Eccentric Strength Training

The Right Way to Rebuild Your Tendons

Centre for Chiropractic & Sports Rehabilitation

An integrative, biomechanical approach to the everyday sports and spinal injuries.

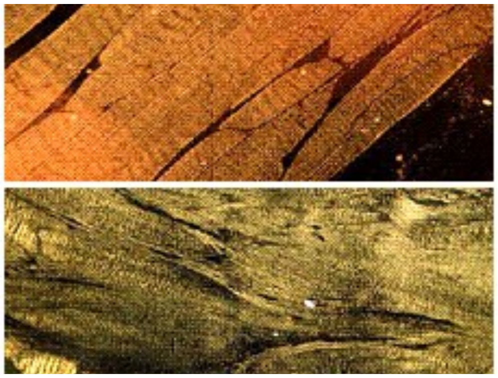

Figure 1: Healthy vs. Unhealthy Tendons

Physiological Breakdown

Overused, inflamed, and damaged tendons are a significant source of pain in the body. Tendons— bands of collagen that connect muscle to bone —work closely with muscles in the body, so damaged tendons often present muscular pain near the affected area. Figure 1 (left) compares two tendons. The top tendon features neatly stacked collagen fibres that are all oriented in the same direction. This tendon is functional and healthy. The bottom photo is a tendon comprised of bunched up, inflamed collagen. This is an example of a tendon affected by tendinosis: a tendinitis injury that has been left untreated and has become a chronic issue.

Tendinitis: Symptoms and Treatment

A tendon becomes inflamed through repetitive overuse . In acute cases (a short-term sudden onset of symptoms) the tendon is suffering from tendonitis. Tendonitis presents as pain in the tendon and surrounding area while the tendon is in use. If a patient is experiencing tendonitis in the shoulder, for example, he or she will experience pain while performing repetitive movements *of* the shoulder: golf and tennis swings, repetitive lifting, housecleaning, and even shampooing. Pain in the tendon usually disappears when the tendon is not in use.

The most recommended treatment of tendinitis is the PRICE method: protect, rest, ice, compress, and elevate the affected area. A few weeks of the PRICE-style self-treatment should be enough to improve the tendon. If tendinitis is *not* treated this way, the body's inflammatory response will eventually stop, leaving the patient with damaged collagen that will get increasingly more damaged with repetitive use, leading to tendinosis.

Tendinosis: Symptoms and Treatment

Tendinosis occurs when a tendinitis injury is left untreated for four months or longer. Short-term inflammation has now become a chronic, degenerative problem. The condition presents pain at the onset of activity (while the tendon and surrounding muscles are warming up) and for some time after an activity. It will rarely be bothersome while actually performing repetitive movements. The ache *after* movement, however, can be long-lasting and severe, making tendinosis difficult to manage.

Because tendinosis is a degenerative condition, it requires an in-depth treatment that will flush out the damaged cells and stimulate regrowth of healthy cells. Dr. LaBelle accomplishes this by manually loading the affected collagen, encouraging an inflammatory response in the body. He exposes the affected tendon and surrounding area to active release, friction massage, and the Graston technique. Treatment is then focused on eccentric strength training to counteract any loading of the collagen fibres that will occur in the future.

What can YOU do?

Dr. LaBelle will prescribe stretches and strengthening exercises through the course of your treatment. These exercises are essential to your recovery, and we urge you to set aside 20 minutes a day to complete these exercises. Affected tendon needs frequent treatment (at least 3 times a week) to heal properly, so a weekly appointment with Dr. LaBelle will help *manage* the problem, but frequent self-treatment will ensure improvement.

Loose-fitting garments will ensure that Dr. LaBelle has access to the affected area, so we recommend that you wear light exercise wear to your appointment. Finally, we recommend that you keep an icepack in your freezer. Dr. LaBelle's preferred active release and friction massage treatments are sometimes painful, and icing after your appointment is the most effective way to reduce the pain and to encourage healing.