

Hamstring Strain

Introduction

Hamstring strain is one of the most frequent sports injuries especially in sprinting sports such as soccer and rugby.

Anatomy

Hamstrings are composed of three muscles at the back of the thigh, namely semi-membranosus, semi-tendinosis and biceps femoris.

Cause and Symptoms

Indirect injury is more common which occurs when hamstring stretches beyond its limits leading to muscle strain. Direct blow to hamstring could also result in muscle tear. Athletes usually reported sudden pain at the back of thigh that seems someone had kicked them from behind. Sometimes there is an audible “pop” sound in severe grade of injury.

Diagnosis

Hamstring strain could be diagnosed clinically with localized tenderness and swelling in the area of muscle involvement. There may be bruises at the back of the thigh representing underlying hamstring bleed at the injured site. For severe complete hamstring tear, muscle defect may be palpable. X-rays may be needed if avulsion fracture or other bony injury is suspected.

Ultrasound or MRI is sometimes used to provide more information about the location and extent of the hamstring injury, but physical examination is usually sufficient for the diagnosis

Non-Surgical Treatment

Most of the hamstring injury are strain, that means only part of muscle is torn and therefore non-surgical treatment is adequate. For acute hamstring strain, RICE regime with the use of analgesics such as non-steroidal anti-inflammatory drugs (NSAID) is the hallmark of treatment during the first few days of injury:

As the pain and swelling subsided by the first week, progressive functional physical therapy should be started. Crutches may be recommended, if the strain is severe and the patient is limping for a short period of time to reduce pain during walking.

Surgical Treatment

Surgery is rarely needed. However, it may be indicated for avulsion injury or in cases with complete disruption of hamstring with loss of strength, especially in active athletic population. As delay in surgery increases the chance of sciatic nerve involvement and tends to have less favorable functional outcomes, early surgical repair is recommended if indicated.

Rehabilitation

Rehabilitation in terms of supervised physical therapy improves the range of motion as well as muscle strength. Return to sports is allowed when athletes achieve pain-free full range of motion with satisfactory hamstring power. The time needed will depend on the severity of injury, too early return to sports will predispose further hamstring injury and thus not recommended.

Prevention

- Ensure sufficient proper warm-up before exercise
- Regular static stretching exercise improves flexibility.
- Maintain muscle strength balance between quadriceps (thigh muscles in front) and hamstrings
- Condition your muscles with regular program of exercise