



*From the U.S. Soccer Communications*

**Muscle Strains**  
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Muscle strains - pulled muscles - are among the most common injuries in sports - as many as 30% of the injuries seen in sports medicine are strain injuries.

In soccer, as one would expect, most of the strain injuries occur in the leg muscles. The injured muscles are predictable: the hamstrings are the most common, and the thigh (rectus femoris) and the groin are also highly susceptible to such injuries.

In soccer, these strains usually occur during sprinting, rapid deceleration, kicking or stretching to reach the ball. In order to strain a muscle, a powerful contraction must be combined with some lengthening of the muscle like dragging the foot on the ground while contracting the quadriceps for kicking.

When such a strain occurs, pain can be felt anywhere along the length of the muscle, but the actual damage is very near where the tendon and muscle join each other. Bruising sometimes occurs, especially when the hamstring is injured, and any attempt to increase the length (that is, move the limb through its range of motion) is painful.

There are many various ways to go about the treatment of such a strain. The RICE (rest, ice, compression, elevation) principle is a very effective initial treatment for strain injuries. A short course of immobilization followed by early mobilization has also been suggested. Non-steroidal anti-inflammatory drugs are not advised in the treatment of strain injuries. The muscle is quite weak after the injury and gets weaker over the next day, maybe two. Afterwards, repair of the muscle slowly brings the strength back towards normal. This of course depends on the severity of the strain. A slight strain may return to strength in a week while a more severe strain might take well over a week for its strength to return.

Physical therapy usually involves rest of the muscle followed by range of motion exercises and then stretching. This is important to minimize the scar tissue than can form.

Much of the rehab is based on the comfort of the athlete. As the athletes are unlikely to push themselves past their pain tolerance, the injured tissues are not very likely to be further injured. For example, if the athlete is doing the stretching on their own, it is unlikely they will cause further injury.

Low-intensity isometric, concentric or isokinetic strength training is helpful, again as tolerated. The athlete can start light jogging when he/she is comfortable. Higher-speed running, cutting, or ball drills can be added when tolerable. It is important not to return to play too soon. One reason is to keep from re-injuring the strained muscle, and another reason is that an athlete playing with an injury that hasn't completely healed is at a high risk of a major injury, and it doesn't have to be to the previously injured body part. Playing with a partially healed strained muscle reduces one's speed, strength and agility. The most dangerous part of the game is tackling, so going into a tackle with an injured leg could lead to that (or the other) leg suffering a more major injury like a ligament tear or a fracture.

In a game that involves as much physical exertion as soccer does, minor injuries such as muscle strains will occur. In such an instance, the first thought must be to properly rest and then rehab the muscle. With proper care a player can be back on the field in a short amount of time. But by rushing back from the injury, a player puts himself/herself at a much greater risk for a more threatening injury.