Patient information from the BMJ Group

Leg cramps

In this section

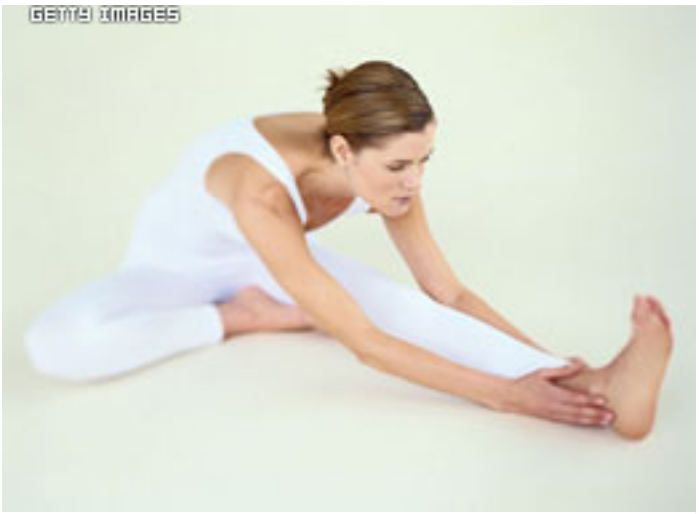
Leg cramps

Leg cramps are painful muscle contractions (spasms) that often happen at night. They're not usually serious and you might not need treatment. But if your leg cramps are troublesome and stop you sleeping, there are treatments that you can try.

We've brought together the best research about leg cramps 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 leg cramps?

People who get a leg cramp feel a sudden pain in their leg, often at night.



Leg cramps can be painful.

This happens when a muscle or group of muscles suddenly tightens (contracts). [1] This is called a muscle spasm. Most cramps happen in calf muscles, but you can also get cramps in your thigh or in your foot.

Leg cramps usually happen at night or when you are resting. The muscle contractions can last for a few seconds or up to 10 minutes. [2] When they start, you won't know how long they'll last. [2]

What else can cause leg pain?

Cramps aren't the only cause of leg pain. You can also get severe calf pain after an injury, or if you have a Baker's cyst that bursts (a Baker's cyst is a lump of fluid that forms behind the knee).

Having a blood clot in your leg also can cause leg pain. This is known as deep vein thrombosis (DVT) and it is more serious than a leg cramp. You will need medicine to treat the clot and stop it causing serious problems. Sometimes a DVT can cause swelling as well as pain in your calf or thigh. You might need to have an ultrasound scan to look for a blood clot in your leg. To learn more, see our information on Deep vein thrombosis .

Why do I get leg cramps?

We don't know very much about what causes leg cramps or why certain people get them. Most people who have these pains in their legs are not ill. But the following things can make you more likely to get painful cramps: [1] [2]

- Being pregnant
- Being middle-aged or older
- Exercising
- Not having certain salts in your body
- Having dialysis (this is when a machine is used to clean your blood because your kidneys aren't working properly)
- Having an imbalance of minerals in your body (this is called an electrolyte imbalance)
- Having problems with your blood circulation or having varicose veins in your legs (varicose veins happen when valves in veins don't work properly, so blood pools in the veins)
- Having damaged nerves or a disease that affects your nerves
- Having a disease that affects your muscles.

Some medicines can cause leg cramps as a side effect. They include: [3]

- Diuretics
- Nifedipine
- Beta-agonists

- Steroids
- Morphine
- Cimetidine
- Penicillamine
- Statins
- Lithium.

What are the symptoms of leg cramps?

You'll probably feel a sharp pain that might wake you from your sleep. This happens most often in the calf muscle.

Here are some of the signs of a leg cramp:

- The main symptom is pain that comes on suddenly
- You will probably feel your calf muscle hardening
- The pain from the muscle tightening (contracting) can last for just a few seconds or up to 10 minutes [4]
- Your muscle might be sore for up to 24 hours afterwards
- Only one leg is usually affected.

How common are leg cramps?

Leg cramps are fairly common.

A survey found that slightly more than one-third of people get leg cramps at some time. [5]

Among those who get leg cramps: [5]

- 4 in 10 get them more than three times a week
- A small number (about 6 in 100) get them every day.

Up to half of pregnant women get leg cramps. [6] They are also common in older people.

What treatments work for leg cramps?

Massaging or stretching your leg when you get a cramp might stop your pain. Also, getting out of bed and putting weight on the painful leg often gets rid of a leg cramp. But if your leg cramps happen often and they disturb your sleep, there are treatments that might help.

You should tell your doctor if you get swelling as well as pain in your leg, especially if you are pregnant. This could be a sign that you have a blood clot in your leg, which could be dangerous. This is called deep vein thrombosis (DVT).

Key points about treating leg cramps

- Taking quinine tablets can reduce night time leg cramps that are frequent and troublesome. But this treatment can have serious side effects. You shouldn't take quinine if you're pregnant.

- There are several other treatments your doctor might suggest, such as doing stretching exercises, wearing support stockings, taking magnesium, vitamin B, or vitamin E supplements, or taking a medicine called naftidrofuryl. But there isn't much research on any of these treatments, so we don't know whether they will work.

- If you're pregnant, possible treatments include taking magnesium, calcium, vitamin E, or other supplements. But we need more research to know whether these treatments work.

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

We've looked separately at treatments for pregnant women who get leg cramps.

- Treatments for leg cramps when the cause isn't known

- Treatments for leg cramps in pregnancy

Treatment Group 1

Treatments for leg cramps when the cause isn't known

Treatments that work, but whose harms may outweigh the benefits

- Quinine

Treatments that need further study

- Calcium channel blockers (diltiazem)

- Magnesium

- Naftidrofuryl
- Painkillers
- Stretching exercises
- Support stockings
- Vitamin B
- Vitamin E

Treatment Group 2

Treatments for leg cramps in pregnancy

Treatments that need further study

- Adding extra salt to your food
- Calcium
- Magnesium
- Multivitamins and mineral supplements
- Vitamin E

What will happen to me?

Leg cramps can disturb your sleep. But they aren't likely to cause any serious problems. They usually go away quite suddenly, on their own.

You can be in a lot of pain and keep waking up at night because of sudden muscle spasms in a part of your leg, probably your calf. And you might get cramps for several weeks. But most people find their leg cramps suddenly go away. [7]

If you get leg cramps while you're pregnant, you'll probably find they bother you more later in pregnancy, especially at night. [8] But you'll probably stop having leg cramps as soon as you've had your baby.

Treatments:

Quinine

In this section

Studies have shown that quinine can prevent cramps in your legs. One summary of the research (a systematic review) found that people who took quinine for a month had fewer leg cramps at night than those who took a dummy treatment (a placebo). [9] However, quinine has side effects and can be dangerous if you take too much of it.

We don't know how much quinine you should take to treat leg cramps, or how long you should take it. [10] Your doctor might give you 200 milligrams to 300 milligrams to take at bedtime. [11] You might have to take quinine for up to four weeks before you see an improvement. Also, you'll probably need to take quinine every day for it to work.

One small study (a randomised controlled trial) found that taking quinine with another drug called theophylline worked better than taking quinine on its own. [12] But more research needs to be done before we can say for sure whether theophylline can help treat leg cramps and is safe for this purpose.

Side effects from a normal dose of quinine aren't all that common. It might cause a ringing in your ears (known as tinnitus), headaches, stomach upsets, a temperature, blurred vision, dizziness, and itchy skin. [9] In studies, about 3 in 100 people taking quinine got ringing in their ears. [9]

A big problem with quinine is that it's poisonous if you take too much. [11] Too much quinine can cause a syndrome known as **cinchonism**. [13] You could feel sick, or get vomiting, headaches, tinnitus, deafness, vertigo, and disturbed vision.

You shouldn't take quinine if you're pregnant or could become pregnant.

In the US, the organisation that monitors drug safety has warned that quinine can occasionally cause severe, or even fatal, side effects. [14] Between 1969 and 2006, there were reports of 93 deaths in the US that were linked to quinine. US doctors are advised not to prescribe quinine for leg cramps, because the possible risk of side effects is thought to outweigh the benefits. Doctors can prescribe it if they think it will benefit a particular patient.

In the UK, doctors are advised to keep a close check on people taking quinine. [11] Your doctor will want to make sure you're not getting side effects.

If quinine doesn't help your leg cramps after a few weeks, you should stop taking it. Even if quinine does work, you should take a break from it every three months or so. If your cramps don't come back, there's no need to start taking it again.

Magnesium

In this section

More good-quality studies are needed to show whether taking a supplement of magnesium can reduce the number of leg cramps you get and make them less painful.

Some, but not all, research has suggested that magnesium may help pregnant women. But studies of people who had leg cramps for unknown reasons found that treatment with magnesium didn't work any better than treatment with a dummy treatment (a placebo). [15] [16]

Painkillers

In this section

There's no good research to tell us if taking a painkiller, such as paracetamol or ibuprofen, helps leg cramps. But because the muscle spasm usually lasts for only a short time, the pain will probably go away before a painkiller has time to work.

Stretching exercises

In this section

When you get a cramp, stretching or rubbing your leg often seems to get rid of it. So some researchers think that regular stretching exercises might prevent leg cramps. However, there's no good research to tell us whether stretching works or not.

One study compared two different exercises, one that involved stretching the calves and one that did not. [17] For the first, people stood in their bare feet, facing a wall from about two or three feet away. With their hands on the wall, they leaned forward, keeping their backs upright and their heels on the floor. The aim was to feel moderate, but not painful, stretching in their calf muscles.

The second exercise involved people lying face up, with their legs out straight. They then lifted their knees toward their chin, so their feet were brought toward their bottom.

People held these positions for 10 seconds, and did three of them three times a day.

Researchers had expected that people doing the stretching exercise would have fewer leg cramps, but this was not the case. [17] It's possible that doing stretches for longer would be better, but there's no research to say.

Support stockings

In this section

Support stockings are stockings or tights made of strong elastic. You wear them throughout the day and take them off at night. They come in different sizes so that they fit closely around your legs. People often wear these stockings to stop their veins bulging if they have varicose veins in their legs (varicose veins happen when valves in your veins don't work properly, so blood pools in your veins).

There's no evidence that wearing support stockings can prevent leg cramps. But they might help if varicose veins are causing your legs to cramp.

Vitamin E

In this section

Taking a supplement of vitamin E may not prevent your leg cramps. One small, poor-quality study found that people who took vitamin E had almost as many nights with leg cramps as those who took a dummy treatment (a placebo). [18] The study didn't show any side effects from taking vitamin E.

Vitamin B

In this section

We don't know if taking vitamin B supplements will help prevent your leg cramps. One small study looked at 28 older people who had leg cramps at night. [19] Half took a capsule containing several B vitamins, including 30 milligrams of vitamin B6, and half took a dummy treatment (a placebo). Among those taking the B vitamins, between 8 in 10 and 9 in 10 reported that they had fewer cramps. There was no change in the placebo group.

However, this study was much too small to tell us for certain whether this treatment works. We need larger studies to confirm these findings.

Naftidrofuryl

In this section

Naftidrofuryl (brand name Praxilene) is a drug sometimes used to treat a condition called peripheral arterial disease . If you have this disease, arteries in your body become too narrow. This often affects the arteries in the legs, which can make them ache or feel numb.

A small study suggested that naftidrofuryl might help with leg cramps, finding that people taking the drug had more cramp-free days and nights than those taking a dummy treatment (a placebo). [20] However, the study included only 14 people. We need more research to know whether this treatment might help.

Calcium channel blockers (diltiazem)

In this section

Diltiazem (brand name Tildiem) is a type of drug called a calcium channel blocker. It is often used to treat high blood pressure and a type of heart pain called angina. One small study suggested it might also help with leg cramps, finding that people had fewer cramps when they were taking the drug than when they were taking a dummy treatment (a placebo). [21] However, the study included only 13 people. So we can't yet say whether diltiazem, or other calcium channel blockers, work.

Magnesium

In this section

We don't know whether taking a magnesium supplement will help if you get leg cramps while you are pregnant. Studies have had different findings. [15]

One small study (a randomised controlled trial) found that pregnant women who chewed three magnesium tablets a day (300 milligrams in total) for three weeks had fewer leg cramps than women who had a dummy treatment (a placebo). [22] However, two other studies found that magnesium didn't help. [23] [24]

Studies suggest magnesium tablets are likely to be safe if you're pregnant.

Adding extra salt to your food

In this section

We don't know whether eating extra salt while you're pregnant will stop your leg cramps. But it could make your blood pressure go up, which could be dangerous.

There has been only one study, which was done in 1947 and was not good quality. [25] More research needs to be done before we can say whether adding salt to your food can help leg cramps without causing any unwanted effects.

Calcium

In this section

We don't know if taking a calcium supplement helps. The results from the research are mixed.

One study (a randomised controlled trial) found that women who took a calcium supplement had fewer leg cramps during pregnancy. [26] But another study found that women who took calcium had just as many leg cramps as those who took a vitamin C supplement instead. [27]

More reliable research needs to be done before we can say for certain whether calcium can stop leg cramps if you're pregnant. Also, the studies don't tell us whether calcium supplements cause side effects during pregnancy.

Multivitamins and mineral supplements

In this section

Taking a multivitamin along with a mineral supplement probably won't prevent your leg cramps if you are pregnant. Doctors don't usually recommend taking these supplements

together during pregnancy because they contain lots of different ingredients. Some vitamins and minerals aren't good for your baby if you have too much of them. However, it's fine to take a multivitamin designed for pregnant women (called an antenatal supplement).

One small study (a randomised controlled trial) found no difference in leg cramps during the ninth month of pregnancy for women who took either a multivitamin plus a mineral supplement or a dummy supplement (a placebo). [28]

The women had started taking the supplements three months into their pregnancy. About 1 in 25 women said they got nausea, vomiting, and diarrhoea. But it's not clear from the study whether the women who got these side effects were taking the real supplements or the placebo.

More than half of the women dropped out of the study, so the results aren't very reliable.

Vitamin E

In this section

We don't know if taking a supplement of vitamin E will prevent leg cramps if you're pregnant. There hasn't been any good-quality research. [29]

Further informations:

Glossary:

ultrasound
Ultrasound is a tool doctors use to create images of the inside of your body. An ultrasound machine sends out high-frequency sound waves, which are directed at an area of your body. The waves reflect off parts of your body to create a picture. Ultrasound is often used to see a developing baby inside a woman's womb.

kidney
Your kidneys are organs that filter your blood to make urine. You have two kidneys, on either side of your body. They are underneath your ribcage, near your back.

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.

placebo
A placebo is a 'pretend' or dummy treatment that contains no active substances. A placebo is often given to half the people taking part in medical research trials, for comparison with the 'real' treatment. It is made to look and taste identical to the drug treatment being tested, so that people in the studies do not know if they are getting the placebo or the 'real' treatment. Researchers often talk about the 'placebo effect'. This is where patients feel better after having a placebo treatment because they expect to feel better. Tests may indicate that they actually are better. In the same way, people can also get side effects after having a placebo treatment. Drug treatments can also have a 'placebo effect'. This is why, to get a true picture of how well a drug works, it is important to compare it against a placebo treatment.

randomised controlled trials
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.

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diarrhoea
Diarrhoea is when you have loose, watery stools and you need to go to the toilet far more often than usual. Doctors say you have diarrhoea if you need to go to the toilet more than three times a day.

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