



HIGH PERFORMANCE

SPORTS MEDICINE

Are you training too hard?

You've chosen your race, you've set your training schedule and you are ready to jump in and start pounding the pavement. However, you need to be aware of the signs that you have pushed yourself too hard to avoid developing an overuse injury that may interfere with you achieving your goal. An overuse injury results when one's muscle, tendon, bone, or joint is subjected to a repeated stress that it can no longer accommodate for and repair itself.

Our bodies have an amazing ability to adapt to exercise. When there is balance between training stress and recovery, the results are amazing! This is how you are able to push through your hill workouts, shave 2 minutes off your personal best or make it across the finish line of your first marathon. But if you push yourself too hard and forgo your rest days, your body can start to fail you.

For runners, who on average make 1,500 foot plants per mile at a force up to 10 times their body weight, overuse injuries are generally confined to the lower extremities.

The most common running related overuse injuries are:

- + tendinosis: microtears and degeneration of a tendon (e.g. hamstring or Achilles tendons)
- + tenosynovitis: inflammation of the fluid-filled sheath around a tendon (e.g. tibialis posterior or peroneal ankle tendons)
- + bursitis: inflammation of a small fluid-filled sac that allows for sliding of tendon over bone (e.g. trochanteric bursa at the hip or retrocalcaneal bursa at the heel)
- + stress fractures: small cracks usually in a weight-bearing bone (e.g. metatarsal bone in the foot or tibia bone in the lower leg)
- + joint dysfunction: altered joint mechanics resulting in joint overload (e.g. patellafemoral syndrome of the knee or 1st metatarsal phalangeal joint pain of the great toe)

The causes are often multifactorial, but the major risk factors include:

- + abnormal foot function/misalignment of the feet and lower extremities (e.g. flat feet, high arches, excessively mobile foot joints, knocked knees)
- + muscle inflexibility (e.g. tight hamstrings, calves or IT band)
- + muscle weakness (e.g. weak gluteals, quadriceps or anterior lower leg muscles)
- + training surface (e.g. hard surfaces, hills, stairs and running in one direction on a track)
- + improper footwear (e.g. old shoes with more than 450 K of mileage, non-running shoes)
- + overtraining (e.g. too much too soon, lack of variety in training program)

During your training keep in mind the following:

- + the amount of effort required: are you pushing your speed training too quickly and too often?
- + the number of repeats required: this can be as simple as running too often during a week or doing too many speed or hill repeats.
- + the size of the movement: plan your hill workout outs carefully. Gradually increase the grade you are running up and don't be fooled into thinking that running down hill is easier than running up hill. They each place different stresses on your lower extremities and you are actually more likely to develop an overuse injury from running repeatedly running downhill!
- + the amount of rest between repetitions: rest is important whether it is between speed or hill repeats, an active recovery day or an all out rest day.

If you develop pain, here is how to manage it and when to seek professional help:

- + pain that occurs after a run and does not affect your performance → OK to work through on own.
- + pain that occurs during a run and does not affect your performance → seek treatment from a physiotherapist, chiropractor, or massage therapist and you may continue training.
- + pain that occurs during a run that restricts your distance or speed → seek treatment from a physiotherapist, chiropractor, or massage therapist and you will likely need to modify and/or take time off training.

- + pain that is severe enough to prevent you from running → seek assessment from a sports medicine physician, stop training and there is a possibility you will be unable to race.
- + pain that is constant with daily activities → seek assessment from a sports medicine physician, stop training and in all likelihood you will have to postpone your race.

If you think you may have a running related injury or if you would like an assessment in order prevent an injury, you can book an assessment with either the Sports Medicine Doctor or with any of the Physiotherapists and Chiropractors at High Performance Sports Medicine (HPSM). We are conveniently located at the Yonge Eglinton Centre, 2300 Yonge Street, Suite 1604. For more information regarding our clinic and our approach to treatment please visit www.hpsm.ca. To book an appointment please email hello@hpsm.ca or call 416-486-4776 (HPSM).