

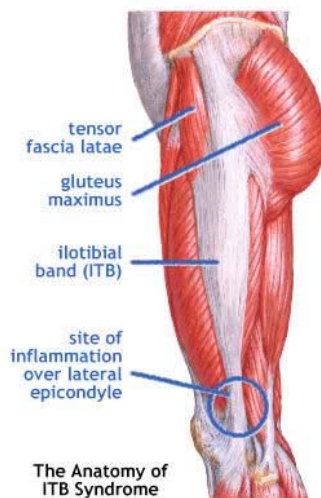
## My Knee Hurts After Running Only 5 Minutes!?

### Iliotibial Band Friction Syndrome in Runners

Dr Jaclyn Durante BSc, DC, CSCS

Recently there has been a dramatic increase in running as a form of exercise. With this rise comes a parallel escalation of running injuries. Arguably the most common injury affecting runners of all types is iliotibial band friction syndrome (ITBFS). In fact, **12% of ALL RUNNERS** experience iliotibial band friction syndrome!

The iliotibial band (ITB) is a thickening of fascia, or connective tissue, in your thigh that starts above your hip and ends below your knee (see picture). The tensor fascia latae and (part of the) gluteus maximus muscles help form the top portion of the ITB. The ITB continues down the outside of your thigh and has a multifaceted insertion around the knee, but primarily attaches to Gerdy's Tubercle located on your tibia (shin bone). To palpate your ITB try this: with your knee bent to about 30 degrees, feel the outside of your lower thigh just above your knee. The hard, thick band of connective tissue that you are able to roll over (usually slightly tender to touch) is your ITB.



So how does this thick band of fascia result in significant pain forcing people to stop running???. Until recently, it was originally thought that ITBFS occurred when the posterior edge of the ITB becomes impinged against a bony prominence on your thigh bone (lateral femoral epicondyle) just after the foot hits the ground with each stride. This is called "the impingement zone" and occurs around 30 degrees of knee flexion. A very interesting study conducted in 2008 demonstrated on cadavers that ITBFS is actually more likely due to compression, and subsequent irritation, of a small amount of fat underneath the ITB. Treatment for ITBFS should therefore be cognisant of this local fat pad irritation, as local soft tissue treatment (massage, ART, Graston for example) directly over this fat pad usually makes the condition worse!!!

The signs and symptoms of ITBFS include a sharp pain or burning on the outside of the knee that typically starts after a reproducible time of running. The symptoms then disappear in between runs, but return with the following run at the same time interval. Downhill running, increasing stride length and prolonged sitting with knee flexion seem to aggravate the pain. Local tenderness 2-3 cm above the joint is common but can also occur on or below the knee joint. Snapping, swelling and crepitus (grinding) may also be present. As the ITB fat pad becomes increasingly irritated, the symptoms typically begin

earlier and earlier into the exercise and may even begin to occur at rest, sitting with knee flexion, descending stairs or with normal walking. Training factors that have been associated with the development of ITBFS include, excessive running in the same direction on a track, abrupt increase in running mileage or frequency, running long distances, and downhill running.

So now you know what ITBFS is...but what can you do about it? Since fat pad irritation is inflammatory in nature, treatments directed towards minimizing this inflammation (ice, NSAID's, modalities etc.) will be initially helpful at reducing the symptoms. Just when you think this problem has gone away, and you start running again the symptoms inevitably keep coming back; this is because the underlying biomechanical problem has not been addressed. A study from 2000 found that in 24 runners with ITBFS, **ALL 24** had significant weakness in their hip abductors (outside of the hip) on the leg with ITBFS versus their uninjured leg and control group runners. Weakness is suggested to be due to the fact that runners continually run in a straight line with no lateral movement and hence do not train the hip abductors efficiently. The proposed theory is that weakness of these muscles does not allow proper control of the pelvis and leg while running. So the obvious solution is to strengthen these hip abductor muscles. There are several effective exercise options; one option, as seen below, is the Wallbanger exercise (Fredericson 2005).



Flexibility training should also be incorporated to help keep the lateral side (outside aspect) of your leg loose to avoid excessive tension to the ITB. Try the following stretch (Fredericson 2005).



Additional treatment should include addressing muscle and fascial restrictions/tightness along the ITB and in the muscles of the thigh and lower leg. This will help decrease the tension on the ITB, and subsequently minimize the irritation to the ITB fat pad. A comprehensive biomechanical assessment of your hips, pelvis and lower limbs may be also beneficial to identify other factors contributing to the ITBFS.

The chiropractors Absolute Endurance Training and Therapy have a special interest in sports injuries, including ITBFS. To book an appointment or consultation call **416-483-2388** or visit **[www.absoluteendurance.com](http://www.absoluteendurance.com)**