



Iliotibial Band Friction Syndrome

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Types of Common Injuries

- Stress fractures
- Hamstring strain
- Iliotibial band syndrome
- Patellofemoral syndrome
- Shin splints
- Plantar fasciitis
- Achilles tendinitis




Why Do These Injuries Occur?

- Progressing too quickly in mileage and speed
- Lack of regular stretching
- Not changing out running shoes frequently enough
- Imbalance between opposing muscle groups




Anatomy

- Thick band of fascia that crosses the hip joint and extends distally
- Originates at iliac crest, tensor fascia lata, and M. gluteus max/med
- Inserts at Gerdy's tubercle
- Helps stabilize the knee



Etiology

- During repetitive flexion and extension of the knee, the iliotibial band rubs over the lat. femoral epicondyle
- Resulting an irritated and inflamed bursa
- Compression fat/connective tissue deep to ITB
- **Chronic infl. ITB bursa**



Predisposing Factors Who's at Risk?

- Most common in runners or cyclists
- Chronic overuse injury
- Sudden increase in mileage, training errors
- Changes in surfaces (i.e. soft to hard, flat to uneven etc.)
- Leg Length discrepancies (natural and artificial)
- Circular track running
- Weak hip flexors, adductors, and abductors, particularly weak gluteus medius
- Genu Varum
- Genu Valgus
- Thicker IT band
- Large lat. femoral epicondyle
- Overpronation (although recent studies do not support theory)

Clinical Presentation

- Diffuse pain, achiness, or burning over lat. femoral condyle
- Typically during last 20-30 degrees of extension (average 21°)
- May have pain just distal to Gr. trochanter
- Chronic Overuse Injury
- Injury progression not unlike that of tendonitis
 - 1° Pain only after exercise
 - 2° Pain during and after exercise
 - 3° Pain affecting ADL's



Pain becoming more painful, sharp, and localized as injury progresses



Aggravates

Any movement that causes excessive friction of the IT band over the epicondyle!

- Running down hills
- Lengthening stride
- Sitting for long periods of time with knee in flexed position



Clinical Presentation

Inspection

- Localized edema, if any

Palpation

- Most likely PT over lat. fem. epicondyle; however may present with pain, PT any where along IT band
- Snapping, crepitus over lat. femoral epicondyle



ROM and Strength

- Full ROM typically with pain at last 20-30° of extension
 - If there is a decrease in ROM, most likely from pt. apprehension (pain)

Weak hip abductors (gluteus medius)
Weak hip adductors and flexors



Clinical Dx - Special Tests

- Ober's Test
 - Patient lies on side, unaffected side down
 - Flex unaffected hip and knee to 90 degrees
 - Abduct and extend affected leg
 - Adduct affected knee
 - Indication: IT band tightness
 - Positive sign: leg remains abducted while Pt.'s muscles relaxed



Clinical Dx - Special Tests

- Ober's Test



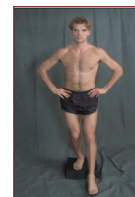
Clinical Dx - Nobles Test

- Pt. supine, knee flexed 90°
- Apply firm digital pressure to lat. femoral epicondyle while passively extending knee
- Positive sign: Pain (typically around 20-30° flexion)
- Indication: ITBFS



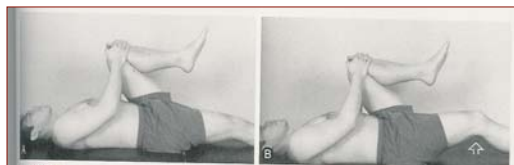
Clinical Dx - Renee creak test

- **Similar to Nobles Test:**
 - Pt. is WB on affect limb on step stool
 - Place finger over lat. femoral epicondyle
 - Pt. bends knee into 30-40° flex
 - Positive sign: Pain
 - Indication: ITBFS



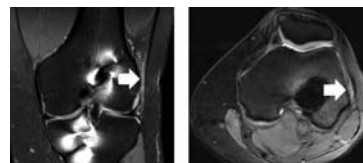
Clinical Dx - Thomas test

- Pt. supine, affected knee to chest
- Lower affect limb
- Positive sign: If affected limb abd' s as leg flexed to chest
- Indication: Tight IT band



Technical Dx - Imaging

- Radiography
- Ultrasonography (low cost!)
- MRI



Differential Diagnosis

- Biceps femoris tendinopathy
- LCL sprain or pathology
- Lat. meniscus tear
- PF syndrome
- Stress fx
- Lateral degenerative joint disease



Iliotibial Band Syndrome

- **Prevention**
 - Adequate stretching of the IT band
 - Massage therapy
 - Avoid hills, shorten stride, and run on alternate sides of road



Treatment

- Though recognizing the ITBFS isn't difficult, treatment can be challenging
- Treat symptomatically
- **A study worth reading:**
 - Fredericson M, Guillet M, and DeBenedictis L. Quick solutions for iliotibial band syndrome. *Physician and Sports Med.* 2000;28(2)
 - On the Web at: http://www.physsportsmed.com/issues/2000/02_00/fredericson.htm



Acute Phase

- **Activity Modifications**
- If edema
 - NSAIDS, ice massage, phonophoresis, iontophoresis, ultrasound
 - Lasting longer than 3 days, corticosteroid injection

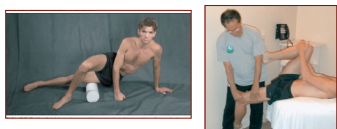


Subacute Phase

- **Stretching**
 - Hip Abd
 - Hip Add
 - Hip Flexors



- **Myofascial Massage**



Alternative Treatments

- IT band strap
- Arch tapping
- Orthotics
- Motion-control shoes
- If treatment unsuccessful, surgery is an option



Surgical Treatments

- Percutaneous release ITB
- Open surgical release
- ITB Z-lengthening



- Arthroscopic ITB débridement¹

¹*Knee Surg Sports Traumatol Arthrosc* (2009) 17; 233-6



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