



Iliotibial Band Syndrome

By Krista Simon, PT, MS

The most common cause of knee pain in runners, Iliotibial Band Syndrome accounts for 12% of all running injuries. The iliotibial band (ITB) is a fibrous band that runs from your hip to just slightly below the outside of your knee. This “band” is crucial in stabilizing your knee during running, and needs to work constantly throughout your run.

Symptoms

Common complaints from people suffering from Iliotibial Band Syndrome include:

- Pain or aching on the outer side of the knee that usually occurs 1-2 miles into your run.
- Pain worsens as you continue running, and it becomes very difficult to “run through it”.
- Early on, pain will usually subside after you stop running. However, as condition worsens, walking, stair climbing, and any movement that requires bending/straightening of the leg becomes painful.

The Causes

- Tight Iliotibial band: During bending and straightening of the knee (which occurs repeatedly while running) the iliotibial band rubs over the femoral epicondyle (thigh bone) near the outside of your knee. A water-filled sac (bursa) lies between the bone and the band to help protect it. However, if the IT band becomes tight, the bursa can become irritated from the constant friction and rubbing from the band, which leads to inflammation in the area.
- Weak hip abductors, especially the Gluteus Medius, is often found in runners with ITB issues. If your hip muscles are weak, then the Tensor Fascia Lata (the muscle connected to your ITB) and ITB have to work extra hard to do the job of the abductors. Unfortunately, The TFL/ITB does not have an insertion that offers a favorable mechanical advantage to abduct your leg. In fact, it is at a considerable disadvantage for the purpose of hip and leg abduction activity. Therefore when the hip abductors are weak, the Tensor Fascia Lata must contract harder and over a longer period of time thus straining the ITB.
- Some other factors that may contribute to iliotibial band syndrome include genu varum (bow legs), overpronation of the foot (flat feet), leg length discrepancy, and repeatedly running on a banked surface.

Treatment

Initial treatment includes icing affected area (20 minutes 3x/day), decreasing mileage or cross-training (any activity that does not irritate knee) instead of running.

The key to addressing knee pain associated with ITB syndrome is:

1. Keeping ITB and Vastus Lateralis (outside of thigh) flexible through use of foam roller (see exercises below).
2. Strengthening hip musculature, primarily gluteal muscles, to allow for proper bio-mechanics and hip stability when running (see exercises below).
3. Addressing biomechanical faults such as overpronation of feet through use of proper footwear and/or orthotics, or a possible heel lift for leg length discrepancy (consult with health care provider to help address these type of biomechanical issues).
4. Changing directions when running on road (do an out and back instead of a loop) or varying running route frequently.

Key Exercises

Foam Roller (Improves ITB and VL flexibility)



Single-legged Bridge (Improves pelvic stability, strengthens gluts)

1. Lie on your back with one heel on the center of a BOSU (or any unstable surface). Lift one leg off the ground, so that your knee is bent at a 90 degree angle and your calf is parallel to the ground. Draw your navel up and in.
2. Squeeze your butt and lift it off the floor by pressing through the heel with toes up. Hold for a count, then slowly lower it back down to floor, making sure that the leg that is on the BOSU stays in good alignment (knee cap should be facing ceiling and knee in line with second toe).
3. Repeat 10-15 times. Switch legs and repeat. Perform 2-3 sets.

Note: If your hamstrings cramps up when attempting a bridge, it means you are recruiting your hamstring when you gluts should really be doing the work - a common cause for hamstring injuries!!



Clamshells
(Strengthens gluteus medius muscles)

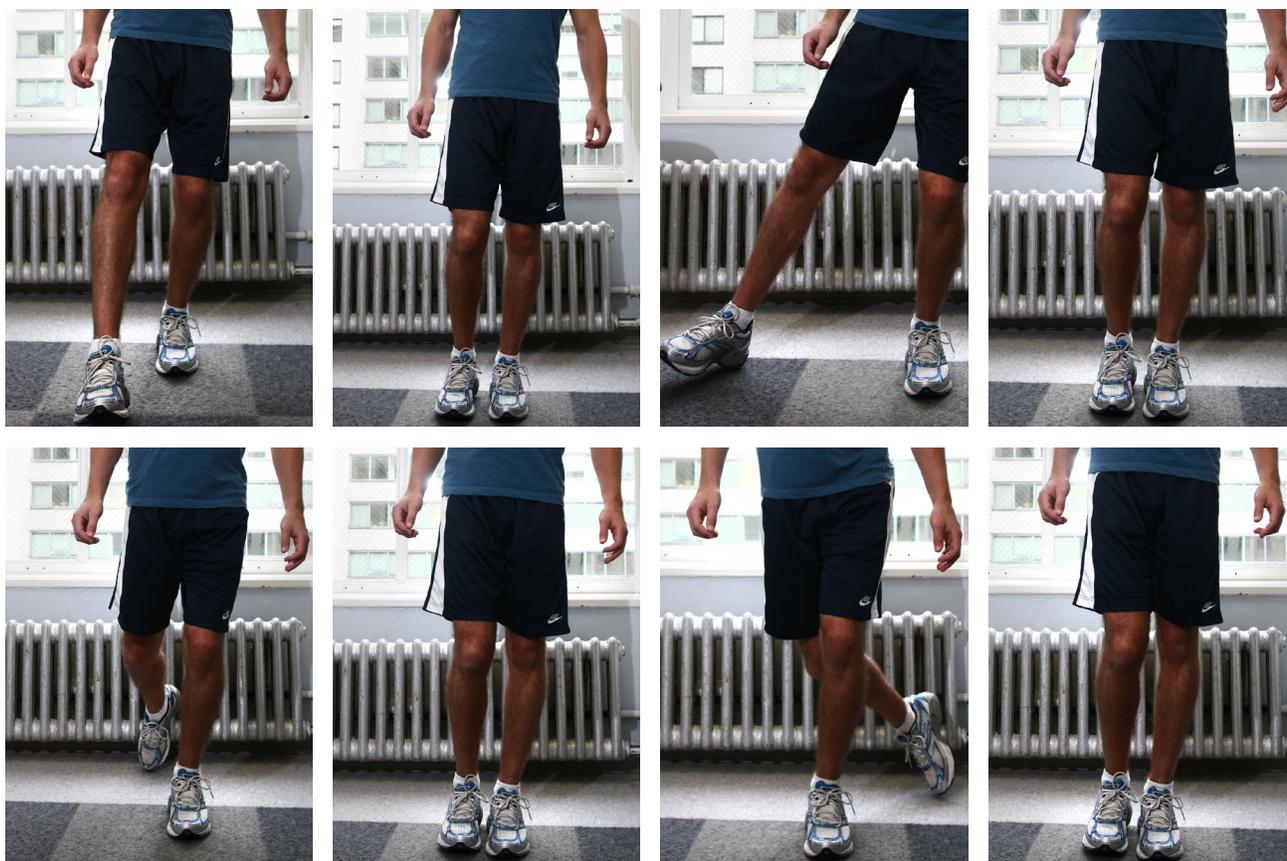


Starr Excursions

(Strengthens gluts, quads, hamstrings, adductors, and improves standing balance. Especially important for preventing ITB and Runner's Knee)

1. Pretend that you are standing in the center of a face on the clock. Balancing on your left leg, extend your right leg out towards 12 o'clock. Keeping your torso upright, slowly lower your right heel down to 12 o'clock by bending your left knee. Make sure that your left leg stays in good alignment, directly in line with your first/second toe, and directly over your ankle. Do not let your left knee move forward past your toes. Straighten left leg and return right leg to starting position without letting it touch the ground. Repeat the exercise by reaching your right leg out to 3 o'clock and back to center, then 6 o'clock and back to center, then 9 o'clock and back to center, before allowing right leg to finally touch the ground. This completes one repetition. Repeat 5 times.

2. Switch legs and repeat for 5 repetitions. Perform 2-3 sets on each side.



Hip flexor stretch

A tight hip flexor can put the hip abductors at a mechanical disadvantage.



Great job!



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