

RUNNING INJURIES – PREVENTION & MANAGEMENT

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ILIOTIBIAL BAND SYNDROME (ITBS)

- Often exhibits as lateral knee pain, or pain along the outside of your thigh. Your ITB is the connective tissue attaching your Tensor Fascia Latae (TFL) muscle to your lateral shin.
- Often labeled as ‘overuse’, but really not just an issue of ‘excess mileage’, rather biomechanics.

Signs & Symptoms:

- Pain to the outside of the knee, along the outer thigh; tenderness on palpation of the ITB.
- Sometimes clicking/snapping to the outside of the knee.
- Risk factors can also include: bow legs; excessive leg-muscle tightness; leg-length discrepancy; foot overpronation; downhill running; and beginning of the training season (when rapidly increasing intensity and training bouts).

Treatment:

- Self – ice, rest (decrease or avoid aggravating activities), NSAIDs, massage (including use of foam roller).
- Consider water running during the “rest” period.
- Stretching and strengthening for any biomechanical alignment contributing factors.
 - E.g. stretching outer thigh/quad, hip flexors, TFL; strengthening medial quad, glut medius.
- Physiotherapy – ID cause/biomechanics, pain management, strengthening/stretching, and accelerated healing.



PATELLOFEMORAL PAIN SYNDROME (PFPS)

- Can be a generalized term used to describe pain and injury to the patello-femoral joint (knee cap and femur). Often biomechanical in nature – quad muscle imbalances, tight ITB.
- Quad muscle envelops your patella, then attaches to the front of the shin (tibial tuberosity). If there is an imbalance, the grooved underside of the patella can begin to rub against the femur, causing inflammation, pain, and wearing away of the cartilage surfaces.

Signs & Symptoms:

- Pain with knee bent for a prolonged period (urge to straighten knee at a desk, on a plane, in a movie); pain with stairs, squat.
- Pain around and/or under the knee cap.
- Painful clicking/grinding noises (especially when straightening/bending the knee).

Treatment:

- Self – ice, rest, NSAIDs, exercise, stretching.
- Easy exercises to start – quad sets (isometric quad contraction).
 - With leg resting straight and heel supported, push your knee down, tensing your quad/thigh. Hold 5-10 seconds; repeat 10-20 times, 3-4x/day. (for muscle timing and strength).
- Physiotherapy – ID problem/cause/biomechanics, pain management, exercises, taping, acupuncture, etc.



STRESS FRACTURES

- Low force applied to an area of bone, repetitively over a long period of time, until a crack forms. (aka “fatigue fractures”).
- Most common sites – metatarsals (bones connecting to toes), calcaneus (heel bone), tibia (shin).

- Diagnosis usually done by bone scan, because x-ray may not identify the new fracture. But an x-ray can show bone growth/healing occurring as a result of a fracture.

Signs & Symptoms:

- Pain to site of suspected fracture; tenderness on palpation at times.
- Decreased functional ability, especially related to the bone and the muscles attaching nearby.
- Sometimes swelling, bruising.



Treatment:

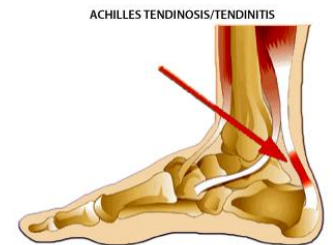
- Depends on site of fracture and extent – may be told to use crutches by doctor to decrease weightbearing.
- Self – ice, rest, NSAIDs, and change activity – consider water running; reduce intensity and frequency.
- Physiotherapy – ID mechanical issues, pain management, bone healing, exercises.

ACHILLES TENDINOSIS

- Injury to the Achilles tendon, which attaches your calf (gastrocnemius & soleus muscles) to your heel bone (calcaneus).
- May be acute (new) – footwear, training changes, etc; may be chronic (recurring) – biomechanics.
- Risk factors include – excessive hill running; sudden increase in training; stiff ball of foot; too much heel cushioning in shoe (creates extra load on the tendon).

Signs & Symptoms:

- Pain to the lower part of your calf/Achilles tendon; tenderness on palpation.
- Pain with walking, running, rising on your toes (push off).



Treatment:

- Self – ice, rest, NSAIDs, reduce pain-inducing activities.
- If you fear a rupture seek medical attention for further diagnosis and investigation.
- Physiotherapy – identify cause, treat pain, strengthening, taping, and minimize recurrence.

PLANTAR FASCIITIS

- Injury to the plantar fascia which attached to your calcaneus (heel bone). Can include a calcaneal bone spur.
- Can be caused by blunt trauma (sudden pull); prolonged stress; tight calf muscles; altered foot mechanics.

Signs & Symptoms:

- Pain to the bottom of the heel; sometimes along the arch.
- Pain often first thing in the morning (first few steps) or after prolonged sitting/immobility.
- Pain with stepping, walking, running; at times sharp.



Treatment:

- Self – ice, ice bottle massage, NSAIDs, and stretching of fascia and calves.
- Orthotics, taping.
- Physiotherapy – pain, strength, soft tissue and manual therapy, taping, exercise, acupuncture.

GENERAL TIPS & PREVENTION

- Pay attention to your body – listen!
- Avoid “terrible too’s” – too much, too soon, too fast, too hard
- Make slow increases in training; warm up & cool down
- Good shoes and regular replacements (every 350-450mi or 560-725km)
- Strengthening & flexibility – for reducing muscular imbalances and biomechanical alignment concerns