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APTS Monthly



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NEW Office

Hours:

Monday - 8:00am -
5:30pm

Tuesday - 8:00am -
7:00pm

Wednesday - 8:00am
- 6:00pm

Thursday - 8:00am -
7:00pm

Friday - 8:00am -
5:00pm

Saturday - 8:00am -
1:00pm

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What Causes Muscle Cramps?

Muscle cramps are a common complaint in any healthcare practice. Providers of all types field questions about “cramps” everyday. Muscle cramps are sudden, involuntary contractions that occur in a variety of muscles throughout the body. These contractions can be spontaneous and painful to the point of being incapacitating. Commonly affected muscles include the calf muscles in the back of your lower leg, hamstring muscles in the back of your thigh, and quadriceps muscles in the front of your thigh. It is also common to experience cramps in your abdominal wall, arms, hands, and the bottom of the feet.

The intense pain of a muscle cramp can wake you at night from a sound sleep or make it difficult to walk. A sudden, sharp pain lasting from a few seconds to minutes, is the most common symptom of a muscle cramp. However, in some cases, the cramp can result in muscle soreness for hours or days.

There are several reasons that patients may experience muscle cramps. Cramps can result from intense bouts of exercise. This type of cramping is easier to make an association between cause and effect: *I ran 10 miles and my legs cramped at the 9th mile.* Dehydration is also a cause of cramps, but it does not need to be exercise induced. Dehydration is not only the excessive loss of fluids in the body; it is also the lack of fluid replenishment. If you are not an exercise person but drink large quantities of beverages that have a diuretic effect (such as coffee, tea, alcohol, or carbonated drinks) you are dehydrated. This type of self-induced dehydration can cause cramping of skeletal muscles. The majority of the population is walking around relatively dehydrated and doesn't realize it.

Low levels of minerals in the diet can

also result in muscle cramps. While sodium and potassium appear to get all the press when it comes to cramps, calcium is just as important and, in the general population, may actually be a more common cause of muscle cramps. Calcium, potassium, and sodium contribute to healthy muscle function and, when depleted, result in muscle cramps.

Poor blood supply to your legs and feet can cause cramping in those areas when you exercise, walk, or participate in physical activities. If the blood flow has been low for a long period of time, the cramps may occur at rest as well. While this can be common in patients with diabetes, there are several medical conditions that can also restrict peripheral blood flow.

Other medical conditions that can cause muscle cramps include:

1) Compression of spinal nerves, seen in conditions such as degenerative spinal stenosis, which can cause muscle cramps in your legs when walking or standing for long periods of time, 2) hypothyroidism (low thyroid gland function), which has direct effect on calcium metabolism and will result in generalized muscle cramps, 3) alcoholism, 4) pregnancy, and 5) various kidney disorders. There are other medical conditions that can cause muscle cramps.

Prescription medications are perhaps one of the most common causes of muscle cramps in the American population. Medications used for blood pressure, cholesterol, congestive heart failure, or respiratory disorders can cause cramping for different reasons. For instance, statin drugs commonly used to treat high cholesterol can cause a condition known as *rhabdomyolysis* (rab-doe-my-lysis), or a breakdown of skeletal muscle causing muscle fibers to be released into the blood stream. This is

usually the cause of statin-related cramping. Various blood pressure medications increase the excretion of electrolytes such as calcium, potassium, and sodium. Low levels of these electrolytes and minerals can result in muscle cramps.

Muscle cramps are very common in the elderly population. Unfortunately, muscle cramps in this population can be multi-factorial. For instance, an elderly patient may be taking a combination of statin drugs for high cholesterol, and a blood pressure medication, be sedentary, and have advanced degenerative changes in the lower back. Therefore, leg cramps in this example may be caused from muscle breakdown (rhabdomyolysis), low electrolytes, nerve compression, and/or *sarcopenia*, or age-related atrophy and wasting of skeletal muscle. As simple a symptom that muscle cramps seem to be, there are many causes and depending on the patient's medical history, may be very complicated and difficult to diagnose.

When should you see a healthcare provider about your muscle cramps? Benign muscle cramps generally resolve without treatment in a short period of time. You should consult with a medical professional about your muscle cramps if they cause severe pain that does not resolve in a few minutes; are associated with swelling, redness, or skin changes (erythema); result in prolonged muscle weakness; are frequent; don't improve with self treatment of ice and stretching exercises; and are not associated with an obvious cause such as intense exercise.

Article by Dale Buchberger, DC,
PT, CSCS

Exercise of the Month: Foam Rolling



Foam rolling the left IT band, starting position (top), end position

Perhaps you have heard of people using a “foam roller” to treat symptoms of IT band syndrome, sciatica, or just to “roll out” tight muscles after activity. What is the theory behind this?

Foam rolling is a type of self-myofascial release, or self-massage, to release muscle tightness or “knots” that refer pain to other nearby areas of the body. For example, when you have a tight iliotibial band, or IT band, which is located on the outside of your thigh, it can cause symptoms to radiate up to the hip or down the leg to the knee or even the ankle.

As you roll out the area that is

tight, you will experience the same type of discomfort as you would with stretching, but when you’re done, it should feel better. By applying pressure to specific points on your body, you are able to help the recovery of muscles and assist in returning them to normal function. You’re able to control the healing on your own!

To roll out your IT band, lie on the affected side with your hip directly on the foam roller. Using your hands and the opposite leg for balance, “walk” your hands out until the foam roller is all the way down to your knee. Then roll back up to the hip. If it hurts, you’re doing it right! Continue rolling for 30-60

seconds 1-2 times per day until symptoms improve. Most people eventually experience a love-hate relationship with their foam roller, and can tolerate up to 5 minutes of rolling at a time. Just be aware that you could make your symptoms worse by rolling too much! This is when you should consult with your health care professional.

You can purchase a foam roller from any sporting goods store or online retailer, or even right here at Active PT Solutions! You want to look for one that is at least 36” long and is dense and firm.

Muscle cramps can have many possible causes, including medication-related causes and non-medication-related causes.

We hear it all the time in our office: “I’ve been getting leg cramps a lot lately. Why? And what can I do about them?” Muscle cramps can have many possible causes, including dehydration; poor blood circulation in the legs; overexertion of the leg muscles while exercising; insufficient stretching; exercising in the heat; muscle fatigue; pinched nerves in the neck or back; sitting for too long; standing on hard surfaces for too long; wearing uncomfortable shoes or shoes with elevated heels; diabetes; edema in the legs; or a vitamin deficiency, such as magnesium, calcium, and/or potassium. They could even be caused as a side effect of some drugs, including, but not

limited to, diuretics (used to treat high blood pressure, congestive heart failure, and edema); beta blockers (used to treat high blood pressure and abnormal heart rhythm); statins and fibrates (used to treat high cholesterol); beta-2 agonists (used to treat COPD); ACE inhibitors (used to treat high blood pressure and CHF); angiotensin II-receptor blockers (used to treat CAD or heart failure); antipsychotics; Aricept (used to treat Alzheimer’s disease); Evista (an osteoporosis treatment); asthma medication; and Tasmart (used to treat Parkinson’s disease).

The treatment of muscle cramps not brought on by medications is as simple

as staying hydrated, eating foods high in magnesium and calcium, stretching properly before exercise, taking a bath with Epsom salt, and icing or warming the muscle. In most cases, these self-care measures are sufficient. But if you continue to experience cramping frequently and for no apparent reason, you should talk to your doctor as they could be a sign of a medical problem that requires evaluation and treatment. If your cramps are medication-based, you should consult with your doctor about the possibility of adjusting the dosage of your medication or changing to another type of medication or treatment.

Article by Carolyn Collier, PTA

Brandon Ho is a Doctor of Physical Therapy student from Ithaca College who will be joining us for his first clinical internship for 8 weeks from June 1 until July 24. He will primarily be working with Tom and Carolyn, but you will see him around the clinic. Please make Brandon feel welcome and help us help him learn about the wonderful world of physical therapy!

What’s Going On At APTS?

We are still operating under our normal business hours, and will continue to follow restrictions and recommendations set in place during this phased reopening to promote social distancing while providing quality patient care. All patients will be scheduled in 30 minute time slots in order to reduce the number of patients in the clinic and waiting room at any given time. We are also distancing patients in the clinic, keeping one treatment table empty be-

tween each patient. If you have a known medical condition that places you at a higher risk, or are immunocompromised, you should stay home. If you typically receive a ride or attend your appointments with a friend, family member, or loved one, we ask that your companion remains in the car during your appointment time. This will help reduce the number of people in our waiting room and allow more room for social distancing. ALL patients and staff are required to wear a mask when unable to remain 6 feet away from another person. We are

regularly disinfecting all treatment tables and equipment after each use, as well as waiting room chairs and other shared surfaces. Hand sanitizer is provided all around the office, including outside the front door, to use when you enter and exit the building. Disposable masks and non-latex gloves are also available if you need them, although we do encourage you to bring your own if possible. If at any time during your treatment you do not feel comfortable for any reason, please notify a staff member. Your health and safety is very important to us!



How To Manage Muscle Cramps

Most people think that they need to eat a banana or take a potassium supplement to treat cramps. Others may drink tonic water for the quinine (though the Food and Drug Administration has cautioned against this practice). Then there's the old wives' tale of putting a bar of Ivory soap between the bed sheets as another option. Nonetheless, the first thing that patients need to do in the treatment of cramps is to elicit the primary cause of the muscle cramps. Merely "treating the cramps" is not the same as "treating the cause of the cramps". If it turns out that the cramps are a result of statin medications for high cholesterol, and you are eating bananas and drinking water, the cramps will not get better. Treatment needs to be directed at the cause whenever possible. See your doctor and have a detailed conversation about your medical history to detect the underlying cause of the muscle cramps.

Dehydration can be caused by either excessive loss of fluids in the body during rigorous activity or the lack of fluid replenishment on a daily basis. If you drink large quantities of beverages that have a diuretic effect (such as coffee, tea, alcohol, or carbonated drinks), you can be dehydrated and suffer from muscle cramps. As a general rule, if you are not drinking at least half your body weight in ounces of water then you are "relatively dehydrated". Drink fluids that are non-carbonated, caffeine free, and alcohol free. Limit fruit juices, as they are high in simple sugars. Sports drinks should be diluted 50-50 with water. Diluting sports drinks improves absorption, reduces calories, and helps

your budget! This formula from the International Sports Medicine Institute will help calculate your daily water intake: 1/2 ounce per pound of body weight if you're not active (i.e. 80 ounces a day if you weigh 160 pounds), and 2/3 ounce per pound if you're athletic (106 ounces a day at 160 pounds).

Teenage endurance athletes should examine their diet for proper mineral intake. After age 15, most endurance athletes should be supplementing their diet with a multivitamin and/or a calcium, magnesium, and zinc supplement. Women over the age of 25 should supplement with calcium, magnesium, and zinc as well. Men and women over the age of 50 should also be supplementing their diet with a multivitamin and additional calcium, magnesium, and zinc. Along with adequate daily hydration, these minerals will reduce muscle cramps associated with poor dietary mineral supply.

Patients that experience muscle cramps secondary to type-2 diabetes need to manage the diabetes and take an active role in treating and reversing the diabetic trend through proper diet and increased activity. An anti-inflammatory diet (high antioxidant foods that are low in sugar and contain healthy fats) with adequate hydration and daily supplementation will assist your medical management and help resolve your muscle cramps as well.

Compression of spinal nerves, seen in conditions such as degenerative spinal stenosis, can cause muscle cramps in your legs when walking or standing for

long periods of time. Treatment should be directed towards the spinal stenosis. Reducing irritation at the nerve level through physical therapy, anti-inflammatories, injections, or even spinal decompression surgery will give you the best chance to resolve muscle cramps associated with this particular condition.

Hypothyroidism (low thyroid gland function) has a direct effect on calcium metabolism and will result in generalized muscle cramps. As with diabetes, a combination of medical and dietary management is the best method to treat the disorder and its side effects, including muscle cramps.

Prescription medications continue to be one of the most common causes of muscle cramps in the American population. Medications used for blood pressure, cholesterol, congestive heart failure, or respiratory disorders can cause cramping for different reasons. Statin drugs used to treat high cholesterol can cause a condition known as *rhabdomyolysis* (rab-doe-myo-lysis), or a breakdown of skeletal muscle causing muscle fibers to be released into the blood stream. This is usually the cause of statin-related cramping. Blood pressure medications increase the excretion of electrolytes such as calcium, potassium, and sodium. Low levels of these electrolytes and minerals can result in muscle cramps. Patients taking these medications should discuss electrolyte loss and muscle breakdown with their prescribing doctor BEFORE self-treating or taking any vitamin supplements.

Article by Dale Buchberger, DC, PT, CSCS

The first thing that you need to do in the treatment of cramps is to elicit the primary cause of the muscle cramps and treat the cause.

APTS Recipe Box: 10 Minute Cauliflower Summer Salad

Made with raw cauliflower, juicy tomatoes, and creamy avocado lime dressing, perfect for family cook-outs, beach picnics, and packable lunches, this salad checks off all the boxes for summer salad needs.

Ingredients

Salad: 2 cups cauliflower rice; 1 cup cherry tomatoes, sliced; 1/2 cup cilantro, chopped; 1 cup spin-

ach; 1/2 red bell pepper, chopped; 1/4 red onion, minced

Dressing: 1 large avocado, pitted and peeled; 1/2 cup cilantro; lemon or lime juice from 1 fruit; 1/4 cup olive oil; 1/4 cup water; 1 large garlic clove; 1 tsp sea salt.

Instructions

Blend all ingredients for dressing in a food processor or blender until smooth. Add all salad ingredients into a large bowl and stir together with dressing. *Optional:* serve with grilled chicken breast for extra protein.

Source: <https://paleoglutenfree.com/recipes/10-minute-cauliflower-summer-salad/>



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Get Well...Get Active...Be Active

Newsletter Edited by Carolyn B. Collier, PTA

**At Active Physical Therapy Solutions,
we utilize the most cutting edge
treatment and management
techniques available. Our goal is to
deliver the best possible healthcare in
a friendly, caring, and well-organized
environment. Our staff is here to
provide active solutions to achieving
your personal goals!**

...BECAUSE LIFE SHOULD BE

ACTIVE!

Nutrition 101: How Much Calcium Do You Need?

Calcium is a mineral that is necessary for life. It is essential to building strong, dense bones and keeping them strong and healthy as you age. It also helps our blood clot, nerves send messages, and muscles contract. About 99% of the calcium in our bodies is in our bones and teeth, and each day we lose calcium through our skin, nails, hair, sweat, urine, and feces, but our bodies cannot produce new calcium. Therefore, it is important to get calcium from the food we eat. When we don't get enough, it is taken from our bones, resulting in bone loss, low bone density, and broken bones.

How much calcium you need every day depends on your age and sex. Women age 50 and younger require 1000 mg daily, while women age 51 and older need 1200 mg daily. Men age 70 and younger require 1000 mg daily and men age 71 and older need 1200 mg daily. This amount includes the total amount you get from food as well as supplements.

The best source of calcium is from food. Dairy products are high in calcium, such as milk, yogurt, and cheese. Certain green vegetables and other foods contain calcium in smaller amounts. Some foods and beverages have calcium that has been added to it.

To determine how much calcium is in a particular food, you need to check the nutrition facts panel of the food label for the daily value (DV) of calcium. Food labels list calcium as a percentage of the DV. This amount is based on 1000 mg of calcium per day. For example, 30% DV equals 300 mg, 15%

DV equals 150 mg, etc.

The amount of calcium you need from a supplement depends on the amount of calcium you get from food. Aim to get the recommended daily amount of calcium you need from food first and supplement only if needed to make up the rest. There is no added benefit to taking more calcium than you need, and doing so may even have some risks.

Calcium supplements are available without a prescription in a wide range of options (tablets, chewables, liquid, etc.) and in different amounts. The best supplement is the one that meets your needs based on convenience, cost, and availability. Keep in mind:

- Choose brand name supplements with proven reliability. Look for labels that state "purified" or have the USP (United States Pharmacopeia) symbol, which means that the USP has tested and found the supplement to meet certain standards for purity and quality.
- Read the product label carefully to determine the amount of elemental calcium, which is the actual amount of calcium in the supplement, as well as how many doses or pills to take. Pay close attention to the "amount per serving" and "serving size".
- Calcium is absorbed best when taken in amount of 500-600 mg or less. This is the case regardless of whether you're taking supplements or eating food. Try to get your

calcium-rich foods and/or supplements in smaller amount throughout the day, preferably with a meal. While it's not recommended, taking your calcium all at once is better than not taking it at all.

- Take most calcium supplements with food, which produces stomach acid that helps your stomach absorb the supplements.
- When starting a new calcium supplement, start with a smaller amount to better tolerate it. When switching supplements, try starting with 200-300 mg every day for a week and drink an extra 6-8 ounces of water with it, then gradually add more calcium each week.
- Side effects from calcium supplements may occur, including gas and constipation. If increasing fluids in your diet doesn't solve the problem, try another type or brand of calcium. It may require trial and error to find the right supplement for you.
- Talk with your healthcare provider or pharmacist about possible interactions between prescription or over-the-counter medications and calcium supplements.

Article by Carolyn Collier, PTA

Source: <https://www.nof.org/patients/treatment/calciumvitamin-d/>