

## **Hamstring Injuries**

### **How the Hamstring Muscles Work**

Most sports fans are familiar with the concept of hamstring injuries. In fact, these injuries are more common among the weekend recreational athlete than among professional athletes. The hamstrings are actually a group of three muscles in the back of the thigh. The hamstrings serve to bend the knee. They work in concert with the quadriceps to coordinate fluid motion of the knee and the entire leg. When the hamstrings contract and the quadriceps relax, the knee bends. In contrast, when the hamstrings relax and the quadriceps contract, the knee straightens. Normal walking and running is composed of countless cycles of this interplay between contracting and relaxing of these two muscle groups.

### **Types of Muscle Injuries**

When one muscle group fatigues or becomes weaker than the other opposing muscle group, a muscle imbalance occurs and the body may be predisposed towards injury. This is a common scenario with hamstring injuries, as the quadriceps are often more powerful than the hamstrings. Fatigue renders the hamstring muscle more prone to strains and tearing.

A muscle strain is a partial tearing of the muscle or tendon (the sturdy attachment of the muscle to the bone). Sometimes both the muscle and the tendon are torn. More profound injury to the muscle results in a complete tear from the bone. In some circumstances, the tendon tears directly from the bones of the pelvis, pulling off a small fragment of bone with it. This is called an avulsion. In these rare circumstances, surgical repair might be necessary.

### **Risk factors associated with Hamstring Injuries**

Risk factors for injury include a previous history of hamstring injury, excessive muscle tightness (stiffness prior to exercise), and inadequate stretching before exercise. As noted above, the recreational weekend athlete who engages in rapid-burst sporting activities such as tennis, basketball, or flag football is at risk for muscle injuries if time is not taken to adequately stretch and warm-up.

### **Treatment of Hamstring Injuries**

Any serious injury warrants prompt medical attention. Call your doctor if you are concerned about a serious injury. In cases of mild strains, the “**R.I.C.E.**” method may help.

**R**est the injured muscles

**I**ce the area

**C**ompression gently apply an elastic type bandage to the area

**E**levation of the leg will diminish swelling

### **Prevention**

The best treatment is of course prevention. As noted, appropriate stretching and warming-up are essential to injury avoidance. Also, it has been noted that low back pain can be associated with hamstring tightness or weakness. An adequate program of stretching and strengthening the hamstrings and lower back can serve to prevent injuries and promote general health.