INTRODUCTION
The iliotibial band, or ITB, is the tough band of fibers that run along the outside of the thigh. The gluteal muscles and the tensor fascia lata muscle attach to the top, and the lower part attaches to the tibia, just below the knee. Tightness in the ITB, quadriceps, and hamstrings can lead to increased pressure and irritation in the bursa at the lateral side of the knee. Most patients improve with rest and non-steroidal anti-inflammatory drugs. Physical therapy for a home stretching program and a well planned training program are important once the pain improves. Injection with cortisone may be helpful for refractory cases. Surgical intervention is rarely needed.

BACKGROUND
The iliotibial band functions primarily as a stabilizer during push-off, especially with running. Predisposing factors for the development of ITB Friction Syndrome include poor training routines and abnormal biomechanics. Some runners make the mistake of only running on one side of the road. Most roads are higher in the center and slope off on either side. The foot that is on the outside part of the road is therefore lower than the other. This causes the pelvis to tilt to one side and stresses the iliotibial band. Other biomechanical abnormalities that may lead to ITB problems are, excessive pronation of the foot, leg length discrepancy, lateral pelvic tilt, and "bowed" legs. Tight gluteal or quadriceps muscles may also contribute.

DIAGNOSIS
Patient will usually describe pain on the outside part of the knee or lower thigh, often worsened by going up or down stairs, or getting out of a car. The hallmark clinical finding is pain over the lateral femoral condyle. Frequently, there is moderate to significant hamstring, iliotibial band, and quadriceps muscle tightness. If the diagnosis is unclear MRI is the preferred imaging technique.

TREATMENT
Rest and non-steroidal anti-inflammatory drugs (NSAIDs) are first-line treatment. Treatment consists of relative rest, ice or heat, addressing muscle tightness and imbalance, appropriate biomechanical modifications, and adjustment in training programs. When doing the IT band stretch the "pulling" sensation is usually felt along the mid to upper thigh. Don’t worry if this
doesn’t seem to exactly hit the site where the pain occurs. The iliotibial band is a long structure and the goal is to get it to loosen and lengthen. Along the same lines, gentle stretching of the hip flexors, quadriceps, and hamstrings will also help. Physical therapy is beneficial to learn a home program for stretching out tight muscles. Tightness in the iliotibial band and hamstrings is the primary focus of treatment and will improve with a effective stretching program done for 5-10 minutes several times each day. Once the pain has improve and flexibility is improved, a gradual return to activity is attempted. Foot orthotics in the shoes may help to improve varus and valgus alignment at the knee. If there is varus alignment or bowing at the knee, an orthotic with a lateral buildup may help to reduce stresses on the medial knee ligaments. If there is valgus alignment or knock-knees, an orthotic with arch support and medial buildup at the heel may help to reduce the demands on the muscles of the pes anserinus.

For refractory cases, a cortisone injection with local anesthetic may be helpful. Aspiration of the bursa usually is not required. Surgical intervention is required only rarely.

EXPECTED OUTCOME AND COMPLICATIONS
Most patients are able to get relief from reduced activity and anti-inflammatory medications. Return to symptoms is not uncommon if patients return to activity without appropriate activity modifications, changes in training, or working through an appropriate therapy program. Recurrence is not uncommon if patients are not diligent in continuing with a maintenance home stretching program.

Prevention of the ITB Friction Syndrome is achieved by running on a level surface or alternating directions on the road, a balanced approach to training which allows for rest and recovery, and preventive stretching. Biker often benefit from professional fitting or adjustment of their bicycles. Orthotics can be useful for chronic or recurrent tendency to develop ITB Friction Syndrome.

MORE INFORMATION
Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at [www.aaos.org](http://www.aaos.org) and [www.emedicine.com](http://www.emedicine.com).

FEEDBACK
If you have questions or comments, please contact the office or submit them to the web site at [www.pedortho.com](http://www.pedortho.com).