

HAMSTRING HEADACHES: HOW TO AVOID THEM!

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Hamstring injuries are a very frustrating problem that unfortunately too many runners have encountered in their careers. Once you have had one of these injuries, they seem to hang around like a recurring nightmare. Your hamstrings are the 3 large muscles that run down the back of your thigh. They cross both your hip joint and your knee joint, thus they extend your leg at the hip joint and flex your leg at the knee joint. The hamstrings contract to stabilize the knee joint and extend the hip during the swing phase of running. At the end of the swing phase, they work maximally in an eccentric fashion to decelerate the leg. Then they concentrically contract during the stance - or foot strike phase of running and with the quadriceps, absorb the forces of 3.5-4.5 times your body weight through that stance leg. So - they work hard the entire way through the running cycle and can be easily injured. They are especially important for fast running, explaining why sprinting and speedwork make one prone to this injury. Unfortunately they can often take up to several months to heal and can become a chronic, recurring injury. As always, the best advice is prevention, but if an injury occurs, proper treatment is the key to a safe, expedient return to running.

The most common type of injury a distance runner will experience is a hamstring strain, which consists of small tears in the muscle fibers. You may feel a sudden pain in the back of your thigh that can range from a twinge to a searing sensation. Many feel the pain during and following activity. Swelling and tenderness at the site of injury are often present. Rarely a runner will experience an acute, complete rupture of the hamstrings. This occurs when the hamstring avulses off the bone and many may feel a "pop". This is more likely to occur during sprinting events, with a sudden contraction of the hamstring muscle. In this situation, significant bruising, swelling and often a palpable and visible lump in the upper aspect of the thigh is present. These injuries do require medical attention and sometimes surgery.

As with many running injuries, muscle imbalances are a big risk factor for hamstring strains. Often runners have too much quadriceps strength and too little hamstring strength. So, in the battle of the big running muscles, the hamstrings are the losers. In addition, runners will often have very tight hamstrings. This not only leads to hamstring injuries, but also can contribute to low back pain, knee pain and lead to postural changes that affect the mechanics of your running stride. If you are overtraining and not recovering properly, you and your muscles become fatigued more easily. Fatigue leads to decreased strength, power and endurance and this makes you more susceptible to injury. There are also several training errors which can lead to a hamstring strain, including an improper warm-up, poor stretching techniques, rapid increase in mileage - especially hills and sprints, and a cambered running surface (such as all your training, in the same direction, on the inner lane of the track). Finally, once you have had a hamstring strain, you are at a much higher risk for a more severe injury if you return to your routine before you are properly rehabilitated!!

As the good runners that we all are, we know that the first line of defense is prevention. And, as good runners, we have all learned that strengthening of our leg muscles and core muscles (abdominals and back muscles) is key. In particular, we should try to correct any muscle imbalance between our quads and hamstrings. Next, we need to stretch, not only the hamstrings, but our ITB's, gluteal muscles and quadriceps. A proper warm-up is also very important, especially before a big interval workout. Progress your training and hills gradually, and when you do run hills, be careful not to overstride on the downhill segment. This puts a large amount of stress on the hamstrings and can cause injury. Run on the flattest part of the road and avoid a slanted running surface. And the best advice of all is to **BACK OFF** at the slightest hint of trouble, stop that hamstring strain dead in its tracks!

If you do find yourself stopping short on a run and grabbing the back of your thigh - the first order is to stop training. Rest, use ice, over the counter anti-inflammatories for 7-10 days (if that is ok with your primary doctor), compression with a wrap around the thigh and elevate the leg when at rest. When the acute pain has abated, begin a gentle stretching and strengthening program. But, do not stretch through pain! If your recovery is prolonged, you may need to seek medical attention and could possibly benefit from some physical therapy. Resume training gradually when pain free - then carefully return to speedwork. You can cross train, as long as it does not cause irritation or pain when you are done. The usual recovery time is 3-6 wks, but the worst cases can be 3-4 months. If you fear the strain was severe, see a sports medicine physician for a thorough evaluation.

To all runners, stretch and strengthen, run smart and safe!