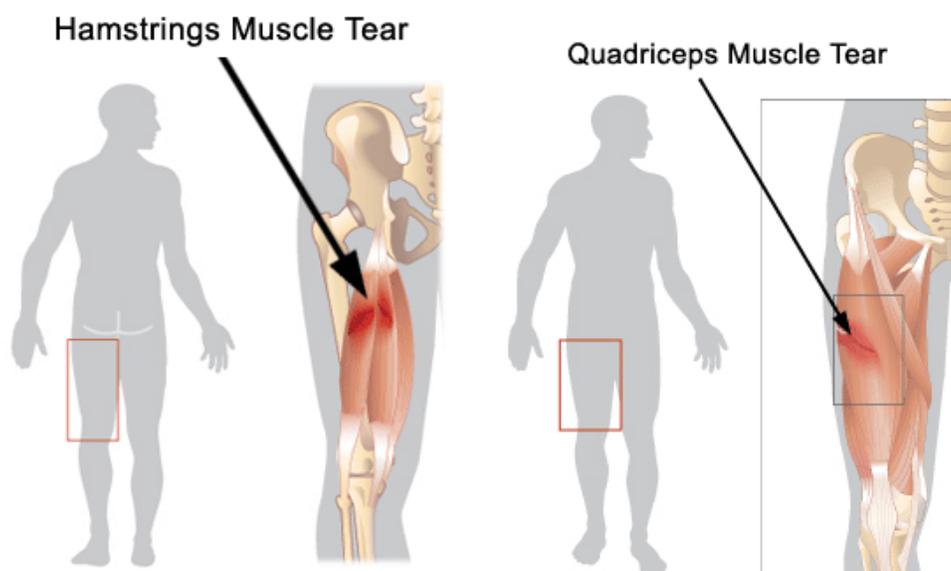


# ATHLETIC TRAINING CORNER

May 2012

## PREVENTING COMMON MUSCLE STRAINS



An athlete can sustain a quadriceps or hamstrings strain during any activity which involves rapid acceleration or deceleration, such as baseball, softball, lacrosse and track. Often, these injuries are caused because the athlete doesn't warm up properly, and attempts to sprint while the muscles are tight. Especially in our region, where it is often cold during practices and games, it is very important to properly warm up and stretch the muscles.

### **Symptoms of a hamstring strain:**

- A sudden sharp pain at the back of the leg during exercise, probably during sprinting or high velocity movements
- Pain while stretching the muscle (straightening the knee whilst bending forward)
- Pain while contracting the muscle against resistance
- Swelling and bruising
- If the rupture is severe, a gap in the muscle may be felt

### Symptoms of a quadriceps strain:

- A twinge in the thigh
- A general feeling of tightness in the thigh
- Mild discomfort while walking
- Discomfort while trying to straighten knee against resistance
- An area of local spasm
- In a grade 3 tear, the athlete may not be able to walk without crutches, and may experience bruising and immediate swelling. In this case, the athlete may need to wait 6-12 weeks before returning to competition.

### Factors Influencing Muscle Strains

- **Proper Warm-Up:** This should consist of light aerobic exercise, followed by stretching and sports-specific drills.
- **Age:** The older the person, the greater chance of a pulled muscle, so older athletes are encouraged to be particularly careful.
- **Previous injury:** Prior injuries to the hamstrings, adductor (groin) muscles, or quadriceps can greatly increase the chance of future injury.
- **Flexibility:** The greater the athlete's flexibility of a muscle, the less prone he or she is to injury.
- **Strength:** Lack of strength is linked to hamstring and quadriceps injury.
- **Nerve impingement (pinching)** in the back can lead to hamstring weakness.
- **Tiredness and fitness:** When fatigued, a player can lose coordination between muscle groups. The hamstrings and quadriceps muscle groups are innervated by multiple nerves. A lack of synchronization due to fatigue could result in more load being placed on one muscle. thereby causing injury.

### Treatment

Muscle strains can be treated with **R.I.C.E.:**

**R**est

**I**ce

**C**ompression

**E**levation

When dealing with muscle strains. it is important to first **address swelling and pain**. Once these are improving, then it is important to **restore normal range of motion**. Finally, **strengthening exercises** need to be done to return the muscle to prior function. In sports, the athlete will be put through sports specific drills prior to full return to play. Depending on the severity of the injury, it can take anywhere from a couple of weeks all the way up to 12 weeks to return.

**Kinematic Testing:** Special equipment is available which can be used to test muscle strength. It can then be compared to the uninjured side. Typically, someone should be at least up to 90% of the unaffected side before return to play.