

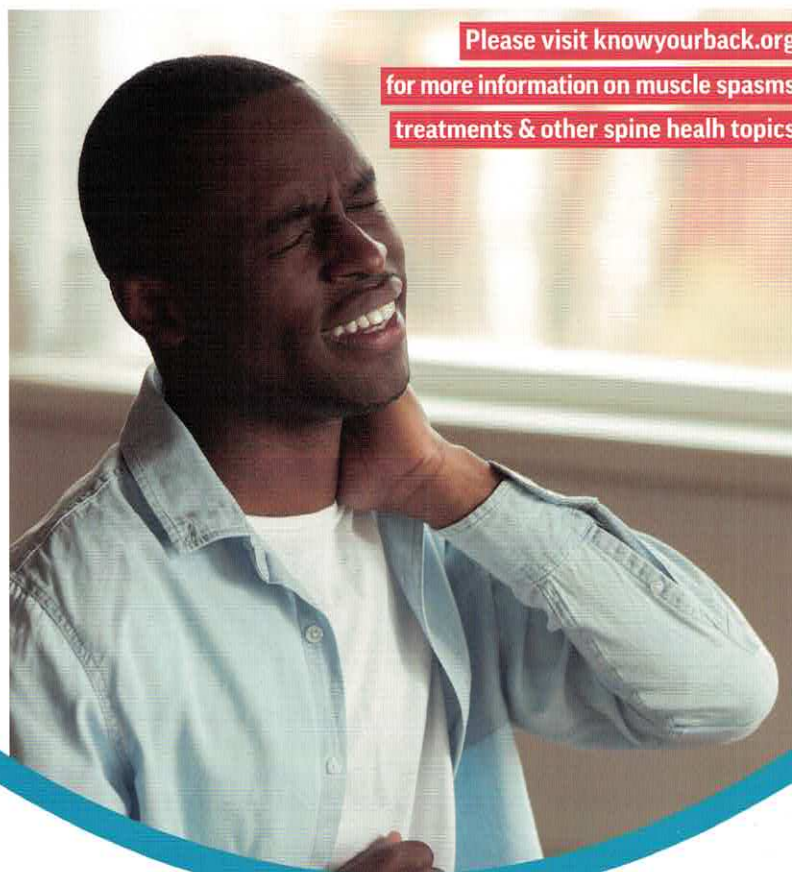
This patient page is excerpted from a larger resource on muscle spasms written by Jennifer Kurz, MD on [www.knowyourback.org](http://www.knowyourback.org).

### What is a muscle spasm?

A muscle spasm is a sudden, involuntary contraction of one or more muscles. A spasm results from an abnormally sustained muscle contraction and is often painful. Various muscles may develop spasms, including the small intrinsic hand muscles of a musician to the larger “charley horse” calf muscles of a runner. Muscle spasms may involve the skeletal muscles of the limbs and spine, responsible for locomotion and upright posture, or the smooth muscles lining the hollow, tubular internal organs of our body, such as the muscles lining the colon or bladder. Skeletal and smooth muscles have different embryological origins, functions, innervations and physiologies. For the purposes of this discussion, the focus will be on skeletal muscle spasms.

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for more information on muscle spasms

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### What causes acute muscle spasms?

Acute skeletal muscle spasms may be the result of muscle injury or overuse. They may occur, for instance, when an athlete has not warmed up or stretched prior to vigorous anaerobic exercise, such as sprinting or jumping. They may also occur during endurance training when, for example, a marathoner has not maintained proper fluid and electrolyte balance, and muscles with increased metabolic demand are depleted of nutrients. These types of spasms resolve with rest, hydration and gentle stretching.

### What causes chronic muscle spasms?

Recurrent, widespread, or chronic muscle spasms may signify a more significant underlying medical condition related to toxic-metabolic, nutritional, vascular or hormonal problems. In peripheral artery disease, for instance, there is a lack of blood supply and oxygen to affected muscles, which cause the spasms of “vascular claudication.” These spasms, or cramps, usually involve the lower extremities and become worse with exertion and better with rest. In kidney or liver disease, there may be volume depletion and/ or rapid body fluid and electrolyte abnormalities responsible for chronic muscle cramps. Similarly, conditions which cause excessive vomiting, diarrhea or insufficient nutritional intake may result in skeletal muscle cramps.

### When are muscle spasms cause for concern?

There may also be accompanying signs and symptoms suggestive of an underlying neurological disease. For instance, a severe muscle spasm can result from irritation or damage to nerves supplying the muscle, such as in spinal stenosis or major disc herniations, which disrupt nerve root signals from the spinal cord. In higher level brain or spinal cord injuries, there is a disruption of normal inhibiting influences from nerve connections from the brain. There are several brain regions responsible for the movement of skeletal muscles, so problems in one or several brain regions or nerve connections can result in abnormal muscle contractions. For example, abnormal, repetitive spasms are seen in conditions such as dystonias (prolonged, repetitive contractions that cause twisting/jerking movements), torticollis syndrome (“wry neck”), blepharism (involuntary blinking), or myoclonus (sudden, irregular, involuntary contractions). These more difficult conditions should be assessed and treated by a neurologist or movement disorder specialist, often with specific medications and therapy.

*Tear this out and use it as a resource to educate your patients about muscle spasms  
Use [KnowYourBack.org](http://KnowYourBack.org) for more patient information.*