

Hamstring Injuries

The hamstring muscles are a group of 3 muscles that run from the pelvis to just below the knee (called semimembranosus, semitendinosus and biceps femoris). These three muscles act together to bend the knee and to extend the hip. They play an important role in propulsion during walking, running and jumping. Injury to the hamstring muscles is called a strain and these range from a mild strain of the muscle fibres (Grade I injury) to a complete tear of the muscle (Grade III injury).



Hamstring injuries must be carefully managed as they have a very high rate of recurrence if not looked after properly. Regardless of severity, in the first 48 hours the injury should be treated with the RICE regimen (Rest, Ice, Compression, Elevation). Following this, treatment to restore range of movement (such as stretches and gentle massage), and later to strengthen the healed muscle is required.

When returning from a hamstring injury, a lack of pain in the muscle is a poor indicator of when it is safe to return to sport. A recent study found that while muscle quickly regains its ability to generate force after injury (about a week), its ability to withstand this force is decreased for a significantly longer time (about three weeks). This sets up a scenario where an inappropriately rapid return to sports means that the muscle may not be strong enough to re-tear.

A carefully managed strengthening program as well as a graded return to running is the safest way of managing a moderate to severe hamstring strain. Specific exercises to strengthen the hamstrings in the positions that they must work in while running or jumping (such as Nordic curls and drinking bird exercises) have been shown to decrease the risk of re-injury of hamstring strains, and a slow build-up of running intensity and distance allows the muscles to return to pre-injury workload.

Other factors that can influence your susceptibility to hamstring injuries can include lower back problems, poor pelvic or core stability and poor running technique. Your physio is able to check these factors and address them if need be, as well as customise a program to return you to sport with the minimum chance of re-injury.