Cramps in the Leg

Leg cramps are common and most common in the calf muscles. They can occur in any muscle group. The cause is not known in most cases. However, some medications and diseases sometimes cause leg cramps. Regular calf stretching exercises may prevent leg cramps. Quinine tablets may be advised as a last resort if you have cramps regularly.

What is the treatment for a leg cramp?

Stretching and massaging the affected muscle can usually relieve an attack of cramp. Most cramps soon ease off. Painkillers are not usually helpful as they do not act quickly enough. However, a painkiller such as paracetamol may help to ease muscle discomfort and tenderness that sometimes persist for up to 24 hours after a cramp has gone.

General measures will help with cramp in any muscle, but the stretches mentioned will only benefit calf muscle cramp.

Leg Cramp Management Options

Each treatment option for Leg Cramps has various benefits, risks and consequences. In collaboration with health.org.uk, we've put together a summary decision aid that encourages patients and doctors to discuss and assess what's available.

Download the Leg Cramps Decision Aid: https://medical.azureedge.net/decision-aid/cramps.pdf

What are the options for preventing leg cramps?

If cramps do not occur often then no particular treatment is usually needed. However, if you have frequent cramps, you may wish to consider ways of preventing them.

Consider your medication (where appropriate) or other conditions

Tell your doctor if you take any of the medicines listed below. They may be causing the leg cramps, or making them recur more often. Alternatives may be available. Also, if you have other symptoms apart from cramps, see your doctor. He or she may examine you or do some checks to rule out a secondary cause for the cramps.

Stretching exercises

Stretching exercises are commonly advised. However, there is a lack of good research evidence to prove that they work. One research study concluded that stretching exercises did reduce the number and severity of cramps; however, another study did not confirm this. Nevertheless, many doctors feel that regular calf stretching does help. So, as it may help, it is worth trying if you are able to do the exercises. If it works, you will not need any tablets to prevent the cramps.

At first, do stretching exercises of affected muscles for about five minutes, three times a day. Do the last exercise shortly before bedtime. If the cramps ease off, you may then only need to do the exercise once or twice a day to keep the cramps away.
To stretch calf muscles, stand about 60-90 cm from a wall. Then, keeping the soles of your feet flat on the floor, bend forwards and lean on the wall. You will feel your calf muscles stretch. Do this several times, each time for as long as you can manage. It may take a week or so of exercises before you notice an improvement. So, it is worth giving yourself a 2- to 4-week trial of regular calf stretching exercises to see if your cramps ease off. The cramps may not go completely, but their frequency and/or severity may reduce.

**Posture of the legs when resting in bed**
Positions which prevent the calf muscle from shortening when you are asleep may help. The following are not proven treatments (from research); however, some experts believe that they help to prevent cramps:

- Using a pillow to prop the feet up in bed while sleeping on your back.
- Hanging the feet over the end of the bed while sleeping on your front.
- Keeping blankets loose at the foot of the bed to prevent toes and feet from pointing downwards during sleep.

**Quinine is used as a last resort - and you need to be aware of the risks**
If you take quinine you have a good chance of reducing the number and/or severity of leg cramps; however, it may not stop them altogether. One tablet at bedtime is the normal dose.

There are a number of serious side-effects associated with quinine, including heart problems.

Quinine is only used as a last resort when other treatments have not worked and leg cramps are frequent and are affecting your quality of life.

**Other treatments**
Other medicines have been suggested as possible treatments for leg cramps. These include magnesium, diltiazem, vitamin B complex, vitamin E, nifedipine, orphenadrine and verapamil. In general, these are not currently recommended, as most studies involving them found that they do not work very well in most people. Quinine remains the main treatment. However, your doctor may suggest a trial of one of these medicines if quinine has not worked or has caused troublesome side-effects.

**What causes leg cramps?**

**Unknown cause (idiopathic leg cramps)**
In most cases the cause is not known. One theory is that cramps occur when a muscle that is already in a shortened position is stimulated to contract. As the muscle is already shortened, to contract further may cause the muscle to go into spasm. This commonly happens at night in bed, as the natural position we lie in is with the knees slightly bent (flexed) and with feet pointing slightly downwards. In this position the calf muscle is relatively shortened and may be prone to cramps. This theory explains why stretching exercises may cure the problem.

**Secondary causes**
In some cases, the cramps may be a symptom of another problem. For example:

- Some medicines can cause cramps as a side-effect, or make cramps occur more often. These include: ‘water’ tablets called thiazide diuretics and loop diuretics, nifedipine, cimetidine, salbutamol, statins, terbutaline, lithium, penicillamine and phenothiazines (prochlorperazine, perphenazine, chlorpromazine).
- Over-exertion of muscles.
- Lack of fluid in the body (dehydration).
- Conditions that cause alterations in the balance of salts in the bloodstream (such as a high or low sodium or potassium level).
- Some people who have kidney (renal) dialysis have leg cramps.
- Pregnancy - usually in the later stages.
- An untreated underactive thyroid gland.
- Peripheral arterial disease. In this condition there is narrowing of the leg arteries which causes poor circulation.
- Excess alcohol.
- Some uncommon disorders of nerves.
- Rare causes which include ‘scarring’ of the liver (cirrhosis), lead poisoning and an inflammatory condition called sarcoidosis.

With the above conditions the cramps would just be one of various other symptoms. Therefore, if you are otherwise well and have no other unexplained symptoms, the leg cramps are likely to be of unknown cause (idiopathic) and not due to a secondary cause.

**Note:** leg cramps are different to a condition called restless legs syndrome. In this condition the legs can be uncomfortable, you feel creeping sensations in the legs and it is relieved by walking about.
What are leg cramps?

A leg cramp is a pain that comes from a leg muscle. It is due to a muscle spasm, which occurs when a muscle contracts too hard. It usually occurs in a calf muscle, below and behind a knee. The small muscles of the feet are sometimes affected.

A cramp pain typically lasts a few minutes. In some cases it lasts just seconds; however, in some cases it lasts up to 10 minutes. The severity of the pain varies. The muscle may remain tender for up to 24 hours after a leg cramp. Leg cramps usually occur when you are resting - most commonly at night when in bed. They are often called night cramps. They may wake you. It can become a distressing condition if your sleep is regularly disturbed.

Many people have an occasional leg cramp. However, they occur frequently and even every day in some people. They are more common in older people. About 1 in 3 people over the age of 60 and about half of people over the age of 80 have regular leg cramps. About 4 in 10 people who have leg cramps have at least three per week.

Further reading & references

- Leg cramps; NICE CKS, February 2018 (UK access only)
- Quinine: reminder of dose-dependent QT-prolonging effects; updated medicine interactions; GOV.UK, 2017

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