs](#) (NSAIDs), so we can't say whether they will definitely work, or which is better. ^{[7] [20]}

Painkillers can have side effects.

Painful periods

- Aspirin can sometimes cause an upset stomach. It can also make you bleed more easily, and you may take longer to stop bleeding if you cut yourself. ^[21] If you get a rash, you should stop taking the aspirin and see your doctor as soon as possible. People aged under 16 should not take aspirin.
 - It's important to take the recommended dose of paracetamol. Taking too much paracetamol can damage your liver.
-

Vitamin B-1 (thiamine)

In this section

Taking vitamin B-1 may help with period pain. It's also called thiamine. You can buy it at pharmacies and health food shops.

One good-quality study (called a randomised controlled trial) of more than 500 young Indian women found that those taking vitamin B-1 (100 milligrams a day for three months) had less pain. ^[22] The study didn't look at side effects.

Herbal treatments

In this section

Some herbal treatments may help with painful periods. But there's different evidence for different types of herbs. These herbs or combinations of herbs may help reduce pain:

- Toki-shakuyaku-san, a Japanese herbal mixture including angelica and peony. ^[22]
- An Iranian herbal mixture containing saffron, celery seed, and anise. ^[23]
- Different types of Chinese herbal medicine, mostly containing angelica, peony, lovage, and motherwort. ^[24]

However, the evidence for these herbal treatments is not strong. Many of the studies are quite small, and some contradict each other. Some have problems with the methods, or the way the results are presented. Studies have shown that Toki-shakuyaku-san and the Iranian herbal medicine may work better than a pretend (placebo) treatment. Chinese herbal medicine may work as well as some other types of treatment, such as painkillers.

None of the studies reported that women had problems with side effects from the treatments. However, we know that herbal medicines can have side effects, depending on the herb. They can also interact with other medicines. It's always best to check with your doctor if you want to take a herbal medicine. ^[25]

Heat

In this section

Warmth is likely to help with period pain. You can try a hot water bottle or a warm bath. You can also use self-heating patches, or packs you heat in the microwave. You can buy these in pharmacies or on the Internet.

In one study (called a randomised controlled trial), using a heated patch on the abdomen worked as well as ibuprofen, a painkiller.^[26] And using ibuprofen plus heat worked faster than just taking ibuprofen. Another study found that a heated patch worked better than paracetamol.^[27]

The heat may make your skin red, but this is likely to go away within an hour.

Transcutaneous electrical nerve stimulation (TENS)

In this section

A TENS machine might help with period pain. You can buy one or get one from your doctor or another health professional. You tape the small machine to your back and it gives out an electrical current. It seems to interfere with the pain signals going to your brain.

A few small studies (called randomised controlled trials) have shown that TENS can help with period pain.^[28] But TENS may not work as well as the painkiller ibuprofen.^[28] ^[29] And in some studies, TENS didn't seem to help women cut down on painkillers or get back to school or work.

Some women get side effects with TENS, including muscle vibrations, pain, muscle tightness, headaches, and slight burning.^[28] ^[30]

Only high-frequency TENS seems to have any effect.

Vitamin E

In this section

Vitamin E can help with period pain. You can get it at pharmacies or health food shops.

Two good-quality studies (called randomised controlled trials) have found that taking vitamin E helps with period pain.^[30] ^[31] In one of the studies, nearly 7 in 10 women taking vitamin E felt better. But another study found that taking vitamin E plus ibuprofen (Nurofen), a nonsteroidal anti-inflammatory drug (NSAID), doesn't work any better than just taking ibuprofen.^[22]

Painful periods

Women in studies took between 100 milligrams and 1,500 milligrams of vitamin E a day, starting from two days to 20 days before their menstrual periods. The studies we looked at didn't mention any side effects.

Acupressure

In this section

There's some evidence that pressing on acupressure points can help with period pain. Acupressure is an ancient Chinese treatment. If you have acupressure, a therapist applies pressure to specific points on the body.

One study of 216 teenagers with painful periods found that teaching them to press on identified acupressure points worked better than pressing on other points. In this study, acupressure seemed to work about as well as taking ibuprofen. ^[32]

Another, smaller study looked at a device called Relief Brief, which consists of a pair of panties to which you can attach foam pads. The pads are placed over acupressure points in the lower abdominal and back. Women wearing the Relief Brief reported lower 'worst' pain scores than those not wearing the device. ^[33]

Acupuncture

In this section

Acupuncture is an ancient Chinese treatment. It's a complementary therapy that's sometimes used for treating pain. If you have acupuncture, a trained acupuncturist puts thin, sterile needles into your skin.

There have been several studies on acupuncture for painful periods. ^[34] Unfortunately, most of them were too small, or so badly done that they can't tell us anything useful. Some individual studies found acupuncture could help, and others found that it didn't. So, until there's some good-quality research, it's impossible to say whether or not acupuncture could help with painful periods.

Relaxation and exercise

In this section

There's some evidence that taking classes in relaxation may help with period pain. But the research into relaxation therapy is not good.

We found one summary of the research (called a systematic review) that looked at three studies of relaxation for period pain. ^[35] It found that relaxation can help reduce symptoms and help women get on with their lives. Women who took part in relaxation also found that they didn't need to rest as often.

Painful periods

Another study found that aerobic exercise can help with painful periods.^[36] But the study was small. So we need more research to know whether exercising can help with painful periods.

Contraceptive pills

In this section

If you also need contraception, then taking combined contraceptive pills may be a way of helping with period pain. But there hasn't been much good research on them.^[37]

In one study combined contraceptive pills made the pain less bad, but didn't seem to reduce the number of days with pain.

The combined contraceptive pills make your periods shorter and lighter, or you may not get a period at all. Brand names include Femodene, Marvelon, Norinyl-1, and Ovranette.

Pills can have side effects such as bleeding between periods, bloating, weight gain, and nausea.^[38] ^[39] There is also a slightly higher risk of getting a blood clot, which can be dangerous. And, of course, they are not suitable if you want to get pregnant.

Fish oil

In this section

Fish oil supplements are capsules that contain the same fatty acids found in oily fish such as trout, mackerel, sardines, and salmon.

We don't know whether taking fish oil helps for period pain. There have only been two small studies.^[22] ^[40] One of them found that combining fish oil and vitamin B-12 might help.^[40] But we need more research to know for sure.

One of the studies found that fish oil may cause nausea or acne.^[22]

Uterine nerve ablation

In this section

Some women with very painful periods have surgery to cut the nerves to the womb (uterus).^[41]

Studies of this treatment have been small, and many of these women had endometriosis. They don't provide any clear evidence that surgery works any better than doing nothing.

There is a risk of complications from this surgery. Studies show it may increase the chances of getting constipation.

Painful periods

The National Institute for Health and Care Excellence (NICE), the government body that decides which treatments should be available on the NHS, says that surgery to cut the nerves to the womb does not help to reduce pain in the pelvis, whatever the cause. ^[42]

Vitamin B-12

In this section

Vitamin B-12 is a vitamin that's important for your blood and nerves. You can get vitamin B-12 supplements at pharmacies or health food shops.

We don't know whether this vitamin will help with painful periods. There hasn't been enough good research. In one small study, some women took vitamin B-12 (20 micrograms a day) and some were advised to follow a low-fat vegetarian diet. ^[43] But it wasn't a very good study. Another small study found that combining fish oil with vitamin B-12 might help. ^[40]

Spinal manipulation

In this section

Spinal manipulation is done by **chiropractors** and other health care practitioners. They believe that when the small bones of the spine are out of position, this can cause problems elsewhere in the body. They put gentle pressure on the spine to try to treat these problems.

One study found that spinal manipulation didn't work any better than pretend spinal manipulation for treating period pain. ^[44]

Intra-uterine system

In this section

If you also need long-term contraception, your doctor may suggest an IUS (intra-uterine system) for period pain. It contains a **hormone** called levonorgestrel, and the brand name is Mirena.

There isn't much research looking directly at whether this works for period pain. But in a study of women using an IUD for long-term contraception, the number of women saying they got period pain dropped by half during the three years of the study. We still need better research looking directly at this question, though. ^[45]

Further informations:

Warnings about side effects of NSAIDs

Nonsteroidal anti-inflammatory drugs (NSAIDs) are used to treat pain and inflammation. Ibuprofen is probably the best-known NSAID. Although they are often useful, they can have side effects, including causing stomach upsets and ulcers, or more rarely, allergies or problems with your kidneys or liver. ^[12]

As well as these other side effects, people who take high doses of some NSAIDs for a long time may have a slightly higher risk of getting a heart attack or a stroke. High doses of NSAIDs may be used over a long period of time to treat conditions such as arthritis. People who have heart problems should not take diclofenac. ^[13]

It's not always clear what counts as a long time for taking NSAIDs. In some research, two-thirds of the heart attacks happened in studies where people took NSAIDs for a year or longer. ^[14]

Below, we look at the different kinds of NSAIDs and what the research that has been done so far shows about their safety.

NSAIDs you can buy over the counter

You can buy low doses of some NSAIDs, such as ibuprofen, at a pharmacy. Taken at this lower dose and for a short time, ibuprofen doesn't seem to increase people's risk of a heart attack or stroke. ^[15]

You can also get larger doses of ibuprofen on prescription from a doctor (see our information on prescription ibuprofen below). Taking these larger doses every day may slightly increase your risk of a heart attack or stroke. But these doses are higher than the amount you'd take for period pain or other kinds of short-term pain.

Diclofenac is another NSAID that you can buy in low doses over the counter. It's sold for treating headaches, other aches and pains (including period pain), and cold and flu symptoms. Diclofenac does increase the risk of heart attacks and strokes if used regularly. ^[16] However, there's probably much less of a risk if you're taking low doses for short periods of time. ^[17]

You can also buy an NSAID called naproxen without a prescription, for treating period pain. Naproxen doesn't seem to cause much increase in the risk of heart attacks or strokes. ^[14] ^[16] ^[18]

Other NSAIDs your doctor may prescribe for painful periods

There are several NSAIDs that may also be prescribed by your doctor. They include (with brand names):

Painful periods

- Diclofenac (Diclomax, Motifene, Voltarol)
- Etodolac (Eccoxolac, Etopan, Lodine)
- Ibuprofen (Brufen)
- Ketoprofen (Oruvail, Orudis)
- Meloxicam (Mobic)
- Naproxen (Naprosyn, Arthroxen).

Some of these NSAIDs may cause a small increase in your risk of a heart attack or stroke. Research has found that regularly taking high doses of ibuprofen or diclofenac over a long period of time may increase your risk of these problems. ^[15]

The body that regulates medicines in the UK to make sure that they work and that they are safe is the Medicines and Healthcare products Regulatory Agency (MHRA). It has issued a warning about diclofenac. ^[13] The MHRA says that people should not take diclofenac if they have serious heart conditions, such as heart failure, heart disease, circulatory problems, or if they have ever had a heart attack or stroke.

We don't know exactly how big the risk is, or how it varies between the different drugs. The research that has been done so far suggests that:

- Taking diclofenac has risk of heart attacks. For every 1,000 people taking daily high doses, about an extra three people will have a heart attack or stroke. ^[14] ^[15]
- Naproxen may be safer than other NSAIDs. ^[15] Most studies so far seem to show that naproxen doesn't increase people's chances of getting a heart attack or a stroke. ^[14] ^[16]

Guidelines for doctors say that for most people, the benefits of these drugs outweigh the risks. ^[19] The risks are probably lower for people who take NSAIDs for only a short time or take smaller doses. ^[15]

Guidelines for doctors

Doctors have guidelines about how they should prescribe NSAIDs. They say that: ^[15]

- People should take the lowest dose of an NSAID that works for them
- People should take NSAIDs for only as long as they need to

Painful periods

- People taking NSAIDs for a long time should have their treatment reviewed regularly
- People who already have heart disease shouldn't take NSAIDs called COX-2 inhibitors
- Doctors should weigh up the risks and benefits of NSAIDs for each person (for example, your doctor may suggest an NSAID if you're at risk of stomach problems, but not of a heart attack)
- People are more likely to get stomach problems if they take aspirin as well as an NSAID
- People should only take aspirin and an NSAID together if they really need to.

If you're worried about the medicine you're taking, talk to your doctor.

Glossary:

endometriosis

Endometriosis happens when tissue from the lining of the womb grows in other parts of the body, such as the ovaries or the intestines. It can make you bleed more and have more pain when you get your period. It can also make it difficult for you to get pregnant.

infection

You get an infection when bacteria, a fungus, or a virus get into a part of your body where it shouldn't be. For example, an infection in your nose and airways causes the common cold. An infection in your skin can cause rashes such as athlete's foot. The organisms that cause infections are so tiny that you can't see them without a microscope.

cysts

A cyst is a sac or cavity that develops under your skin and is filled with fluid. Cysts are benign, which means that they are not cancerous.

ovaries

Women have two ovaries, one on each side of their womb. They are small glands that store eggs. Inside the ovaries are hundreds of thousands of pre-eggs, called follicles. Some of these grow into eggs.

systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

heart attack

Doctors call a heart attack an acute myocardial infarction (or acute MI). This is the name for the damage that occurs to the heart muscle if it isn't getting enough blood and oxygen because a branch of the coronary arteries is blocked. During a heart attack, you may have pain or heaviness over your chest, and pain, numbness or tingling in your jaw and left arm.

stroke

You have a stroke when the blood supply to a part of your brain is cut off. This damages your brain and can cause symptoms like weakness or numbness on one side of your body. You may also find it hard to speak if you've had a stroke.

arthritis

Arthritis is when your joints become inflamed, making them stiff and painful. There are different kinds of arthritis. Osteoarthritis is the most common type. It happens when the cartilage at the end of your bones becomes damaged and then starts to grow abnormally. Rheumatoid arthritis happens because your immune system attacks the lining of your joints.

liver

Your liver is on the right side of your body, just below your ribcage. Your liver does several things in your body, including processing and storing nutrients from food, and breaking down chemicals, such as alcohol.

randomised controlled trials

Painful periods

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

chiropractor

A chiropractor is a type of therapist who manipulates your joints and spine with his or her hands. This aims to encourage healing by realigning the bones of the joint or spine and relieving pressure on your nerves.

hormones

Hormones are chemicals that are made in certain parts of the body. They travel through the bloodstream and have an effect on other parts of the body. For example, the female sex hormone oestrogen is made in a woman's ovaries. Oestrogen has many different effects on a woman's body. It makes the breasts grow at puberty and helps control periods. It is also needed to get pregnant.

Sources for the information on this leaflet:

1. Coco AS. Primary dysmenorrhea. *American Family Physician*. 1999; 60: 489-496.
2. Fraser I. Prostaglandins, prostaglandin inhibitors and their roles in gynaecological disorders. *Bailliere's Clinical Obstetrics and Gynaecology*. 1992; 6: 829-857.
3. Sundell G, Milsom I, Andersch B. Factors influencing the prevalence and severity of dysmenorrhoea in young women. *British Journal of Obstetrics and Gynaecology*. 1990; 97: 588-594.
4. U.S. National Library of Medicine. Painful menstrual periods. July 2012. Available at <http://www.nlm.nih.gov/medlineplus/ency/article/003150.htm> (accessed on 22 August 2014).
5. University of Texas at Austin School of Nursing. Recommendations for the treatment of dysmenorrhea. Available at <http://www.guideline.gov/content.aspx?id=16323> (accessed on 22 August 2014).
6. Zondervan KT, Yudkin PL, Vessey MP, et al. The prevalence of chronic pelvic pain in the United Kingdom: a systematic review. *British Journal of Obstetrics and Gynaecology*. 1998; 105: 93-99.
7. Marjoribanks J, Proctor ML, Farquhar C. Nonsteroidal anti-inflammatory drugs for primary dysmenorrhoea (Cochrane review). In: *The Cochrane Library*. Wiley, Chichester, UK.
8. Mehlisch DR, Ardia A, Pallotta T. Analgesia with ibuprofen arginate versus conventional ibuprofen for patients with dysmenorrhea: a crossover trial. *Current Therapeutic Research*. 2003; 64: 327-337.
9. Bitner M, Kattenhorn J, Hatfield C, et al. Efficacy and tolerability of lumiracoxib in the treatment of primary dysmenorrhoea. *International Journal of Clinical Practice*. 2004; 58: 340-345.
10. Malmstrom K, Kotey P, Cichanowitz N, et al. Analgesic efficacy of etoricoxib in primary dysmenorrhea: results of a randomized, controlled trial. *Gynecologic and Obstetric Investigation*. 2003; 56: 65-69.
11. Daniels S, Robbins. Celecoxib in the treatment of primary dysmenorrhea: Results from two randomized, double-blind, active- and placebo-controlled, crossover studies. *Clinical Therapeutics* 2009; 31: 1192-1208
12. British National Formulary. Non-steroidal anti-inflammatory drugs. Section 10.1.1. British Medical Association and Royal Pharmaceutical Society of Great Britain. Also available at <http://bnf.org> (accessed on 22 August 2014).
13. Medicines and Healthcare products Regulatory Agency. Press release: MHRA confirms advice on the use of diclofenac. June 2013. Available at <http://www.mhra.gov.uk/NewsCentre/Pressreleases/CON287042> (accessed on 22 August 2014).
14. Kearney PM, Baigent C, Godwin J, et al. Do selective cyclo-oxygenase-2 inhibitors and traditional non-steroidal anti-inflammatory drugs increase the risk of atherothrombosis? *BMJ*. 2006; 332: 1302-1308.
15. Medicines and Healthcare products Regulatory Agency. Cardiovascular safety of COX-2 inhibitors and non-selective NSAIDs. July 2013. Available at <http://www.mhra.gov.uk> (accessed on 22 August 2014).
16. McGettigan P, Henry D. Cardiovascular risk and inhibition of cyclooxygenase: a systematic review of the observational studies of selective and nonselective inhibitors of cyclooxygenase 2. *Journal of the American Medical Association*. 2006; 296:1633-1644.

Painful periods

17. electronic Medicines Compendium.Voltarol Pain-eze tablets.June 2014. Available at <http://www.medicines.org.uk/emc/medicine/21170/SPC/Voltarol+Pain-eze%C2%AE+Tablets> (accessed on 22 August 2014).
18. Haag MD, Bos MJ, Hofman A, et al.Cyclooxygenase selectivity of nonsteroidal anti-inflammatory drugs and risk of stroke.Archives of Internal Medicine. 2008; 168: 1219-1224.
19. European Medicines Agency.Questions and answers on the review of non-selective NSAIDs.October 2006. Available at http://www.ema.europa.eu/docs/en_GB/document_library/Other/2010/01/WC500054345.pdf (accessed on 22 August 2014).
20. Medicines and Healthcare Products Regulatory Authority.Co-proxamol: outcome of the review of risks and benefits.July 2005. Available at <http://www.mhra.gov.uk/home/groups/pl-a/documents/websiteresources/con019462.pdf> (accessed on 22 August 2014).
21. British National Formulary.Non-opioid analgesics.Section 4.7.1. British Medical Association and Royal Pharmaceutical Society of Great Britain. Also available at <http://bnf.org> (accessed on 22 August 2014).
22. Proctor ML, Murphy PA.Herbal and dietary therapies for primary and secondary dysmenorrhoea (Cochrane review).In: The Cochrane Library. Wiley, Chichester, UK.
23. Nahid K, Fariborz M, Ataolah G, et al.The effect of an Iranian herbal drug on primary dysmenorrhea: a clinical controlled trial.Journal of Midwifery & Women's Health. 2009; 54: 401-404.
24. Zhu X, Proctor M, Bensoussan A, et al.Chinese herbal medicine for primary dysmenorrhoea (Cochrane review).In: The Cochrane Library. Wiley, Chichester, UK.
25. Medicines and Healthcare products Regulatory Agency.Using herbal medicines safely.October 2013. Available at <http://www.mhra.gov.uk/Safetyinformation/Generalsafetyinformationandadvice/Herbalmedicines/Usingherbalmedicinessafely/> (accessed on 22 August 2014).
26. Akin MD, Weingand KW, Hengehold DA, et al.Continuous low-level topical heat in the treatment of dysmenorrhea.Obstetrics and Gynecology. 2001; 97: 343-349.
27. Akin M, Price W, Rodriguez G Jr, et al.Continuous, low-level, topical heat wrap therapy as compared to acetaminophen for primary dysmenorrhea.Reproductive Medicine. 2004; 49: 739-745.
28. Proctor ML, Smith CA, Farquhar CM, et al.Transcutaneous electrical nerve stimulation and acupuncture for primary dysmenorrhoea (Cochrane review).In: The Cochrane Library. Wiley, Chichester, UK.
29. Dawood MY, Ramos J.Transcutaneous electrical nerve stimulation (TENS) for the treatment of primary dysmenorrhea: a randomized crossover comparison with placebo TENS and ibuprofen.Obstetrics and Gynecology. 1990; 75: 656-660.
30. Fugh-Berman A, Kronenberg F.Complementary and alternative medicine (CAM) in reproductive-age women: a review of randomized controlled trials.Reproductive Toxicology. 2003; 17: 137-152.
31. Ziaei S, Faghihzadeh S, Sohrabvand F, et al.A randomised placebo-controlled trial to determine the effect of vitamin E in treatment of primary dysmenorrhoea.British Journal of Obstetrics and Gynaecology. 2001; 108: 1181-1183.
32. Pouresmail Z, Ibrahimzadeh R.Effects of acupuncture and ibuprofen on the severity of primary dysmenorrhea.Journal of Traditional Chinese Medicine. 2002; 22: 205-210.
33. Taylor D, Miaskowski C, Kohn J.A randomized clinical trial of the effectiveness of an acupuncture device (relief brief) for managing symptoms of dysmenorrhea.Journal of Alternative and Complementary Medicine. 2002; 8: 357-370.
34. Yang H, Liu CZ, Chen X, et al.Systematic review of clinical trials of acupuncture-related therapies for primary dysmenorrhea.Acta Obstetrica et Gynecologica Scandinavica. 2008; 87: 1114-1122.
35. Proctor ML, Murphy PA, Pattison HM, et al.Behavioural interventions for primary and secondary dysmenorrhoea (Cochrane review).In: The Cochrane Library. Wiley, Chichester, UK.

Painful periods

36. Israel RG, Sutton M, O'Brien KF. Effects of aerobic training on primary dysmenorrhea symptomatology in college females. *Journal of American College Health*. 1985; 33: 241-244.
37. Wong CL, Farquhar C, Roberts H. Oral contraceptive pill for primary dysmenorrhoea. In: *The Cochrane Library*. Wiley, Chichester, UK.
38. Nakano R, Takemura H. Treatment of functional dysmenorrhoea: a double-blind study. *Acta Obstetrica et Gynecologica (Japan)*. 1971; 18: 41-44.
39. Matthews AE, Clarke JE. Double-blind trial of a sequential oral contraceptive (Sequens) in the treatment of dysmenorrhoea. *Journal of Obstetrics and Gynaecology*. 1968; 75: 1117-1122.
40. Deutch B, Jorgensen EB, Hansen JC. Menstrual discomfort in Danish women reduced by dietary supplements of omega-3 PUFA and B12 (fish oil or seal oil capsules). *Nutritional Research*. 2000; 20: 621-631.
41. Proctor ML, Latthe P, Farquhar CM, et al. Surgical interruption of pelvic nerve pathways for primary and secondary dysmenorrhoea (Cochrane review). In: *The Cochrane Library*. Wiley, Chichester, UK.
42. National Institute for Health and Care Excellence. Laparoscopic uterine nerve ablation (LUNA) for chronic pelvic pain. October 2007. *Interventional procedure guidance 234*. Available at <http://www.nice.org.uk/IPG234> (accessed on 22 August 2014).
43. Barnard ND, Scialli AR, Hurlock D, et al. Diet and sex-hormone binding globulin, dysmenorrhea, and premenstrual symptoms. *Obstetrics and Gynecology*. 2000; 95: 245-250.
44. Proctor ML, Hing W, Johnson TC, et al. Spinal manipulation for primary and secondary dysmenorrhoea (Cochrane review). In: *The Cochrane Library*. Wiley, Chichester, UK.
45. Balaszti E, Wimmer-Puchinger B, Loschke K, et al. Acceptability of the long-term contraceptive levonorgestrel-releasing intrauterine system (Mirena): a 3-year follow-up study. *Contraception*. 2003; 67: 87-91.

This information is aimed at a UK patient audience. This information however does not replace medical advice. If you have a medical problem please see your doctor. Please see our full [Conditions of Use](#) for this content. For more information about this condition and sources of the information contained in this leaflet please visit the Best Health website, <http://besthealth.bmj.com>. These leaflets are reviewed annually.

