

## **Prevention best policy for painful charley horse**

**Question:** What is a charley horse?

**Answer:** According to *Dorland's Medical Dictionary* it is, "soreness and stiffness in a muscle caused by overstrain or contusion."

The term is usually associated with the quadriceps muscles of the legs, but many patients use the term to describe pain in the feet, calves, buttocks, arms, hands and fingers. Often they are describing a twitch, which is a brief contractile response of the nerve impulses. If these brief, intense impulses become repetitive in a group of muscle fibers, the condition is considered a fascicular contraction. These twitches and fascicular contractions differ from a spasm, which is a violent involuntary contraction of a muscle or group of muscles and is usually attended by pain.

Since a charley horse can be a twitch, fascicular contraction or a spasm, it is important to understand what activities precipitated the reaction. The majority of muscle responses are secondary to physical activity and occur hours to days after the activity is discontinued. Other causes are usually dietary deficiencies or excesses.

Injuries, such as sprains or strains, cause fluid retention or edema to occur at the site of irritation. As healing occurs, the fluid, which bathes the injured tissue with vitamins and minerals, slowly disperses, leaving the joint slightly unstable. This is one reason why it is important to protect or support an injured joint even after the pain has diminished. Moving the joint prematurely can cause

certain unhealed fibers to elicit pain, which may be one cause for the so-called charley horse.

All injured tissue in the body will heal with minimal amount of scar tissue. This scar tissue is less elastic than healthy tissue and will not stretch as efficiently. Occasionally weeks, months or years after the initial injury, the joint is called upon and the scar tissue reacts by recruiting additional muscle fibers. This excess utilization of muscle fibers can create the charley horse.

Other theoretical causes of charley horse are an improper balance of sodium and potassium in the muscle or excess lactic acid buildup from overuse, both resulting in dehydration of the muscle. Sodium and potassium are two of the essential minerals necessary for a muscle to perform its smooth elongated contractions.

Excessive loss of fluids due to sweating, for instance, causes low supplies of both sodium and potassium in the muscle tissue. The muscle responds with unequal, erratic contractions in an attempt to draw additional sodium from extracellular tissue (cells on the outside of the muscle). If too little sodium or potassium is available, the muscle will continue to contract, even if not being used in exercise.

The final theory on the cause of a charley horse is that toxins build up in the form of lactic acid, which is the byproduct of muscle metabolism in rigorous exercise. Toxins build up quicker than they are released. The poisons settle in pockets in the muscle and cause uneven contractions at unlikely times.

To tame your charley horse, prevention is the best policy. When exercising, drink plenty of water to prevent dehydration. Also, if sweating profusely, which is healthy during exercise, replenish lost sodium and potassium by taking proper amounts of salt and potassium pills or drink high-mineral fluid beverages.

Lastly, if and when a charley horse occurs, use direct pressure with your thumb over the belly of the involved muscle. The belly is the center or mid-point of where the muscle starts and ends. Use about 15 or 20 pounds of direct force and hold until the pain diminishes or 20 seconds. Repeat the procedure if pain is still present.

The self-treatment will disperse the accumulated toxins, relax the muscle and allow proper contractions to occur. If your charley horse persists for periods over five minutes or on a regular basis, you should consult your physician.