

Muscle Strains

By Dr. Boyd Williams
Certified Chiropractic Sports Physician

The muscle strain injury is usually cited as the most frequent injury in sports. The physical significance of stretch-induced muscle strains or “muscle pulls” is readily evident to the athlete and to those treating sports - related injuries.

The principal function of muscles is to offer dynamic support and to provide movement of the joints. Muscular exercise can result in injury to fibers in the active muscles, particularly when the exercise is relatively intense, is long in duration and/or includes eccentric contractions. Eccentric contraction is contraction which occurs as the muscle lengthens throughout its range of motion, as compared to concentric contraction in which the muscle shortens as it is contracted and isometric contraction which occurs without joint movement. Eccentric contraction exercise can be a very efficient way to work a muscle; however, care must be taken to avoid excessive loads to the muscle, for it is in this lengthened state the muscle is more vulnerable to strain.

Which muscles are prone to injury? Anyone who participates in sports or treats athletes is well aware some muscles are more prone to injury than others. Muscles at risk for injury include the “two joint” muscles or those muscles which cross most often in “speed athletics,”: or sports requiring quick starts and stops (basketball, football, soccer, etc.).

The symptoms which a muscle strain presents are usually pain, swelling, possible deformity, or athletic dysfunction. Most of these complaints are quite obvious, but dysfunction may present itself as nothing more than a feeling of “tiredness” during activity or a change in throwing or running mechanics. This dysfunction can lead to decreased performance with associated loss of energy due to faulty mechanics.

Rehabilitation of muscle injuries must address more than the pain of an individual injury.. The treatment plan for the athlete must be oriented toward return to function, not just relief of symptoms. The goals of a good rehabilitation plan include: 1) establishing an accurate diagnosis; 2) minimizing the effects of the acute injury; 3) allowing for proper healing; 4) maintenance of the athlete’s overall fitness; and 5) return to normal athletic function.

Earliest treatment for the acute injury should employ the use of cold and anti-inflammatory nutrients (preferably natural). A compressive wrap may prove useful and weight-bearing or active movement of the area should be employed as early as possible, as pain allows. Active muscle contraction, to reduce strength loss, should begin isometrically. Running and more vigorous exercise, such as machine and free weight training, should only begin after full pain-free range of motion has returned. Any injury which fails to show progressive and complete improvement may require professional care and advise.

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