

Runner's Health

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Runners are one of the most common athletic populations seen in a chiropractic clinic. Running is an activity that creates both addicts and injuries at a steady pace. But, it is possible to prevent injury while continuing with running.

Plantar fasciitis, shin splints, achilles tendonopathy, iliotibial (IT) band syndrome, and patellofemoral syndrome are the top five running injuries. If you are a runner, you have probably suffered from one of these at some point in your running career. Though these injuries affect different regions of the body, they all fall under the broader category of repetitive strain or cumulative trauma injuries. Therefore, the pathophysiology, or what goes wrong to cause them, is the same, whether the affected tissue happens to be on the bottom of the foot (plantar fasciitis), back of the heel (achilles tendonopathy) or side of the leg (IT band).

All repetitive strain injuries (RSIs) begin with weak and tight soft tissues (muscle, tendon, ligament, fascia). Because of their tightness, these tissues create abnormally high amounts of friction between themselves and adjacent layers of soft tissue when the body is in motion. This friction is damaging to these layers of tissues and cellular breakdown occurs. The body repairs cell breakdown by depositing thick fibrous scar tissue, also known as adhesion. A little scar tissue is not problematic. When the same tissues are being damaged repetitively and the scar tissue accumulates, a painful condition ensues. Scar tissue adhesions are palpable and can feel like "knots" in a muscle, or thickening of a tendon. If left untreated, the scar tissue will create further injury as the tissue becomes less pliable with further friction. This creates a vicious cycle, the cumulative injury cycle (CIC).

There are many ways to break the CIC. There are specialized forms of manual therapy conducted most commonly by chiropractors, massage therapists and physiotherapists that target the scar tissue itself to rid the body of the thickened tissue. There are also preventative measures a runner may take to avoid repetitive strain in the first place.

The most direct way to treat an existing RSI is to break down the scar tissue itself. The gold standard therapy for treating RSIs is called Active Release Therapy®. This is a patented, hands-on system of diagnosis and treatment where the therapist uses their hands to first find and then rid the body of the deposited scar tissue through a series of specialized movements and a specific hand contact. ART® is extremely valuable, results are seen very quickly relative to more traditional forms of therapy. Running injuries and other RSIs may be resolved within four to eight visits.

The adage, *An ounce of prevention is worth a pound of cure*, rings true for running injuries. Runners tend to love running and may not cross train enough, or at all. There are seven factors of physical performance athletes looking to optimize performance and prevent injury should engage in: strength, stability, balance, co-ordination, endurance, mobility and flexibility. Another saying: *"We are only as strong as our weakest link"* applies here; if one of these seven factors is lacking, less than optimal performance or injury can result.

Distance runners train for endurance adequately, but other factors may be missing from the average runner's training regimen. To delve into a discussion on cross-training regimen for runners is beyond the depth and breadth of this article, however, some general suggestions can be safely made for all runners. Runners are very commonly lacking in muscular strength and stability. The most common areas of weakness seen in injured runners are the gluteal, or buttock muscles. The two main functions of the gluteal muscles are to extend and abduct the hip. A great cross-training exercise



for runners is ice or inline skating, or cross-country skiing, where the hip is actively pushing both back and to the side of the body.

Runners also often lack in flexibility. Recent scientific study has uncovered some new truths surrounding traditional static stretching or holding a muscle in a lengthened position for a period of time. Static stretching will cause the muscle to be approximately five per cent weaker for up to an hour afterward, having a detrimental effect on both performance and injury prevention. A better way to stretch before a workout is with dynamic or active, movement-based stretching. Dynamic stretching gets the blood flowing through muscles and gets the heart rate up before activity. It is best to perform motions that mimic the specific sport. So, runners should choose to do about five minutes of high knees, butt kicks and jogging in place before their run.

Static stretching is still valuable for injury prevention and for improving flexibility but must be done after a run while muscles are still warm. Stretching cold muscles can have adverse effects on muscle fibres, potentially causing more tightness and increasing injury risk. Imbalances in flexibility, such as tightness in your left hamstring while your right hamstring feels normal, is one of the major indicators for potential injury and can be improved upon with static stretching. Perform a slow comfortable stretch after the muscles have been warmed up and hold for 10-20 seconds to improve flexibility. Stretching should not be painful!

Despite the threat of the multitude of running injuries, it is possible to keep running injury-free if the right steps are taken. This includes engaging in a dynamic warm up before and static stretching after a run and cross training the seven factors of physical performance, paying particular attention to the gluteal region. If you do become injured, understand that you've likely suffered an RSI and should consider seeking the help of a healthcare professional, particularly one trained in Active Release Therapy® to get you back on the road, trail or track as soon as possible.

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The Early Intervention Program (EIP) invites NSTU members to sign up for our Wellness email list at Be_Well@nstu.ca. Please contact Erin at ekeefe@staff.nstu.ca to provide her with your NSTU email address.