

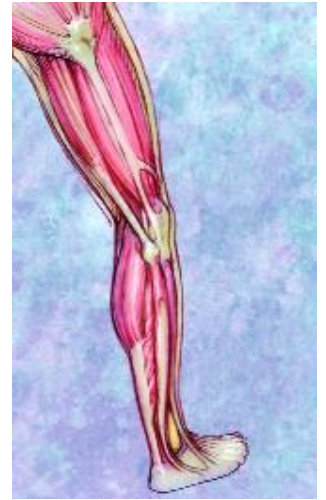
# Beating the Band

## New Treatment for IT Band Syndrome Yields Results

By Brian Fullem, D.P.M.

As featured in the May 2004 issue of Running Times Magazine

Iliotibial band syndrome (ITBS) can be a debilitating injury to a runner. The IT band, as it is more commonly known, can become so painful that a runner is unable to train at all. Mark Fadil, the Director of Sports Medicine Institute International (SMI) in Palo Alto, CA, knows this injury both personally and professionally. As a high-school senior, Fadil won the New York state 3,200m championship in 9:10. After one successful collegiate year, Fadil developed pain on the outside of his knee on the fourth day of his sophomore year. He was diagnosed with IT band syndrome and, even though he was receiving regular treatment—including NSAIDs, ultrasound, stretching, and two cortisone injections—the pain progressed to the point that he could not even run a mile. Nine months later, he turned to physiotherapist Gerard Hartman, and after 11 days of deep tissue massage, stretching, and strengthening, he was able to train again, finishing his career at Stanford as a team captain with an 8:50 best in the 3,000m steeplechase.



### What It Is, What It Does, What Goes Wrong

The IT band begins in the hip as the tensor fascia latae muscle and has attachments at the origin from three different muscles: the gluteus medius, gluteus minimus, and vastus lateralis. The muscle becomes a fibrous band of tissue as it progresses down the thigh, then crosses the knee joint, and inserts along the lateral (outside) portion of the patella (knee cap) and into the tibia (shin) bone on a bump known as Gerdy's Tubercle.

The classic symptoms of ITBS are pain along the lateral (outside) aspect of the knee joint, sometimes accompanied by a clicking sensation. The click is a result of the ITB tightening and snapping across the joint during running. The symptoms are often worse when running up or down hills.

ITBS is typically progressive, starting with tightness and often advancing to the point where the pain is debilitating. The traditional view on the cause of this injury has focused on the tightness of the structure and overtraining. There is no doubt that the ITB will become tighter when it is injured. The tightness, however, is more than likely a result of the injury and not the actual cause. The cause of this injury actually lies in the function of the ITB.

The main functions of the ITB are to assist the hip muscles in abduction (outward movement) of the thigh and to stabilize the lateral side of the knee. The ITB is not a strong structure, and if the surrounding muscles have any weakness that can lead to injury and ITB syndrome. Runners are notoriously weak in their hip and core muscles, particularly if strength training or participation in sports that involve side-to-side movement are lacking.

In a study published in the *Clinical Journal of Sports Medicine* (July 2000), Dr. Michael Fredericson, a physical medicine MD at Stanford University, compared 24 runners with ITB syndrome with 30 healthy runners and found the injured runners to have statistically significantly weaker hip abductors (mainly gluteus medius and minimus) than the non-injured runners.

### Phases of Treatment

Traditional treatment of ITBS has focused mainly on stretching. While stretching plays an important role in the treatment of this injury, there are several other forms of therapy that need to be incorporated.

Given current research, treatment for ITBS should be in phases. The first phase requires a proper diagnosis and the identification of any causative factors. Once this is established, the next phase is aimed at reducing the pain. Rest may have to play a part during this phase, which also may include physical therapy modalities, ice, and stretching three times a day. Cross training that does not aggravate the condition can be done to maintain fitness.

Deep tissue massage along the full length of the ITB can be started in this phase; Dr. Fredericson refers to this as mobilization of the tissues, and it is a necessary step before moving on to the all-important third phase of strengthening the hip and thigh muscles. Fadil recommends very frequent massage: up to every day for elites, and 2 or 3 times per week for recreational runners. If you cannot afford the expense or time of going to a certified massage therapist, a foam roller can work very well for self massage (see [www.smiweb.org](http://www.smiweb.org) to obtain rollers).

In Dr. Fredericson's study, the injured runners were enrolled in a six week standardized rehabilitation protocol with special attention directed to strengthening the gluteus medius. After rehabilitation, the females demonstrated an average increase in hip abductor torque of 34.9 percent in the injured limb, and the males showed an average increase of 51.4 percent. After six weeks of rehabilitation, 22 of 24 athletes were pain free with all exercises and able to return to running, and at a six-month follow-up there were no reports of recurrence.

## **Exercises for Recovery and Prevention**

If your pain has successfully been reduced, the first exercise that can be performed is side leg lifts. Fadil instructs his patients to use a thera-band for strength work. These large rubber bands come in different strengths and can be ordered from any medical supply store, or one with handy clips and cuffs can be purchased at [www.tomdrum.com](http://www.tomdrum.com). Detailed instructions and photos of all stretches and exercises are available at [Stretching and Strengthening Exercises for Iliotibial Band Syndrome](#).

## **Not a Pronation Issue**

In some cases, after therapy, stretching and strengthening have been performed then a custom orthotic device may be considered. Patients may benefit more from a cushioned type of orthotic as opposed to a rigid, motion-controlling device. Dr. Doug Richie, President-Elect of the American Academy of Podiatric Sports Medicine ([www.aapsm.org](http://www.aapsm.org)), has never been able to establish a clear-cut relationship between any foot types and the propensity to develop this injury. He states, however, that he has almost never seen this injury in runners with flexible flat feet that overpronate; most runners with ITBS would be classified with feet nearly normal or with a slightly higher arch.

## **Run Fast, Not Long**

Fadil credits Vin Lanana with the finding that faster running is less aggravating to this injury, so strides may be initiated when the pain level has been sufficiently reduced and until the ITB is healed enough to begin normal running. As with most injuries, the longer you have experienced symptoms the longer it may take to recover. Adding strength work in addition to the previous treatment mainstays of stretching, icing and massage should get you back to form much quicker.

*Dr. Brian Fullem ([bfullem1@aol.com](mailto:bfullem1@aol.com)) is a sports podiatrist in Newtown, CT. He has captained the Bucknell Alumni team that won the last two Reach the Beach relays.*