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Iliotibial Band Friction Syndrome

By: Tyler Dyck

If you enjoy running or cycling outdoors or at the gym, you may be susceptible to an injury we see frequently in the physio clinic called "Iliotibial Band Friction Syndrome."

Iliotibial or "I-T" Band Friction Syndrome is the medical term for describing lateral (outside) knee pain caused by a repeated friction of a band of tissue against the bone on the outside of your knee.

The iliotibial band is a thin sheet of strong tissue that runs from the outside crest of your pelvis (where you put your hands on your hips) down the outside of your thigh and attaches into the upper outer part of your shin bone just below the knee. The duty of this band is to firmly hold in the outside of your thigh muscles (quadriceps) and form a strong stabilizing link between the hip and the knee.

On the outside of the knee near the knee joint line, there is a fulcrum point where the band pressures against the bone. When the knee is repeatedly bent and straightened as in running and cycling, the band glides back and forth over this fulcrum point of bone eventually causing friction heat and stress to the tissue.

This friction or rubbing is a normal anatomical occurrence and most people will bike or run without ever having this problem; however, with most injuries we see in the clinic, it's the predisposing and precipitating factors that lead to excessive friction or pressure that end up causing the injury.

Here's what to look out for.

Tightness of the quadriceps muscles and iliotibial band itself is probably the main source of the problem. As you can imagine, any increase in tightness in these tissues will directly lead to increased pressure or friction against the outside of your knee. Some people develop tightness in certain muscle groups inherently through growth spurts or lifestyle habits without even knowing it. Growth spurt-related causes are obviously found in kids between 12 and 18. Parents should play close attention to these spurts when symptoms arise. Often as the thighbone (femur) grows quickly, the quadriceps and iliotibial band tissue takes more time to catch up with the change in length.

Lifestyle habits that may be problematic include open leg sitting positions commonly seen with truck drivers or sitting jobs. Open leg seated positions place the outer hip muscles and iliotibial band in a shortened position.

Lower leg malalignment can also cause iliotibial band problems. A very common malalignment is seen in over-pronated or flattening arches in the feet. While running, collapse of the arch in the foot can cause the knee to rotate inwards during impact, thus increasing tension on the band. Conversely, the extreme opposite foot position can also cause stress through a bowing affect at the outer side of the knee.

Another common cause is poor footwear—how many times have I looked around at my gym in Kuwait and seen people running or walking on the treadmill wearing “sneakers” that are more of a fashion statement than sporting equipment! If you are going to make running a regular part of your life, you have to invest in proper running shoes with proper soles, that keep your feet moving in the correct range of motion. If the exercise bike is your thing, make sure your sit correctly: being too far back or too far forward can put strain on the I-T band. Finally, the joint in the pelvis, called the sacroiliac joint, located just above your buttock muscles at the base of the spine is a frequent cause of iliotibial band friction syndrome. As mentioned before, the top of the iliotibial band attaches to the front edge of the pelvis right around where you place your hands on your hips. If the SI joint in the back develops stiffness, or becomes rotated backwards, it can cause a lifting stress to front edge of the pelvis where the band attaches, thus increasing tension.

Injuries usually occur when strenuous factors get compounded in a short period of time. Combine any of these predisposing or precipitating factors with repeated loading stresses in running or cycling, and you have a recipe for iliotibial band friction syndrome.

You can recognize the onset of this problem with sharp pain, localized swelling, and possibly clicking on the outer side of your knee. You may also feel like your knee is locking or is unable to bend without having sharp pain. Aside from running or cycling, people commonly experience this pain squatting, going down stairs, or stepping off a curb.

Most importantly, if you feel it coming on, ice it immediately and take a rest from the activity at fault.

Follow the tips and advice above but if you are still struggling, you may need a thorough assessment from your physiotherapist to pinpoint the root cause of the problem. Some of the stretches can be complicated so getting proper advice on technique is vital. This problem tends to linger for a long time so don't procrastinate and get started on the path to recovery!

For further information on this topic please contact the Fawzia Sultan Rehabilitation Institute (FSRI) in Hawally at 264-2862, or check out our website at www.rehabinstitutekuwait.com

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