

HAMSTRING STRAIN

DESCRIPTION

Inflammation and pain in the back of the thigh along the hamstring muscles. There are 3 muscles that comprise the hamstring muscle group that go from the hip or upper thigh, across the back of the knee to the leg. This structure is important for bending your knee, straightening your hip, and helping stabilize the knee. It is also important for running and jumping. These tendons feel like ropes in the back of the knee. This is the most common injury of the thigh. These are usually grade 1 or 2 strains. A *Grade 1 strain* is a mild strain. There is a “slight pull” without obvious tearing (it is microscopic tearing). There is no loss of strength and the muscle-tendon unit is the correct length. A *Grade 2 strain* is a moderate strain. There is tearing of fibers within the substance of the muscle, tendon or where the tendon meets the bone or muscle. The length of the muscle-tendon unit may be increased and there is usually decreased strength. A *grade 3 strain* is a complete rupture.

FREQUENT SIGNS AND SYMPTOMS

- Pain, tenderness, swelling, warmth and/or redness over the hamstring muscles at the back of the thigh. The pain is worse during and after strenuous activity.
- A pop is often heard in the area at the time of injury.
- Muscle spasm in the back of the thigh
- Pain and/or weakness with running, jumping or bending the knee against resistance
- Crepitation (a crackling sound) when the tendon is moved or touched
- Bruising in the thigh 48 hours following the injury
- Loss of fullness of the muscle or area of muscle bulging with complete rupture

CAUSES

- Strain from overuse or sudden increase in amount or intensity of activity or overuse of the lower extremity.
- May be due to a single violent blow or force to the back of the knee or the hamstring area of the thigh.

RISK INCREASES WITH

- Sports that require quick starts (sprinting or running races and other track events (racquetball, badminton))
- Sports that require jumping (basketball and volleyball).
- Kicking sports and water skiing.
- Contact sports (soccer or football)
- Poor physical conditioning (strength/flexibility) - including muscle imbalance
- Inadequate warm-up prior to practice or play
- Previous thigh, knee or pelvis injury – especially previous hamstring strain.

PREVENTIVE MEASURES

- Appropriate warm up and stretching before practice or competition
- Appropriate conditioning including cardiovascular fitness, thigh and hip flexibility, strength and endurance

EXPECTED OUTCOME

Usually curable within 2-6 weeks if treated appropriately.

POSSIBLE COMPLICATIONS

- Healing time will be prolonged if not appropriately treated or if not given adequate time to heal
- Chronically inflamed tendon causing persist pain with activity that may progress to constant pain
- Recurrence of symptoms if return to activity is too soon.
- Proneness to repeated injury (up to 25%)

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medication and ice to relieve the pain, stretching and strengthening exercises (primarily straightening the knee) and modifying the activity which initially cause the problem to occur. These all can be carried out at home, though referral to an athletic trainer or physical therapist for further evaluation and treatment may be helpful. An elastic bandage or neoprene (body swim suit material) sleeve may help reduce swelling and keep the muscles warm reducing symptoms. Crutches may be recommended if the strain is severe and the athlete is limping until the pain and inflammation settle down for the first 24 to 72 hours. Surgery is rarely necessary to reattach muscle-tendon if it pulls off bone (uncommon). Suturing or sewing torn muscle is usually not successful.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take for the first 3 days after injury or if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen are often recommended. Take these as directed. Contact your physician immediately if any bleeding, stomach upset or an allergic reaction occurs.
- Topical ointments may be of benefit.
- Pain relievers may be prescribed as necessary by your physician. Use only as directed.
- Injections of corticosteroids may be given to reduce inflammation, though not usually for acute injuries.

HEAT AND COLD:

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

NOTIFY OUR OFFICE IF

- Symptoms get worse or do not improve in 2 weeks despite treatment
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.