Treatment Decisions for Uncommon Hamstring Rupture in Athletes

Physiotherapy in Kleinburg for Hamstring

Nothing is more frustrating for a professional athlete than an injury -- especially one that doesn't heal. Knowing when to have surgery right away and when to treat the problem conservatively (without surgery) can be a real challenge. That's the case with tendon ruptures such as the hamstrings.

In this study, orthopedic surgeons involved with 25 professional athletes who had a complete rupture of the distal semitendinosus muscle report the treatment results. The semitendinosus is one of three main parts of the hamstring muscles located along the back of the thigh. Distal semitendinosus tells us the tear occurred down by the knee where the semitendinosus inserts (attaches) to the bone.

Hamstring injuries of the muscle belly are fairly common among athletes. But usually, it's the biceps femoris portion of the muscle that ruptures. This type of distal semitendinosus injury in this study is uncommon but not rare. The decision whether to send the athlete to physiotherapy or to the operating room can be difficult. There are no known predictive factors to guide patient and surgeon.

Predictive factors are characteristics of the patient or injury that are linked with success or failure. With some injuries, the surgeon knows the chances are good (or bad) for a complete recovery (or failure) if X, Y, or Z factors are present. Predictive factors can be things like the patient's age, severity of injury, sex (male versus female), body part injured, and so on.

The study group was made up of all males who were elite-level (professional major league or national league players) athletes in baseball, football, or hockey. The mechanism of injury was sprinting or taking a long stride (step).

The symptoms described included feeling a pop or sharp, searing knee pain during the activity. The athletes could not straighten the knee all the way and could not walk without a limp. A round mass could be seen and felt along the inside and back areas of the knee. There was pain when trying to straighten the knee and weakness when trying to bend the knee.

The usual treatment plan for injuries like this is conservative care such as rest, use of anti-inflammatories, and physiotherapy. With time and rehab, it is expected that the athlete will regain motion, strength, and function.

The physiotherapist directs treatment to include sports-specific drills. Special attention is given to make sure the skills needed for the player's specific position are also addressed. Athletes are allowed to return to practice and play when the injured leg has 80 per cent of the strength of the uninjured leg. The player must be able to sprint without pain as well.

When pain persists and/or the athlete shows no improvement after six weeks of therapy, then surgery is considered. In this study, there were five players who had surgery within the first four weeks of injury. The rest were treated nonoperatively. In the end, half of the athletes ended up in surgery because conservative care failed.

The players who had surgery early on were off the field for about 10 to 12 weeks total. In contrast, the athletes who followed a conservative approach and then needed surgery anyway were out of the game for more than half a year. In professional sports, that kind of delay just isn't acceptable.

The authors suggest based on these findings that athletes with a distal semitendinosus rupture have surgery right away in order to speed recovery and return to competitive play. Symptoms as described in this report (motion restrictions, tender mass present, knee swelling, inability to walk normally) can guide the surgeon in recommending surgical treatment instead of conservative care. MRIs can be used to confirm the diagnosis.
In summary, there is a lack of evidence and predictive factors to guide treatment of distal semitendinosus ruptures in athletes. Based on this small study of 25 professional athletes, the surgeon must judge the situation based on clinical presentation (symptoms at the time of the injury). Surgery may provide a faster route to recovery and return to competitive play.