GRSM Grand River Sports Medicine Centre INJURY INFO

ILIOTIBIAL BAND FRICTION SYNDROME (ITBFS)

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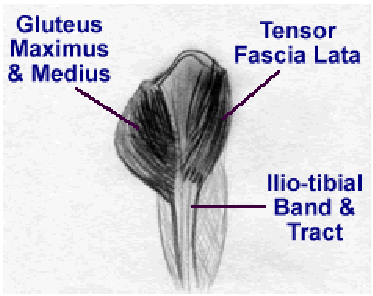
DESCRIPTION:

Ilitotibial Band Friction Syndrome (ITBFS) occurs when the fibres of the iliotibial band exert compressive forces that irritate the lateral (outside) aspect of the knee causing pain. This injury is common during running, cycling, and other activities that include repetitive knee flexion and extension (i.e., stair climbing).

ANATOMY:

The iliotibial band (ITBand) is a strong piece of connective tissue that joins the

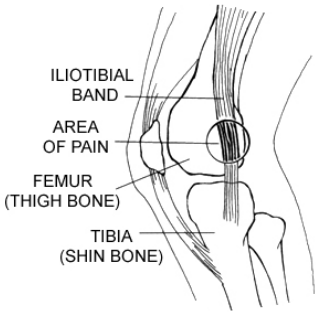


lateral aspect of the hip (via the tensor fascia lata and gluteus maximus muscles) to the knee (via the patellar retinaculum to the head of fibula and the tibial condyle).

The ITBand is used to stabilize the knee and hip in both static and dynamic states.

The ITBand slides anteriorly and posteriorly over the lateral epicondyle of the femur during knee flexion and extension.

The ITBand exerts maximum compressive forces on the lateral epicondyle of the femur at 30 degrees of knee flexion.



There is a bursa (fluid filled sac) between the ITBand and the femoral epicondyle.

DIAGNOSIS:

- Orthopaedic tests:
  - Ober's, Noble's, Renne's
- Increase of pain with additional weight bearing activity (i.e., running)

FACTORS AFFECTING ITBFS:

- Prominent femoral lateral epicondyles (thigh bone prominence)
- Internal lower leg rotation
- Over pronation
- Genu Varum (bowed legs)
- Leg length discrepancy
- Lumbar spine and pelvic imbalances
- Connections to adjacent structures (i.e., fibular head, quadriceps muscle)
- Muscle tension & strength (stability and flexibility)
- ITBand length

Presentation (cause of syndrome):

1. Overuse… increase of mileage or intensity beyond reasonable limits (10%/week)
2. Biomechanics… see factors affecting ITBFS

Special Interest:

Both Running and Cycling are repetitive motions.

- In one hour of cycling, each knee must flex and extend 4800 times!
- For every 10k run, the foot impacts 20,000 times for the average jogger!

TREATMENT:

Treatment Protocol for ITBFS depends on a number of factors:

- Type of presentation (over use vs. biomechanics)
- Timing in training cycle…are you just ramping up for a distant goal or are you at the end of long season and ready for big race?

****NOTE**** In chronic cases do not look for instant success. Instead look for, and expect improving "trends".

Rest: Very effective for over use syndrome, painful, and inflamed states. Resume weight-bearing activities once you have pain free Range of Motion (ROM).

Ice: Ice pack to distal portion of ITBand

Heat: Effective for reducing tension in surrounding tissue bed (i.e., lateral quad). Try castor oil compress. Keep heat away from lateral epicondyle and ITBand distal attachment.

Stretching: Stretch associated hip and pelvic structures. Improve rotational component of spine, hips and gait. Grapevine running.

Strengthen: Strengthen any weak pelvic stabilizers, intrinsic foot musculature.

Orthotics: Use to control pronation and other contributing factors

Physiotherapy: Gait analysis, biomechanic insight and a "game plan"… this is crucial. IFC, acupuncture, manipulative therapy, taping and other modalities as needed

Massage: Separate layers of tissue, ITBand boundaries, adjacent structures (lumbar spine, pelvis, hips, quadriceps, etc.). Break patterns that have occurred. ITBand by nature is very strong and inflexible…massage is an effective means to "soften" the area

Anti-inflammatory: As prescribed

Injections: As prescribed

Surgery: Othopaedic evaluation

***John Carson, BSc, RMT**, has been a massage therapist since 1998. As a runner and multi-sport enthusiast (two time Hawaii Ironman competitor), John is able to appreciate the mental and physical challenges that many athletes face as they train through, or recover from injuries. John specializes in running injuries, but he also practices myo-fascial release techniques, cranio-sacral therapy, and visceral manipulation. John is also Chair of a non-profit, grass roots running and walking organization called Run for Life.*