

## The Science of Massage Therapy

One of the most common questions I receive from runners everywhere is “what are the best ways to prevent injuries?” Certainly there has been a lot of research on the benefits of muscle strengthening and how sufficient strength is needed to control your stride-to-stride variability. As well, the cutting edge 3D GAIT technology developed by our Clinic measures running gait biomechanics with millimeter precision to understand what aspects of your gait are typical and which are atypical. But I thought it best to answer this question in this issue by talking about the science behind massage therapy.

Massage therapists have been a part of the sports medicine team for decades and there’s some good research to better understand how a massage functions to prevent injuries as well as recover post-run. The fundamental theory behind massage therapy is the manipulation of different layers of muscle and connective tissue to (1) improve muscle function and (2) assist muscle recovery and rehabilitation. There are several other aspects to the theory of massage but let’s stick to these two.

The first study to discuss surveyed 745 runners after a race about their use of massage. Interestingly, 80% believed that massage would benefit muscle recovery following the race but only 44% had received a massage previously. In fact, this belief that massage is beneficial has been supported by several studies with most reporting that even just 10 minutes of massage, given within 3 hours after exercise, is effective in alleviating muscle soreness, reducing the chemical bi-products of muscle damage by approximately 30%, and reducing muscle and joint swelling. A recent study also reported that a 30-minute massage, combined with wearing compression stockings, significantly reduced perceived muscles soreness for the next 48 to 72 hours and was more effective than either method alone. So we can conclude that massage therapy plays a beneficial role in helping muscles to recover from strenuous exercise and during the rehabilitation process.

Next, let’s discuss whether massage can improve muscle function. Several studies have conclusively shown that massage therapy does little to help increase muscle strength if you are healthy, nor does it mitigate the loss of strength and function when a muscle is injured. In other words, a massage is very beneficial in helping an injured muscle recovery from a workout and in helping a muscle recovery from injury. But a massage cannot help a muscle produce more force or improve your performance.

Turning our attention to the injury prevention aspect of massage, researchers at Wilfrid Laurier University & Waterloo Sport Medicine conducted one of the most interesting studies to-date. They enrolled 12 runners to serve as controls and another sixteen runners met weekly with a registered massage therapist for a 30-minute massage. Both groups participated in 10-week program to train for a

10km race. What is so interesting is that 100% of the runners in the massage group completed the 10 km race at the end of the training program as compared to only 58% of the runners in the control group. Obviously this is a small study but the results are promising and speak to the benefits of regular massage to prevent injuries while you train.

The final study I want to bring to your attention deals with the level of education and the amount of training the massage therapist has undergone. A research study involving a group of 317 runners offered a 15-minute massage immediately after a 10km race. The runners were randomly assigned to a massage therapist with either 450, 700, or 950 hours of training. The results showed that a greater reduction in muscle soreness was achieved by therapists with 950 hours of training as opposed to those with only 700 or 450 hours of training. So buyer (runner) beware! My advice is to seek out a registered massage therapist who has at least 950 hours of training and get a 30-minute massage, once a week, to help you achieve your training goals and prevent injury. If you've got an upcoming race, book your post-race massage for anytime within a 3-hour window after the race. Finally, if you are injured, massage can play a big role in alleviating muscle soreness, reducing chemical bi-products, and reducing swelling.

My final word is the announcement of the expansion of the Running Injury Clinic to Glenmore Landing in southwest Calgary. We opened in March and we are one of the most scientific and advanced sports medicine clinics in the world. The Clinic is the flagship for our 3D GAIT technology and we have assembled a team of the top physiotherapists and massage therapists in Canada! We're looking forward to providing you with world-class research and advanced clinical practice.

Visit [www.runninginjuryclinic.com](http://www.runninginjuryclinic.com) and follow us via Twitter (@DrFerber) or on Facebook ([facebook.com/runninginjuryclinic](https://facebook.com/runninginjuryclinic)) for news about the Clinic and research updates.