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MUSCLE CRAMPS - a patient's guide

Editorial Team

Muscle cramps are caused by prolonged spasms, or involuntary contraction of a muscle. Muscle cramps, especially those of the legs, are extremely common, more so in the elderly. Although not dangerous to health, in some cases they may be symptoms of an underlying problem. Treatment is usually massage and stretching and adequate fluid intake, although in cases where cramps are frequent, medication may be recommended.

What is a muscle cramp?

A muscle cramp is an involuntarily and forcibly contracted muscle that does not relax. Any of the muscles under voluntary control (skeletal muscles) can cramp. Cramps of the extremities are very common, especially the legs and feet, and particularly the calf (often termed a "charley horse" cramp). When a muscle (or even a few fibers of a muscle) involuntarily contracts, it is called a spasm and becomes a cramp when the spasm is forceful and sustained.

Cramps can last anywhere from a few seconds to a quarter of an hour, and occasionally longer. It is not uncommon for a cramp to recur several times before finally going away. The cramp may involve a part of a muscle, the entire muscle, or several muscles that usually act together.

Most cramps are not a danger to health. Although they can be very uncomfortable, cramps are rarely a sign of a dangerous disease.

Involuntary muscles such as those of the bowel, heart and uterus can also cramp. Involuntary muscle cramps are not discussed in this article.

How common are muscle cramps?

Almost everyone - an estimated 95% - experiences a muscle cramp at some stage. A survey showed 30% of people suffered a cramp in the past year and 2% had them once a week. Although children can get them, cramps are more common in adults and tend to become more frequent with age.

Pregnant women and the elderly commonly experience nocturnal leg cramps. Muscle spasms in the calf - charley horse - can occur one or many times during the night, from a few seconds duration through to a few minutes.

What causes muscle cramps?

Muscle cramps can arise from a wide variety of causes:

Muscle fatigue from exercise or overuse of particular muscles.

Imbalances of fluids, hormones, or body salts (the "electrolytes" calcium, magnesium, potassium) or dehydration.

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A poor blood supply.

Nerve abnormalities.

Diseases affecting nerves and muscles.

Some medications, for instance, diuretics.

Cramps can be caused by muscle fatigue from sports or from unaccustomed activities. Cramp pain following exercise is usually relieved by rest, but in severe cases even rest offers no benefit, and pain can continue even when lying down. Muscle fatigue from sitting or lying for an extended period in an awkward position, or any repetitive use can cause cramps. Older adults are at risk of cramps when performing exaggerated physical activities.

When injury such as a broken bone or strained muscle occurs, sometimes the muscles surrounding the injury spasm as a protective mechanism. In this case the spasm tends to minimize movement and stabilise the area of injury.

Intermittent claudication is a problem in the arteries where the muscles in the legs are deprived of oxygen. Intermittent claudication is caused by blockages in the leg arteries from plaque buildup.

Some conditions, most often diabetes, cause the legs to be numb or tingling, known as peripheral neuropathy.

What is the treatment?

Correct treatment depends on the cause of the cramps. For persistent and frequent cramps, a doctor will usually look at the patient's medical history, make a physical examination and perhaps arrange laboratory tests. This is to ascertain whether there is any serious underlying cause for the cramps.

The most common and usually the most effective treatment for leg cramps is daily stretching of the affected muscles.

Quinine has historically been used as a remedy for muscle cramps and there is evidence that it is modestly effective, however quinine supplements have been recently banned by the US Food and Drug administration for over the counter sales due to serious and fatal side effects. Quinine may still be prescribed by a doctor, but the risks and benefits of using it must be taken into account.

Pioneering studies are underway using a compound called naftidrofuryl as an alternative to quinine.

What are the risks of using Quinine?

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The risks associated with quinine relate to the side effects. These include ringing in the ears, decreased hearing, vertigo, blurred vision, nausea, vomiting, diarrhea, abdominal pain, flushing or itching of the skin, headache, and fever.

In particular, quinine should not be used by people with ringing in the ears (tinnitus) or nerve disease of the nerve to the eyes (optic nerve). Patients with irregular heart rhythms, such as atrial fibrillation, should talk to their doctor about whether they can take quinine.

How can a cramp be stopped?

Most muscle cramps can be stopped if the muscle is stretched, either by standing up, massaging, or by applying cold packs.

Stretch and massage a cramped leg by straightening it and pointing toes upward, while gently rubbing the cramped area to help the muscle relax. For a calf cramp - charley horse - put weight on the affected leg and bend the knee slightly. For a thigh cramp, keep both legs straight and lean forward at the waist, using a chair to steady yourself.

A cold pack can be used to relax tense muscles. Following a cramp, a warm towel or heating pad can alleviate pain or tenderness.

How can cramps be prevented?

Drinking plenty of fluids may help to prevent reoccurring cramps, as fluids help muscles contract and relax. Drink 6-8 cups of liquid per day, preferably non-caffeinated drinks.

Daily stretching may help prevent nocturnal leg cramps. Before sleep, stand just short of a metre from a wall with hands on the wall. While bending one knee, lean towards the wall and hold for ten seconds keeping the heels pressed flat to the floor before straightening the knee. Repeat using the other leg. Each leg should be stretched up to ten times for best effect.

For continual, frequent cramps, seek medical advice. A doctor may prescribe a suitable muscle relaxant and can check there are no underlying problems causing the cramps.