



# NEWSLETTER

## Knee Pain: IT Band Syndrome

Connect With Us



@WaldronsPeakPT



/WaldronsPeakPT

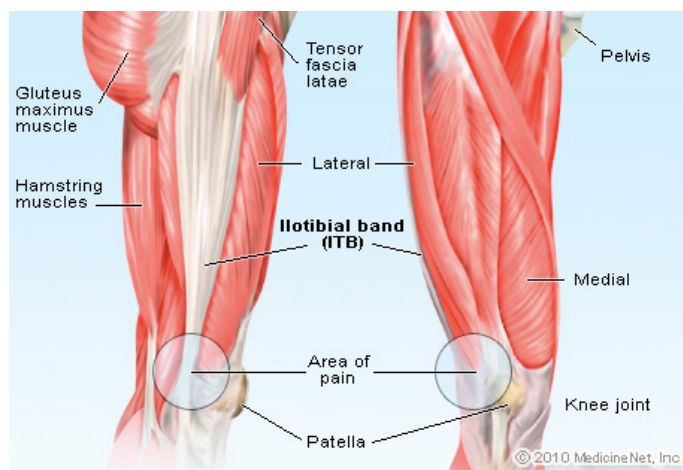
*It is estimated that up to 15% of cyclist and 15% of runners experiences IT band syndrome*

### Problem:

Iliotibial band syndrome (ITB) is a common overuse injury to the knee. It has been reported that anywhere from 5-15% runners experience ITB syndrome while up to 15% of cyclist experience this injury. In general, the pain presents during and after repetitive motion at the knee.<sup>1</sup>

### Anatomy & Physiology:

The ITB is a band of dense fascia that originates from the iliac crest and various muscles including the gluteus maximus, tensor fascia latae and gluteus medius. The ITB travels down the lateral aspect of the hip, thigh and knee and inserts on the Gerdy tubercle of the tibia, patella and vastus lateralis.<sup>2</sup>



There are a few conflicting theories as to what the cause of IT band syndrome is. One being a friction

syndrome in which the IT band shifts back and forth over the lateral femoral condyle with repeated knee flexion and extension causing inflammation.

While, Fairclough and others believe that the fascia tightens and compresses the adipose tissues resulting in inflammation and other researchers theorize that a cyst or bursa may be the cause of symptoms and not the IT band itself. Clearly, controversy remains as to what the source of symptoms may be.<sup>3,4,5</sup>



### Symptoms:

Symptoms usually originate as a dull achy pain and may progress to a sharp pain. Initially, aggravating activities include repetitive knee movements that involved bending the knee to 30 degrees such as running or cycling. As the symptoms persist, ascending/descending stairs, prolonged sitting and walking may aggravate the knee symptoms and may be painful. Location of pain is usually along the lateral aspect of the knee just superior to the insertion of the IT band at Gerdy's tubercle.<sup>5</sup>

### **Risk Factors:**

The IT band assists to stabilize the lateral knee during functional activities with primary actions involving the hip (flexing, abducting and medially rotating the hip). Speculations have been stated in the literature to determine who is at risk in developing ITB syndrome. Many of these risk factors are biomechanical in nature and include: over pronation, bow legged (genu



Bowleggedness (Vargus)

varum) excessive pelvic motion during walking or running, hip weakness specifically in the gluteus maximus, gluteus medius and lateral core musculature. These can be a result in an individual's anatomy and physiology or muscle imbalance. Training habits have also been reported as possible risk factors for ITB syndrome which include

inadequate warm up or cool down, increasing the intensity or duration of training too quickly, excessive uphill or downhill running. Unfortunately, according to a recent systematic review on ITB syndrome in runners the methodological quality of much of this research is poor and the results are often conflicting. The authors of this review did conclude that hip/knee coordination and running style appear to be key factors in the treatment of ITB syndrome.<sup>2-8</sup>

### **Treatment:**

Treatment for ITB syndrome is also controversial. Conservative treatment options include: rest, activity modification, hip strengthening, flexibility exercises, joint mobilizations and motor control exercises emphasizing hip and knee coordination. There are also reports of individuals pursuing medical management which include medication, injection, and surgical interventions, however most research concludes that individuals with ITB syndrome improve with conservative

treatment without the need for medical management.<sup>7,8</sup>



Side-lying leg lift



Knee stabilization: A



Clam exercise

© 2009 RelayHealth and/or its affiliates. All rights reserved.

### **Conclusions:**

Clearly there is controversy as to the causes and risk factors of ITB syndrome however most people improve from conservative physical therapy care. Because there are many variables as to why someone may be experiencing ITB syndrome it is recommended that those who are experiencing ITB syndrome symptoms should consult with their physical therapist for a thorough evaluation. Please contact Waldron's Peak Physical Therapy if you have any questions related to this topic.

**References:**

1. Baker RL, Souza RB, Fredericson M. Iliotibial Band Syndrome: Soft Tissue and Biomechanical Factors in Evaluation and Treatment. *PM&R*. 2011;3:550-561.
2. Adams, WB. Treatment Option in Overuse Injuries of the Knee: Patellofemoral Syndrome, Iliotibial Band Syndrome, and Degenerative Meniscal Tears. *Curr. Sports Med. Rep.* 2004;3:256-260.
3. van der Worp, MP et al. Iliotibial band syndrome in runners: a systematic review. *Sports Med.* 2012;1;42:969-92.
4. Lavine R. Iliotibial band friction syndrome. *Curr Rev Musculoskelet Med.* 2010;3:18-22.
5. Fairclough J, Hayashi K, Toumi H, et al. Is iliotibial band syndrome really a friction syndrome? *J. Sci. Med. Sport.* 2007;10:74-76.
6. Akuthota V, Stilp SK, Lento P, Gonzalez P. Iliotibial Band Syndrome. In: Frontera WR, Silver JK, Rizzo Jr TD, eds. *Essentials of Physical Medicine and Rehabilitation: Musculoskeletal Disorders, Pain, and Rehabilitation*. 2<sup>nd</sup> edition. Philadelphia, PA: Saunders; 2008:337-343.
7. Strauss EJ, Kim S, Calcei JG, Park D. Iliotibial Band Syndrome: Evaluation and Management. *J Am Acad Orthop Surg.* 2011;19:728-736.
8. Fredericson M, Weir A. Practical Management of Iliotibial Band Friction Syndrome in Runners. *Clin. J. Sport Med.* 2006;16:261-268.