



**Department of Rehabilitation Services**  
Physical Therapy

## **Standard of Care: Iliotibial Band Syndrome**

**Diagnosis:** Iliotibial band (ITB) syndrome is an overuse injury that results from constant friction of the ITB over the lateral femoral epicondyle often seen in runners.<sup>1</sup> Symptoms related to the ITB can also be present proximally at the greater trochanter. Please see the greater trochanteric bursitis standard of care for specific information regarding that diagnosis.

### Indications for Treatment:

The posterior edge of the ITB impinges against the lateral epicondyle just after heel strike in gait. Friction occurs at or slightly below 30 degrees of knee flexion leading to irritation and inflammation. Researchers have proposed several different etiologies of ITB syndrome, however it is likely that a combination of these things lead to development of symptoms. They include improper training techniques, biomechanical abnormalities, increased running mileage, and muscle imbalance.<sup>2</sup> It has been found that people with ITB syndrome have higher medial longitudinal arches and decreased ankle dorsiflexion ROM; demonstrate increased ankle pronation and increased rear foot movement<sup>2</sup>; and often have weak hamstring and gluteus medius muscles, and tight iliotibial bands<sup>3</sup>. There is also a higher incidence of leg length discrepancy in people who have ITB syndrome. Running on crowned roads can exacerbate these biomechanical problems. Total weekly mileage alone will not explain injuries<sup>2</sup>, but if a runner has predisposing factors listed above and increases mileage, he is more likely to develop signs and symptoms of ITB syndrome.<sup>3</sup> Initially pain is noted only in running, but if it goes untreated, walking and stair climbing can also become painful.

### Signs and Symptoms include the following:

1. Pain
2. Palpable or audible snapping of iliotibial band
3. Impaired muscle performance
4. Limited ability to ambulate or climb stairs
5. Limited or reduced ability to participate in sports or recreational activities

### **Contraindications / Precautions for Treatment:**

### **Examination:**

Medical History: Review PMH, pertinent diagnostic tests, imaging and workup listed under LMR. MRI results have shown thickening of the ITB over the lateral femoral condyle and fluid located deep to that region.<sup>3</sup>

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History of Present Illness: Note the length of time symptoms have been present and severity of symptoms, history of previous problems and/or orthotic use, and note any recent change in activity such as increased running mileage. Running on a crowned or slanted surface may also add to ITB problems.

Social History: pertinent information, as above

Medications: NSAIDS most often prescribed

Examination:

Pain: Described by patient on VAS or VRS pain scale. Note location, description and aggravation/relieving factors.

Palpation: Often painful at insertion of ITB onto femoral condyle and fibular head.

ROM: Take goniometric measurements of active and passive motion at the hip, knee and ankle.

Strength: Perform manual muscle tests of lower extremities.<sup>4</sup> Decreased gluteus medius strength is common with ITB syndrome.

Special Tests: Test for distal ITB syndrome with the Noble compression test.<sup>5</sup> Test flexibility with the Ober test, Thomas test and 90/90 hamstring test.<sup>5</sup>

Posture: Perform standing postural assessment. Note genu valgum, increased Q-angle, and ankle pronation.

Gait: Note exacerbation of postural dysfunction including ankle pronation and genu valgum.

Running: Note increased gait abnormalities such as ankle pronation and valgus moment at knee.

Differential Diagnosis:

Knee OA, lateral meniscus tear, lumbar spine dysfunction, sacroiliac dysfunction

### **Evaluation / Assessment:**

Establish Diagnosis and Need for Skilled Services

Problem List (Identify Impairment(s) and/ or dysfunction(s))

1. Decreased strength
2. Decreased range of motion
3. Decreased flexibility
4. Pain

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5. Postural dysfunction
6. Decreased function and recreation
7. Altered biomechanics (including foot mechanics and leg length discrepancy)

Prognosis: good if compliant with program

#### Goals

1. Increase strength, including core stabilization
2. Increase ROM
3. Increase flexibility
4. Decrease pain
5. Improve posture
6. Improve function
7. Improve biomechanics during functional activities, if needed with use of an orthotic or heel lift

#### Age Specific Considerations

Iliotibial band syndrome most often occurs in athletes and runners. More experienced runners have a lower incidence of developing ITB syndrome.<sup>3</sup>

### Treatment Planning / Interventions

Established Pathway                      \_\_\_ Yes, see attached.                      X No

Established Protocol                      \_\_\_ Yes, see attached.                      X No

Interventions most commonly used for this case type/diagnosis.

This section is intended to capture the most commonly used interventions for this case type/diagnosis. It is not intended to be either inclusive or exclusive of appropriate interventions.

Stretching: correct muscle imbalances, especially of the ITB to decrease impingement on the lateral femoral condyle.

Deep Transverse Friction Massage of the distal ITB is commonly used, however studies show no statistical difference in improvement of pain as compared to control.<sup>6</sup>

Strengthening: focus on gluteal muscles, especially gluteus medius. A study has shown that female runners with ITBS often have weaker gluteus medius strength on the involved limb than non-involved limb and in comparison to runners without ITBS. Those who participated in a strengthening program, showed improvements in symptoms and function which paralleled an increased in gluteus medius strength.<sup>7</sup> Core stabilization should also be included in the exercise program.

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Balance and proprioception exercises, including plyometrics as patient transitions back to high level athletics and running activities.

Modalities: can include use of iontophoresis, ultrasound and ice massage to decrease inflammation, but there is little research data to support this specifically for ITB syndrome.

Activity Modification: patients are encouraged to decrease running or other provocative activities; avoid hills and crowned running surfaces. After symptoms resolve and they are returning to activity, encourage cross training including resistance training. Patients should begin with longer distance walking, and then increase activity to light jogging before attempting to run. If running on slanted or crowned roads, runners should change the side of the street that they run on to even out the time spent on the “downhill leg.” When running long distances on a track, the patient should change directions every mile to even out the time spent on “inside” and ”outside” legs.

Frequency & Duration: 1-2 x/ week for 4-6 weeks

Patient / family education: Home Exercise Program, modification to exercise/running program, as noted above.

**Recommendations and referrals to other providers:**

Return to referring MD if no improvement, upon which they may be send to orthopedist for further intervention such as surgery or injection. Patient may also benefit from an orthotist referral for orthotics to control foot motion.

**Re-evaluation / assessment**

Standard Time Frame: 4 weeks

Other Possible Triggers: significant worsening of symptoms and/or function

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