ILIOTIBIAL BAND SYNDROME: CAUSES AND TREATMENT

Dr. James Kurtz
Photos by Ming Ming Su-Brown

The Iliotibial Band (ITB) is a common site of injury for many runners. The first sign that you have a problem in the ITB is usually discomfort, tightness or pressure felt at the outside of your knee. Occasionally, runners will feel discomfort at the outside of the hip as well. It is generally accepted that the irritation within the ITB is created by friction as it passes over the bony prominences of the outside of the knee (lateral femoral condyle) or the hip (greater trochanter). MRI studies have shown thickening of the ITB in runners with this syndrome where the band passes over the lateral femoral condyle.

In normal running gait, the ITB is under the most friction just after foot contact when the knee is flexed to 30 degrees. Many factors increase the likelihood of injury to the ITB:

1. Unlike walking, which is a double limb support activity, running requires that you support your weight with a single limb, which requires you to place that limb closer to midline or else lose your balance. This narrower base of support means that your leg is adducted or brought toward the midline, thus putting tension on your ITB. There is even more stress put on the ITB in many female runners because they typically have a wider pelvis than men.
2. When you have weak hip abductors (gluteal muscles) or you are unable to keep a stable or level pelvis during running. The ITB of your support leg is put under increased tension as you propel your swing leg around for the next foot strike and your gluteal muscles allow your unsupported hip to drop under the weight of the leg, thus tensioning the supporting leg's ITB even more.
3. The ITB is put under increased tension when there is excessive rear foot pronation causing lower leg internal rotation. This last one has been covered extensively in running magazines and by healthcare providers issuing orthotics and arch supports, and shoe companies providing stability shoes.
4. Running consistently on the same side of a cambered road has been shown to increase the tension in the ITB on the downside leg.

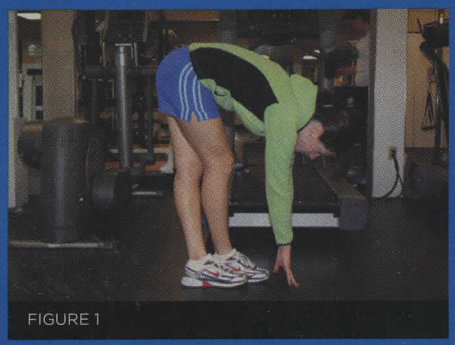
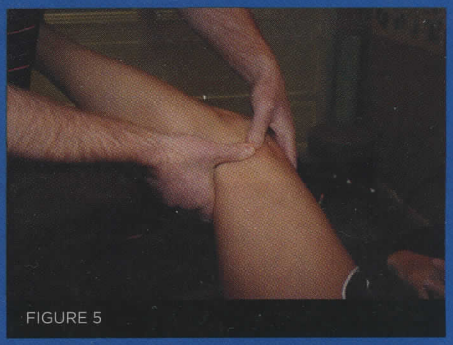


FIGURE 1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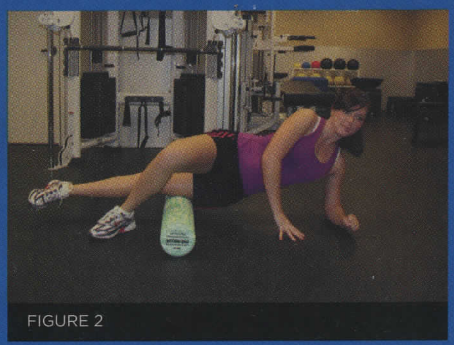
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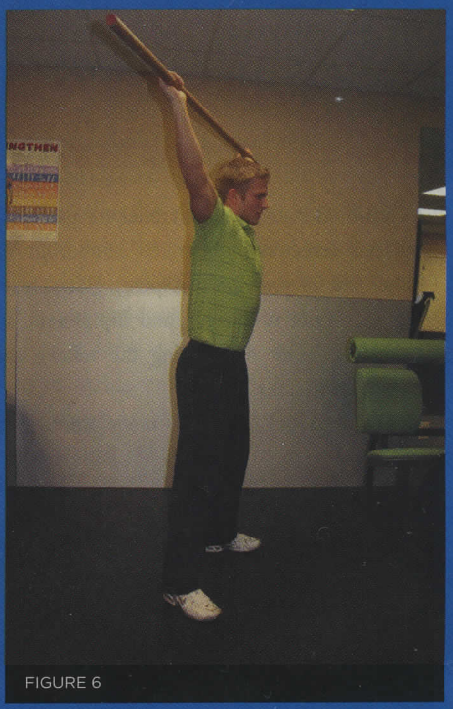
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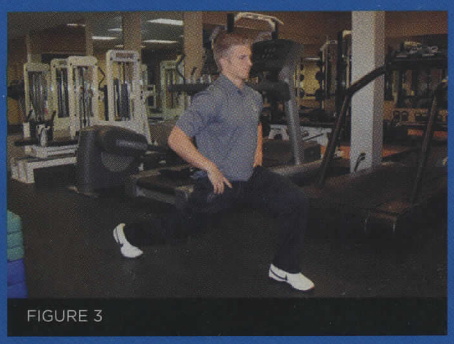
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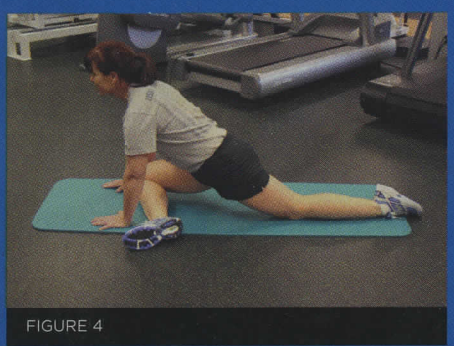
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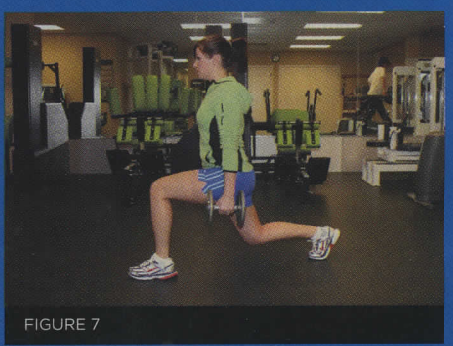
FIGURE 7

Treatment of ITB syndrome includes the following:

- Stretching and mobilizing the ITB. [Fig. 1 & 2]
- Stretching the hip flexors. [Fig. 3]
- Stretching the glutes. [Fig. 4]
- Functional strengthening of the glutes and core in a standing position to more closely resemble the posture you are in when running. Good examples of these are overhead squats, lunges and lateral band walks.

Soft tissue mobilization techniques like Active Release Techniques (ART) and Graston Technique

[Fig. 5] have been utilized for many years by some of the world's best athletes to help speed the recovery from injuries, aid in the rehabilitation process and return to competition faster. When there is irritation to the tissue (in this case, the ITB) inflammation occurs. Inflammation causes the cells of tissue repair to migrate to the area, thereby beginning the tissue repair cycle. That means that scar tissue is formed. Scar tissue is important when something needs mending, however, in the case of irritation, scar tissue merely binds the fibers together preventing complete fluid motion of the ITB and causing pain. These soft tissue mobilization techniques break up scar tissue, such as adhesions and fibrosis, allowing fluid movement of the ITB and decreasing pain. It does not take the place of treating the source of the problem, however, but is necessary in the complete resolution of the condition.

Utilizing soft tissue treatment techniques, like those mentioned above, in your recovery process will not only help loosen tight hip muscles and the ITB, but will also help facilitate weak or inhibited muscles, making strengthening easier.

It is important to not run through ITB syndrome because this syndrome alters your proper gait mechanics and can lead to chronic SI joint problems, patellar tracking problems and lateral meniscus tears. Many people can endure some running in their recovery when their mechanical problems (i.e. tight/weak muscles and joint alignment/mobility issues) are dealt with. In fact, lateral and backwards running are often used to strengthen the hip musculature in conjunction with functional exercises such as: squats [Fig. 6], lunges [Fig. 7], runner's lunge on a Bosu trainer [Fig. 8a & b], and lateral band walks [Fig. 9a & b]. Also, plyometric exercises such as box jumping [Fig. 10a & b] are very important in the full recovery of the injured runner.

About the author

Dr. James Kurtz is a runner and triathlete. He is the clinic director for NW Sports Rehab, a multidisciplinary clinic in Federal Way, WA integrating sports chiropractic, acupuncture, massage, and rehabilitation. He is an instructor for Active Release Techniques, a former member of the medical staff of the PGA Tour, U.S. Olympic Trials in Track and Field, Team USA's chiropractor to the 2007 Parapan American Games in Brazil, and has most recently been selected to the U.S. Olympic medical team for the 2008 Paralympic Games in Beijing, China. <

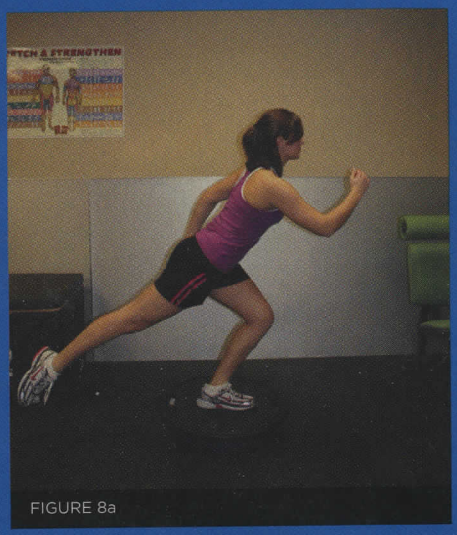
FIGURE 8a

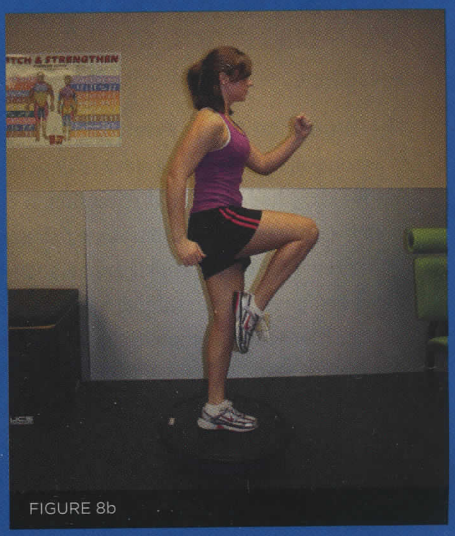
FIGURE 8b

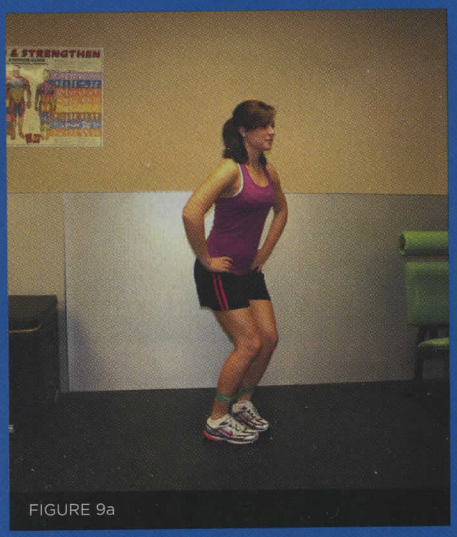
FIGURE 9a

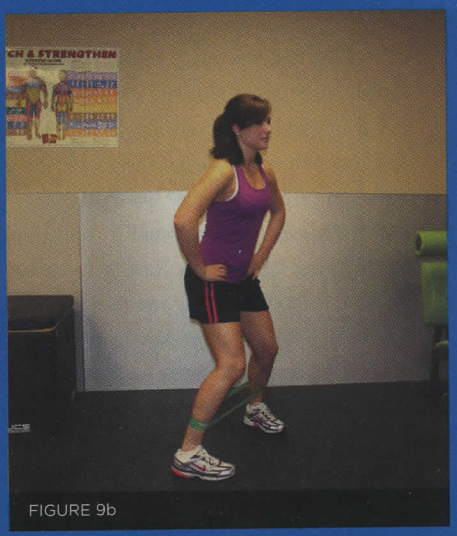
FIGURE 9b

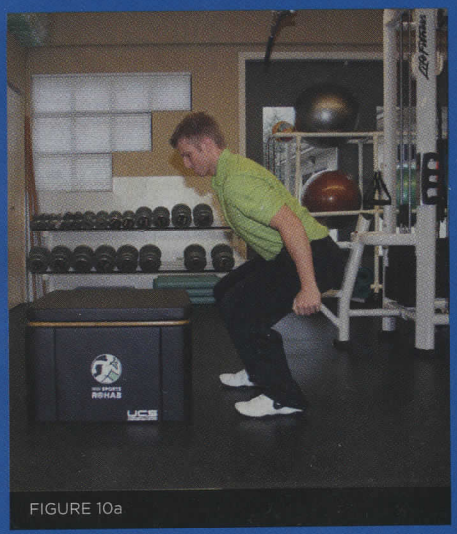
FIGURE 10a

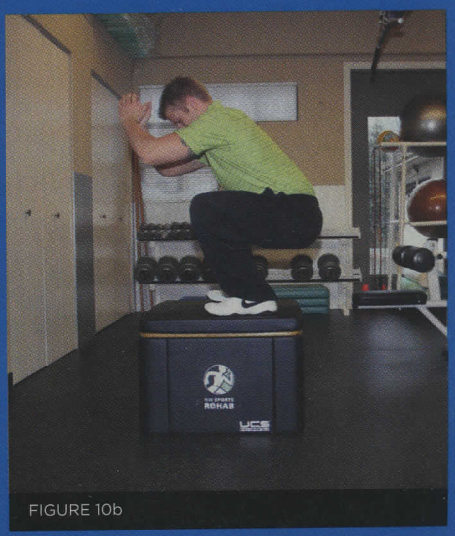
FIGURE 10b