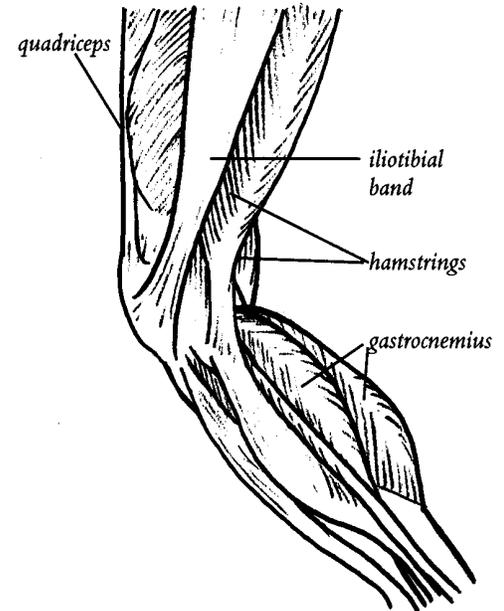


MUSCLE STRAIN

(Hamstring, Quadriceps, Calf, Groin, Hip Flexor, etc.)

◆ What is it?

Injury to muscle when a muscle is stretched or pulled due to an excessive load. Commonly this occurs during what is called an “eccentric” muscle contraction (when the muscle is tense but is lengthening under the load rather than shortening to move the joint). This can occur during quick, explosive starting, stopping, or cutting while running. The injured athlete may feel a “pop”, pulling, or tearing sensation in the involved muscle. This usually results in severe pain and inability to run and may cause a painful limp during walking. Severe muscle strains can cause a rupture in the muscle, resulting in a lump or gap in the muscle. Bruising often appears within 24-48 hours with muscle strains.



Muscles of knee

◆ Signs and Symptoms of this Condition

- Pain with motion of the joint involving the injured muscle (i.e. knee bending and straightening aggravates pain in the front of the thigh with a quadriceps muscle strain)
- Pain, tenderness, swelling at the site of injury
- Bruising may appear in the area of injury (24-48 hours after injury)
- Stretching of the involved muscle is painful

◆ Causes

- Usually involves quick, explosive starting, stopping, or cutting while running
- Eccentric muscle loading (loading of the muscle requiring lengthening while the muscle is tense or tightening)

◆ What Can I do to Prevent Muscle Strain?

- Adequate warm-up prior to physical activity
- Maintain flexibility through regular stretching (although recent research does show any reduction in injury rates when stretching is performed immediately prior to strenuous physical activity)

◆ Prognosis

- Depending upon the severity of the injury, a strain can resolve in 4-6 weeks if treated appropriately with conservative treatment and rest of the involved muscle group

◆ Treatment

- Rest – no running or jumping while the injury is healing
- Ice with compression (elastic wrap) over the injury site for 20 minutes 2 times per day for the first 48 hours.
- NO STRETCHING of the injured muscle for the first 72 hours to avoid causing further injury and bleeding of the involved muscle
- NO Anti-inflammatory medication (aspirin, ibuprofen, etc) during the first 72 hours after injury to avoid causing more bleeding, since these medications thin the blood and may interfere with clotting.
- Begin gentle stretching of the injured muscle 72 hours after the injury. Stretching should be gentle and not painful. Once a stretch of the involved muscle is obtained, hold the stretch 30 seconds and repeat 3 repetitions (with 30 second to 1 minute rest between repetitions). Perform this stretching twice per day.
- Slowly progress back into jogging once you are symptom-free and the muscle is not tender/painful to press on.