Hamstring Injuries

One commonly strained or "pulled" group of muscles are the hamstrings. Spanning the back of the thigh, these muscles help to extend the leg backwards and are active when we "push off" in running, or on the upstroke in cycling.

The most common causes of hamstring injury include, postural imbalances in the alignment of the hips and pelvic girdle, inadequate warm-up time and inflexibility. Other causes include cycling on a bike seat that is too high, and overtraining. Alignment imbalances with the lumbar spine, hips and pelvis can cause these high-tension muscles to tear due to the improper biomechanical vectoring of the muscles that move the misaligned bones. This will cause the muscles to be repetitively overstretched, leading to pain and inflammation possible micro or macro tearing. In addition, cramping of the hamstrings may occur due to inadequate fluid, electrolyte, and carbohydrate intake.
In order to prevent hamstring injuries, proper warm-up and stretching are essential. A "cold" muscle should never be stretched. Before stretching, take 5-10 minutes to warm-up first. A good warm-up will imitate the actions that your body will undergo during your sport, but at a lesser intensity. For example, a hockey warm-up should include strides that are slower but similar to those taken during the game. Cyclists should engage in several minutes of easy spinning. Going through the motions of your sport is very important to warm up the area before stretching. After a proper warm-up, you are now ready to stretch.

The key to proper stretching is to remember, "less is more." Stretches should be gentle, relaxing, and never painful. You'll want to hold a steady stretch for at least 20-30 seconds without bouncing. Stretching too far may do more harm than good.

The safest way to stretch your hamstrings is to lie on your back, alongside a doorway (or tree, or fence post). Place the stretching leg up on the door-frame (or tree, or fence post), with the other leg lying flat on the ground. Both knees should be straight. To increase the stretch, slide your body closer to the door-frame; to decrease it, slide your body backwards. Hold for 20-30 seconds, and then repeat on the other side. Remember to continue to breathe throughout the stretch. Other related leg muscles, which are also important to stretch, include the quadriceps and calf muscles. Proper nutrition is also key in preventing hamstring injuries and cramping.

Proper assessment of hip, pelvis, and lumbar spine alignment is extremely important to prevent the injury in the first place. If misalignment is found manipulative correction will be necessary to heal the injury. Custom-made orthotics may help correct the misalignment too. Ultrasound as well as Active Release Technique will be helpful in quelling scar tissue formation and decreased elasticity.

One final caution: a true hamstring tear can be a potential emergency. If you experience a sudden sensation of a tear or "pop" in the back of your leg, followed by immediate, intense pain, you may have a large tear in your hamstring or calf muscles. Apply ice and call us for an appointment as soon as possible.

For more information ask Dr. Clendenin and Dr. Bocci for assistance.