Cramps in the Leg

Leg cramps are common. The cause is not known in most cases. However, some drugs 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 are leg cramps?

A leg cramp is a pain that comes from a leg muscle. It is due to a muscle spasm which is 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, but 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.

Who gets leg cramps?

Many people have an occasional leg cramp. However, they occur frequently 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. They occur every day in some people.

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 drugs can cause cramps as a side-effect, or make cramps occur more often. These include: diuretics (water tablets), nifedipine, cimetidine, salbutamol, statins, terbutaline, lithium, clofibrate, penicillamine, phenothiazines, and nicotinic acid.
- Over-exertion of muscles.
- 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 renal (kidney) dialysis get leg cramps.
- Pregnancy - usually in the later stages.
- An untreated underactive thyroid gland.
- Peripheral vascular disease (narrowing of the leg arteries which causes poor circulation).
- Excess alcohol.
- Some uncommon disorders of nerves.
- Rare causes include: cirrhosis of the liver; lead poisoning; 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, then the leg cramps are likely to be idiopathic (unknown cause) 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. See separate

leaflet called *'Restless Legs Syndrome'* for details.

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 persists for up to 24 hours after a cramp has gone.

What are the options for preventing leg cramps?

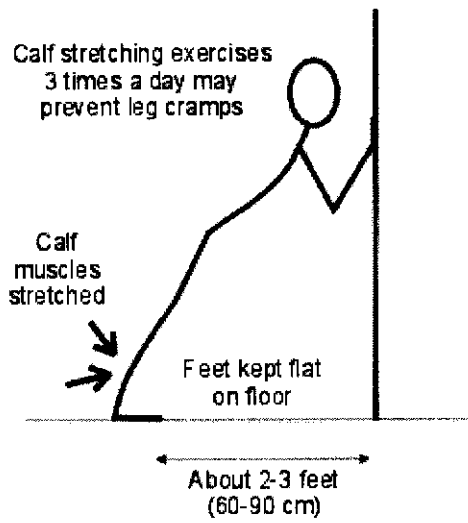
If cramps do not occur often, then no particular treatment is usually needed. However, if you have frequent cramps, you may wish to consider ways of preventing them.

Consider your medication (where appropriate) or other conditions

Tell your doctor if you take any of the drugs listed earlier. It may be causing the leg cramps, or making them recur more often. Alternative drugs may be available. Also, if you have other symptoms apart from cramps, see your doctor who 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, but another study did not confirm this. However, 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 forward 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 studies), but 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, but it may not stop them altogether. One tablet at bedtime is the normal dose. Most people can take quinine, but do not take it if you are pregnant or may become pregnant. There are also some rare conditions where you should not take quinine. These include: a previous reaction to quinine; a previous haemolytic anaemia; optic neuritis; glucose 6-phosphate dehydrogenase deficiency.

Side-effects are uncommon at the low dose used to treat leg cramps. However, serious side-effects do sometimes occur. For example, a serious blood disorder which is potentially fatal is a known rare side-

effect. Also, a small number of people who take quinine long-term develop a condition called cinchonism (a complex of nausea, vomiting, dizziness, visual disturbance, and hearing impairment). Read the drug packet leaflet for a full list of possible side-effects. **Note**: quinine is dangerous in overdose, particularly in children. Keep tablets away from children.

Therefore, 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.

When quinine is first prescribed it may be done on a trial basis for 4-6 weeks. You should be aware of the small risk of serious side-effects. Also, it is best to objectively assess how well the quinine works. For example, by keeping a sleep and cramp diary. Ideally, this should be for a few weeks before and after the start of treatment so as to gauge its effect. If quinine is found to help then you may be advised to continue with it for a few months. You should consider stopping quinine every three months or so to see if it is still needed. This is because, in some people, the cramps go away and so the treatment may no longer be needed. If the cramps return, you can always re-start the tablets.

Other treatments

Other drugs have been suggested as possible treatments for leg cramps. These include: magnesium, diltiazem, vitamin B complex, vitamin E, naftidrofuryl, 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 drugs if quinine has not worked or has caused troublesome side-effects.

References

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