

RunSMART

Iliotibial Band Syndrome “Runners’ Knee”

The following are general recommendations for runners and are only appropriate for those who are healthy and cleared to exercise by their doctor.

What is iliotibial band (ITB) syndrome?

ITB syndrome is the most common cause of lateral knee pain in runners and a problem of over usage experienced by bicyclists, runners and long distance walkers. The ITB is a long tendon that attaches to a short muscle at the top of the pelvis called the tensorfascia lata. The ITB runs down the side of the thigh and connects to the outside edge of the tibia, just below the middle of the knee joint. You can feel the tendon on the outside of your thigh when you tighten your leg muscles. The ITB crosses over the side of the joint, giving added stability to the knee. When the knee is bent and straightened, the tendon glides across the edge of the femoral condyle. A bursa is a fluid-filled sac that cushions body tissues from friction. Normally, this bursa lets the tendon glide smoothly back and forth over the edge of the femoral condyle as the knee bends and straightens. Continued irritation may provoke increased amounts of pain on the outside of the knee just above the joint. The pain may become so bothersome that it limits active individuals from participation in activities.

Some recent studies have suggested that ITB syndrome may be more of a compression syndrome of the fat deep to the ITB and of the fibrous bands connecting the ITB to the femur versus a friction syndrome of the band. Debate also exists as to what lies under the ITB. Some have found no evidence of a bursa in the area.

What causes ITB?

ITB may be caused by any of the following:

- repeated knee motions: biking, walking, running.
- over use and over training – pushing yourself too hard or increasing distance too quickly (more than 10 percent per week).
- excessive downhill running.
- running on hard surfaces.
- poor warm-up or cool-down.
- wearing of shoes on the outer edges, causing legs to bow outward.
- running on slanted terrain. If running is on cambered (sloped) roads or surfaces, the affected leg is usually the downside leg.
- pronated or flat feet, according to some research.
- excessive supination (high arched foot), which leads to increased stress on lateral or outer structures of leg.
- weakness in the gluteus medius muscle on the outside of the hip or gluteus maximus.

[See other side for symptoms, diagnosis and treatment >](#)

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Symptoms of ITB

Typical symptoms include:

- diffuse pain over the outside of the knee; as the ITB gets more irritated, the pain can become sharp. This often starts as an ache or tightness before onset of pain.
- pain at the completion of a run or during the initial minutes (with possible increase to constant irritation). This also commonly comes on at a certain time or mileage during a run and persists until you stop. If ITB is the involved structure, keeping the knee straight may reduce the pain or make it resolve.
- a snapping or popping sensation on the outside of the knee.
- pain going downhill, lengthening the stride, sitting with knees bent for extended periods of time, squatting or going down stairs.

Sometimes, symptoms may be alleviated with a faster pace.

ITB treatment

Most cases of ITB can be treated with simple, basic measures. A physical therapist can suggest a training schedule for an individual's particular activities, helping prevent further injury.

- The primary goal is to reduce inflammation. An ice massage to the area for five minutes or oral nonsteroidal anti-inflammatory medications may help reduce pain and inflammation. Physical therapy modalities and manual therapy may be recommended depending on how irritated the area is.
- A course (five to seven days) of non-steroidal anti-inflammatory drugs (ibuprofen/voltaren/cataflam/mobic) may be prescribed and is available from your health care provider or pharmacist.
- Strengthening and improving neuromuscular control may be indicated.
- Gently stretch the ITB by standing with the right leg crossed in the back of the left leg. Extend the left arm against a stable object, such as a wall or chair. Lean your weight against the object while pushing your right hip in the opposite direction. Keep your right foot anchored while allowing your left knee to flex. (Push your right foot/arch into the floor.) You should feel the stretch in the ITB muscle in the right hip and along the outside of the right thigh. Hold for 30 seconds. Relax slowly. Repeat with the left side.
- Stretch well before running.
- Use a foam roller on the affected region for three to five minutes to help with tension reduction.
- Get a shoe wear assessment.
- Avoid potentially exacerbating activity.
- Address training errors.
- Alternate the side of road you run on if safety allows.
- If you run on an outdoor track, do your warm-up and cool-down in the outer lane in the opposite direction of your workout.

Diagnosis

A diagnosis can often be made without complex testing. A review of the runner's history and a screen for alternative causes of pain is considered. Tenderness, flexibility, muscle strength, gait analysis, biomechanical alignment/foot position and special tests by a medical professional will assist in determining this diagnosis.

Alternative activity to continue training

Options to maintain training without continued stress to the ITB include swimming, pool running and cycling in low gear – “spinning.” Avoid any exercise that places strain onto the ITB. Specifically, avoid stair climbing.