HAMSTRING PULLS: A TRACK ATHLETE'S NEMESIS

As a former professional athlete, I know all too well the frustration one faces when dealing with a hamstring injury. Even the most notorious track athletes like Donovan Bailey, Michael Johnson and Gail Devers, have suffered from the dreaded hamstring strain. As the track season begins, numerous track and field athletes will be in jeopardy of injuring their hamstrings. Some athletes will be trying to prevent hamstring injuries, while others will be recovering from a hamstring injury.

Hamstring injuries are one of the most common among sprinters. The hamstring muscles run down the back of the leg from the pelvis to the lower leg bones, and an injury can range from minor strains to total rupture of the muscle. A sudden, sharp pain in the back of the thigh that stops you in mid-stride, is probably a hamstring injury, After such an injury, the knee may not extend more than 30 to 40 degrees short of straight without intense pain.

Causes

Poor Flexibility: This includes both the hamstring and the hip flexor muscles. If the hip flexor is too tight, it can inhibit the hamstring from functioning properly.

Poor Strength: This includes both the upper and lower hamstring. I have rarely seen an athlete whose hamstring muscles were developed in the right proportion to the powerful anterior leg muscles, the quadriceps. Some professional teams are now requiring their players to be able to lift 100 percent of their body weight with their quadriceps and 75 percent with their hamstrings

Muscle Imbalance: If the quadriceps dominate the hamstring, the hamstring can be prone to injury. A forwardly tilted pelvis can also put extra strain on the hamstring.

Loose Fibular head: One of the three hamstring muscles inserts onto the fibular head (this is the little bump on the outside of the leg approximately 1 inch down from the knee joint) If the fibular head is moving too much it can inhibit the hamstring muscle from functioning at full strength.

Fatigue: An exhausted muscle from over-training or over exertion is easily damaged. Measurements such as blood lactate, morning resting heart rate and subjective indicators such as tiredness, fatigue, excessive sleeping and change in appetite can all indicate that an athlete is overtraining.

Leg Length Differences: The shorter leg can develop overly tight

hamstrings
Improper Warm-up
Previous Hamstring Injury
Treatment
During the acute phase (first 2-3 days):
PRICE – Protect, Rest, Ice (20 minutes, 5-6 times per day) and Compression. Elevate the leg if possible. If your courageous, a bathtub filled with ice not only a good way to reduce inflammation from injury, but also a great way to reduce the odds of injury. I personally know that one of the reasons for Lui Passaglia's longevity, was his daily ice baths he took after practice.
Anti-inflammatory medication for the first 7-10 days only. It has been shown that long-term use of anti-inflammatory medications can lead to degeneration of joints.
Proteolytic enzymes is a natural way of reducing inflammation. These are digestive enzymes that can act as natural anti-inflammatory and are used widely in Europe.
During the subacute and recovery phase: (4 days to 6 weeks)
Epson Salt Baths with wraps
Increase your intake of omega 3 fatty acids. Cold water fish (salmon, herring), walnuts, flax seed meal or salmon oil supplements are excellent sources of omega 3 fatty acids.
A stretching program should be started as soon as the initial, severe pain and swelling subsides.
A strengthening program should be used to rebuild the strength of the injured muscle in order to prevent re-injury. Retrograde running (running backwards on a treadmill at an incline) is an excellent way to rehab the hamstring when done under the supervision of a health professional.
A thigh wrap or compression shorts can be applied to provide support as the muscle heals.
A Pool Running Program is also a great way to maintain the athlete's cardiovascular fitness as well as increase range of motion and strength.
The treatment plan for hamstring injuries in my clinic also consists of a biomechanical evaluation of the spine, pelvis, knee, ankle, and foot.
Prevention
Warm up thoroughly: I recommend an active warm-up such as a light jog and gradually performing more intense sports specific movements. Static stretching should be done after the workout.

Stretching after the workout should not be neglected.
Biomechanical Analysis by a sports minded health professional to assess which muscles and joints are contributing to the injury. Most hamstring strains are due to a biomechanical imbalance from the foot up to the low back.