

Iliotibial Band Syndrome

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ITBS is the most common cause of lateral (outside) knee pain in runners. It is believed to be a result of recurrent friction of the band sliding over the femoral epicondyle (where the long femur bone widens and it forms the knee joint). It is mostly felt just after foot strike when the knee is flexed at less than 30 degrees. It can also cause pain in the hip area (clicking hip syndrome).

Anatomy

The iliotibial band is a thick band of fascia that crosses the hip joint and extends distally to insert on the patella, tibia, and biceps femoris tendon.

The ITB is a continuation of the tendinous portion of the tensor fascia latae muscle. It travels down the side of the thigh separating the quads and hamstrings. It helps the movements of abduction (lifting the leg outward) but more importantly controls and decelerates the movement adduction.

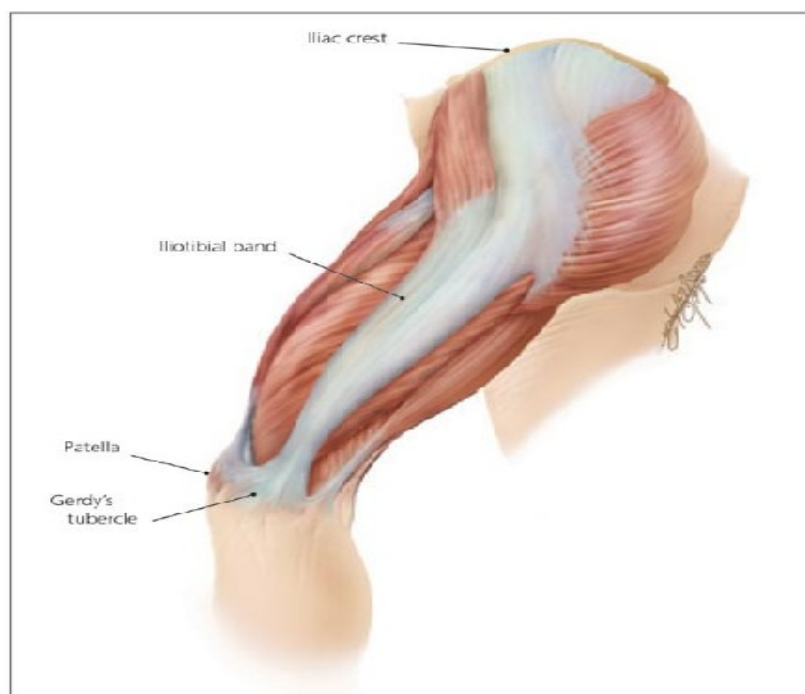


Illustration 1: anatomy of the ITB

The distal fibers become thicker at their attachment on the gerdy's tubercle next to the tibial tuberosity (outside of the upper tibia). The band drops posteriorly behind the lateral femoral condyle with knee flexion, then snaps forward over the epicondyle during extension. (picture). A bursa rest between the ITB and the lateral condyle. This protects the tendon form friction.

Symptoms

Pain is felt as an ache over the outside aspect of the knee aggravated usually by running.

Initially pain is present after running a certain mileage, typically late in the run, but as it progresses it will occur earlier on. Downhill running is particularly aggravating and it may also be felt running uphill and climbing stairs. Tenderness is felt 1-2cm above the joint line, a little crepitus (crackling sensation) may be felt. Repeated bending and extending the knee may reproduce symptoms. One diagnostic test a therapist will use is called Obers which will reveal if there is any tightness in the ITB. The cause however may be coming from the ITB fascia, shortening of the tensor fascia lata or gluteus maximus, another problem may be excessive over development of vastus lateralis (outer quad muscle). All will put an extra tensile load onto the ITB. Another test is the noble compression test.

Causes

Muscle imbalance

Biomechanical - foot pronation, excessive lateral tilt of pelvis

Downhill running

Increased mileage

Change in running surface

Running on the same side of crowned road

Leg length discrepancies – (true, pelvic or environmentally induced training on crowned roads)

Inadequate warm-up

Health experts have found that runners with a weakened or fatigued *gluteus medius* muscle in the hip are more likely to end up with ITB syndrome. This muscle controls outward movements of the hip. If the gluteus medius isn't doing its job, the thigh tends to turn inward. This makes the knee angle into a *knock-kneed* position. The ITB becomes tightened against the bursa on the side of the knee. This is also called a *valgus deformity* of the knee.

People with bowed legs may also be at risk of developing ITB syndrome. The outward angle of the bowed knee makes the lateral femoral condyle more prominent and can make the snapping worse. This condition is also called a *varus deformity* of the knee.

Other possible cause of lateral knee pain may include;

- Biceps femoris tendinopathy
- Degenerative joint disease
- Lateral collateral ligament sprain
- Lateral meniscal tear

- Myofascial pain
- Patellofemoral stress syndrome
- Popliteal tendinopathy
- Referred pain from lumbar spine
- Stress fracture
- Superior tibiofibular joint sprain

Treatment

1. Reduction of inflammation with the aid of ice.

2. Massage therapy aimed at correcting excessive tightness in the ITB and related structures including Tensor Fascia Latae and Glutes.

3. Frequent light mobility exercises of the tight structures surrounding the ITB - tensor fascia latae, hip flexors, hamstrings, quads. Never push into the stretch as this may tighten muscles further.

4. Strengthening of the lateral stabilisers if appropriate.

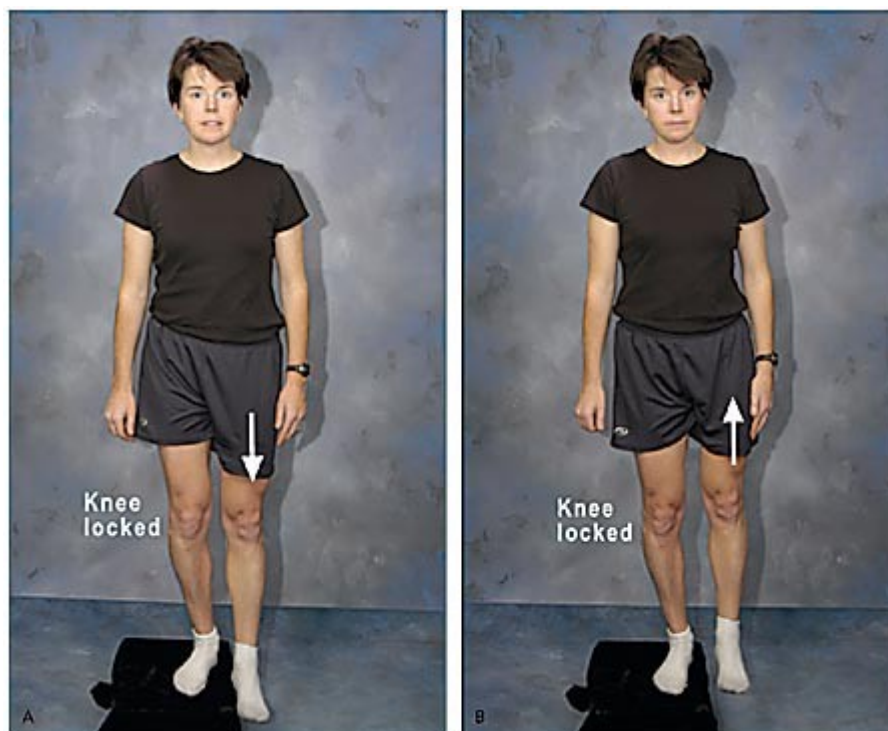


Illustration 2: Hip Hike Exercise for Glute Strength

Exercise for strengthening of the right gluteus medius muscle in a weight-bearing position. (A) The patient stands on a platform and lowers the left leg toward the ground slowly. (B) Through contraction of the right gluteus medius, the patient then elevates the leg, returning the pelvis to a level position

5. In severe cases a cortisone may be needed, only when conservative measures have been tried.

6. If conservative management fails surgery may be required to release the ITB.

7. Correction of predisposing factors i.e. reducing downhill running, correcting biomechanical abnormalities.

Ice massage may be useful before and after running.

Return to full training should be **gradual** with no return of symptoms