EDFL Injury Prevention and Management.

Lateral Knee Pain: Iliotibial band friction syndrome (ITBFS)

Title: **Lateral Knee Pain: Iliotibial band friction syndrome (ITBFS)**
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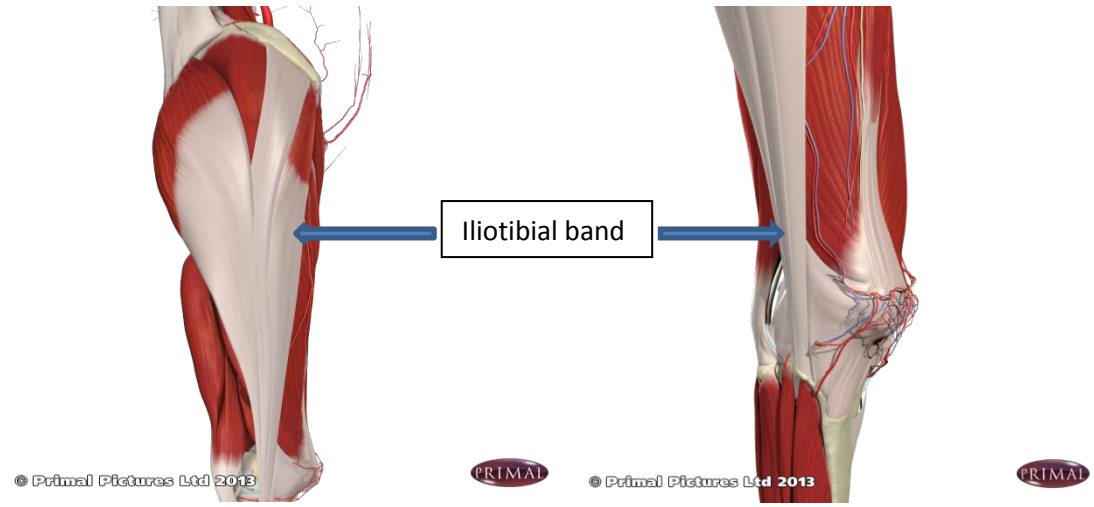
Iliotibial band friction syndrome (ITBFS) is the leading cause of lateral knee pain in athletes.

ITBFS occurs as a result of friction between the ITB and the underlying lateral epicondyle of the femur. Friction occurs near foot strike, predominantly in the foot contact phase, between the posterior edge of the ITB and the underlying lateral femoral epicondyle. (See diagram below)

Anatomy of the ITB:

Proximally, the iliotibial band (ITB) originates in the facial components of gluteus maximus, gluteus medius and tensor facia lata and attaches distally to the lateral tibial tubercle. In addition it has fibres that attach to the patella.



Factors predisposing runners to ITBFS:

- Downhill running
- Abnormal running mechanics

Pathophysiology:

Recent MRI studies suggest the main abnormality is accumulation of local fluid in an adventitious bursa between the ITB and the lateral femoral epicondyle.

Clinically:

The athlete will complain of an ache over the lateral aspect of the knee that is aggravated by running. If running a consistent course, pain will typically come on at the same time/distance on each run. Longer runs or those downhill or on cambered courses are particularly aggravating.

Sprinting and faster running on level ground are less likely to aggravate ITBFS because, at foot strike, the knee is flexed beyond the angles at which friction occurs.

Hip abduction, knee flexion and knee extension strength will be reduced in the affected limb compared with the unaffected limb.

Palpation over the lateral epicondyle *(2-3cm above the lateral tibiofemoral joint line)* will elicit pain.

Rapid flexion/extension of the knee may also reproduce the patient's symptoms.

Ober's test may reveal ITB tightness.

Trigger points may exist in the gluteal muscles, tensor fascia lata *(TFL)* and/or the ITB.

Abnormal running mechanics may be a factor

Imaging:

Both ultrasound and magnetic resonance imaging will show thickening of the ITB over the lateral femoral condyle at the knee and often a fluid collection deep to the ITB at the same site.

Treatment:

- Activity modification to avoid pain provoking activities.
- Symptom relief using ice, analgesics and electrotherapeutic modalities. Corticosteroid injection into the bursa between the ITB and the lateral epicondyle may help in acute cases.
- Soft tissue therapy *(use of foam roller, massage and dry needling)* aimed at correcting excessive tightness in the ITB and related structures *(ie. TFL, quadriceps, hip abductors, hip rotators and hip extensors).*
- Strengthening of the lateral stabilizers of the hip
- Stretching of the ITB
- Correction of running technique
- Surgery is rarely required but may be indicated if conservative management fails
- Resume running when there is no local tenderness and the strengthening exercises can be performed without pain. Initially run on alternate days.

About the Author – Scott Williams:

Scott Williams *has a Masters in Sports Physiotherapy and he consults at Physioworks Health Group Cranbourne and Pakenham clinics. He is the club Physiotherapist at the Cranbourne Football Club, a role he has held for the last three seasons.*

About Physioworks Health Group:

Physioworks Health Group *has a team of dedicated physiotherapists and health professionals providing a range of specialist health services at 'state of the art' clinics in Cranbourne, Pakenham and Camberwell. Physioworks is the Medical and Health Care partner of the EDFL. Physioworks Director David Francis is the Head Physiotherapist to the Collingwood Football Club.*