



Running Injuries

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Improve your time?

- Don't get injured!
- Think about your training graph
- Recovery

Causes of Overuse Injuries

Biomechanics

Sudden increase in training

Poor recovery strategies

Overtraining

Old shoes/incorrect shoes

Poor warming up/warming down



Common Injuries

ITB syndrome

Anterior knee pain

Plantar fasciitis

Medial Tibial Stress Syndrome

Patella tendinopathy



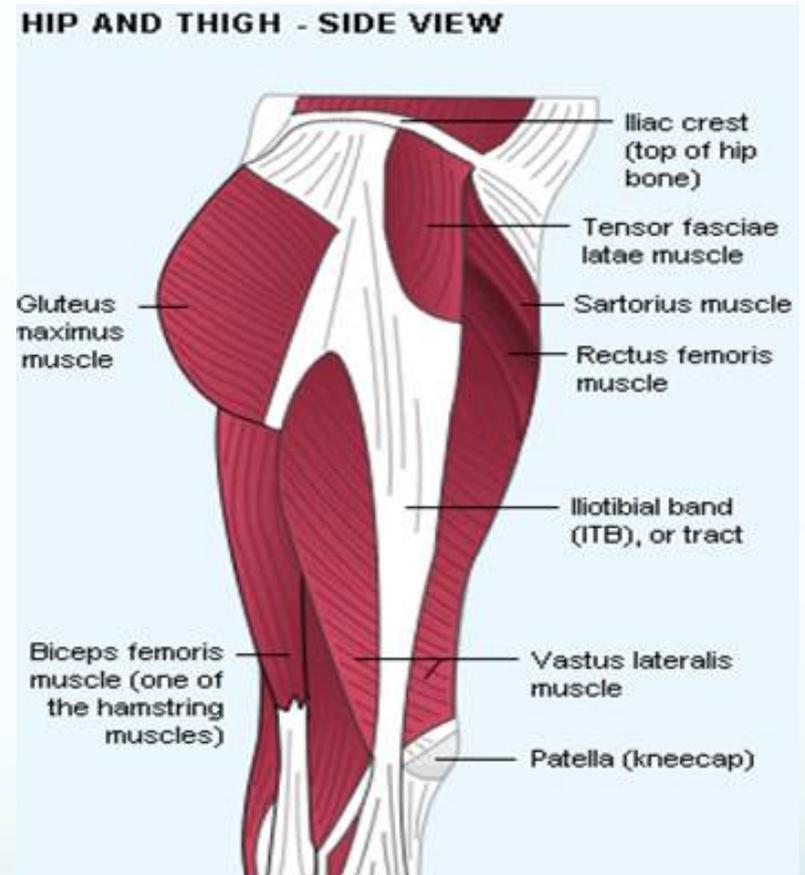
ITB Syndrome

ITB = fascia

Part of lateral stability mechanism

Relationship with multiple muscles

Poor Gluteus Medius strength → overactivity of vastus lateralis



Anterior Knee pain PFP

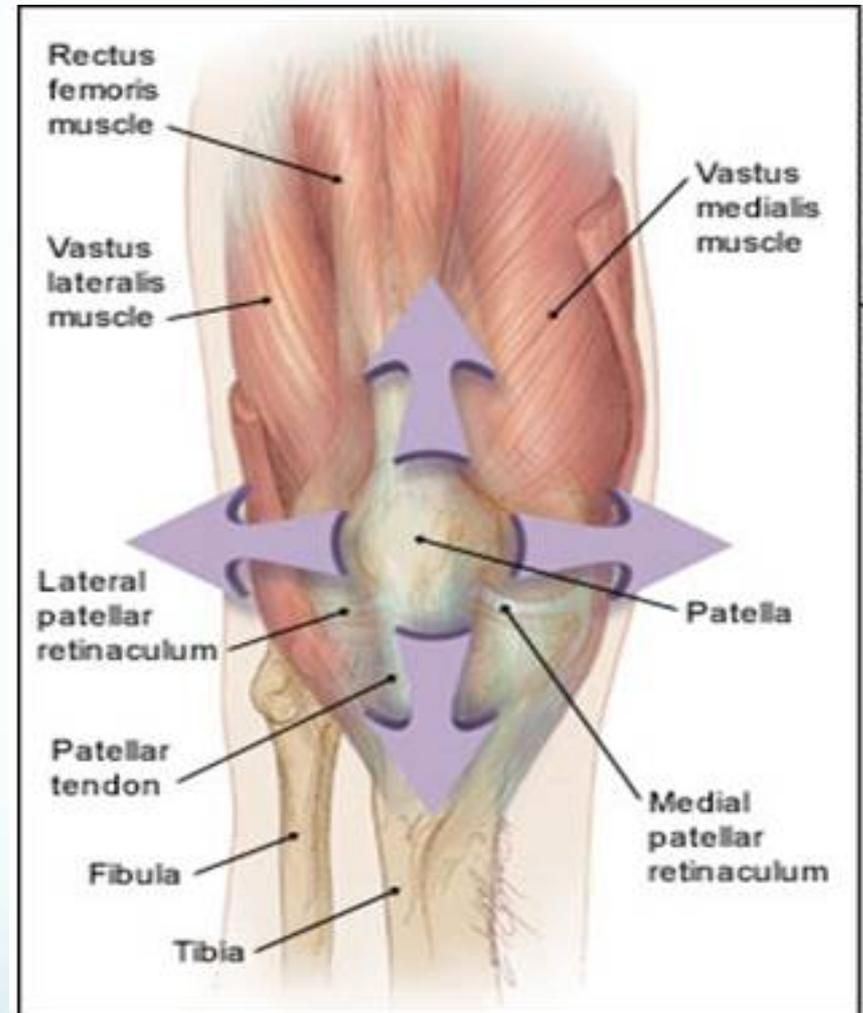
Patellofemoral joint

Tracking in femoral groove

Mechanisms that affect tracking
– muscular/dynamic movement

Irritation of patella joint,
connective tissues

Swollen/stiff fat pad



plantar fasciitis

Fascial sling under arch of foot

Connects superficially with
Achilles & calf

Repetitive loading

Thickens and stiffens → less
'give' in tissue



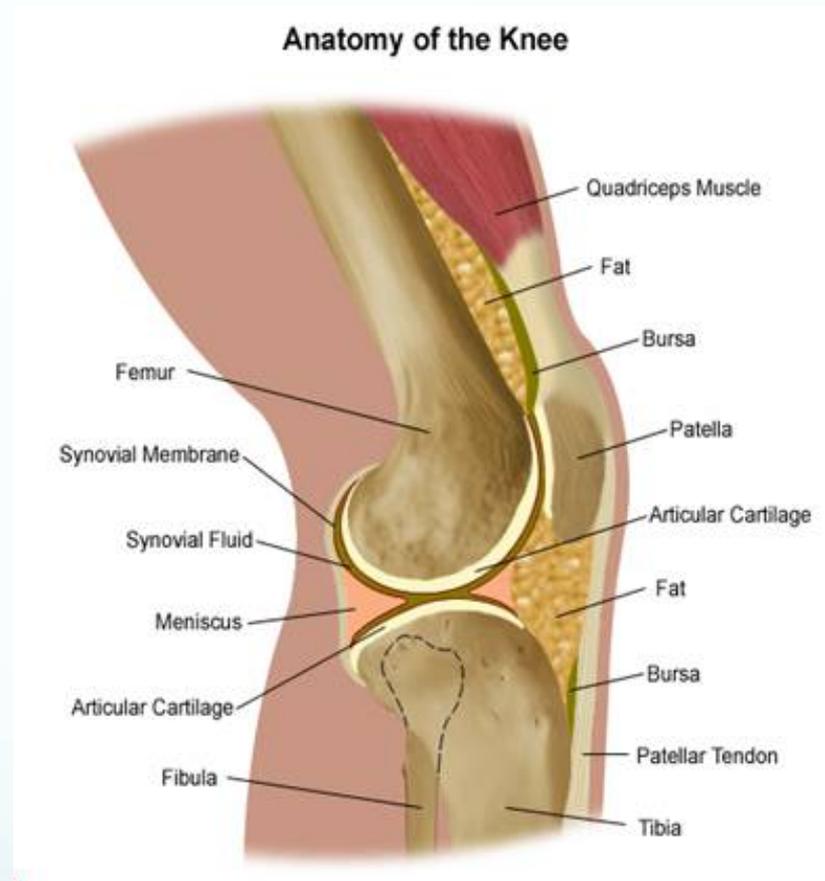
Patellar tendinopathy

Quads → tibia

End of extensor mechanism

Inability of tendon to deal with load

Not inflammatory



Medial Tibial Stress Syndrome

Umbrella term – continuum of conditions

Medial/lateral/anterior pain

Usually biomechanical problem combined with overloading of tissues



Condition	Area of pain	Pattern	Aggravating	Self-help
ITB	Lateral knee	Initially stiff post exercise	Running, worse hills Walking fast	Gluts & Quads strength Stretches/Roller Ice ?injection
PFJ Pain	Localised /diffuse around knee cap	Pain with exercise, worsens throughout run	Running Stairs (↓>↑) Sitting ++ Squat	Gluts & Quads strength Stretches/Roller Tape Ice (fat pad)
Plantar Fasciitis	Under heel/arch	Pain/stiffness in am or when stand after ++ sitting	Initial steps Running Poor shoes	New trainers Orthotics Strength Stretches Ball under foot
Medial Tibial Stress Syndrome	Medial/lateral/ anterior shin	Pain with running starts sooner and lasts longer as gets worse	Running Stepping down	Ice Stretches Compression
Patella Tendinopathy	Straight line directly under patella pole	Pain with agg factors Warms up and then latent Early morning stiffness	Running ↑stairs/hill Standing from squat	Heavy load quads exercises Stretches

Barefoot running is not for everyone

Barefoot does not equate to forefoot

Changing from rearfoot to forefoot will typically inc load in the foot, ankle and shin

Not everyone can alter their foot strike even with coaching



Cadence

Simple and perhaps safer

Theoretically ideal around 170-180 SPM

Only change by 5%

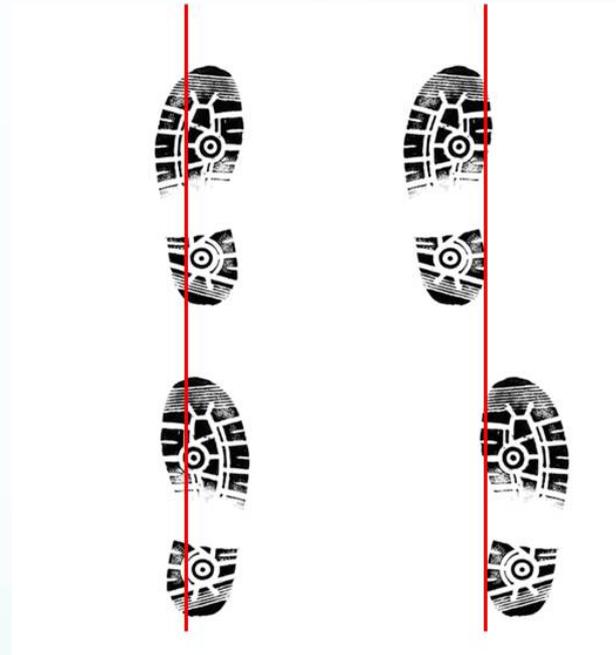
Does seem to show a reduction in load per step



Step width

relatively small decrease in step width can increase load through outside of hip (ITB)

Ideal to keep feet hip width apart rather than crossing over



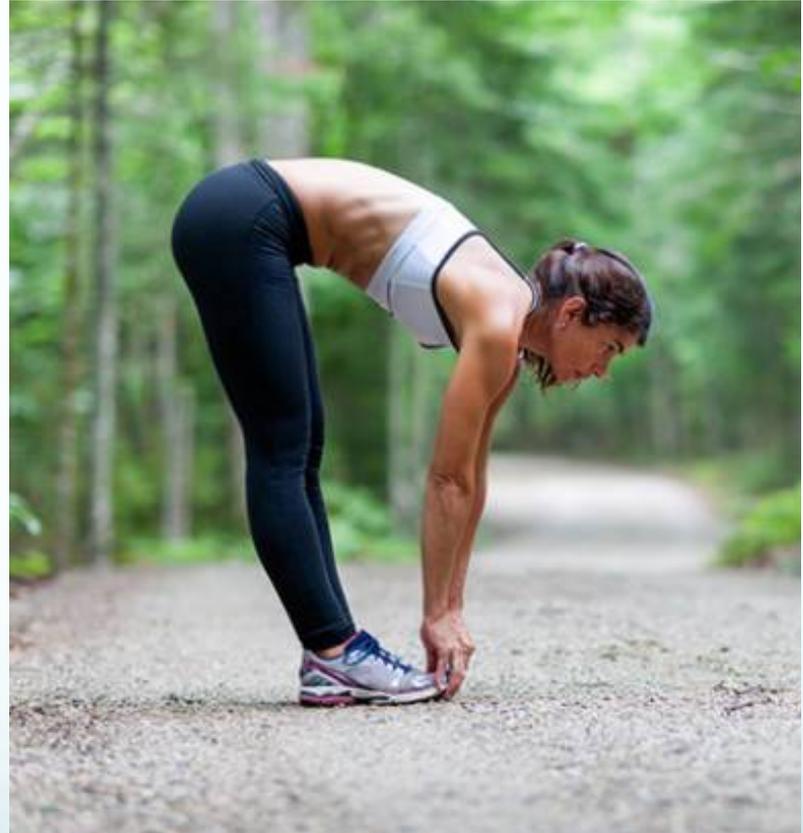
Feeling tight, Must stretch?

Most runners report being tight
and inflexible

But are they?

Don't confuse the sensation of
tightness with an actual
restriction in muscle length

You may be weak!



Warm up

- Current research is based on military recruits and football/basket ball players and below 25 yrs old
- Stretching alone may not lead to greater injury prevention
- Neuromuscular training may also be important
- Most warm-ups lasted 15-20 mins and the beneficial effects were seen after several months

Warm-up

Heart rate raiser – brisk walk or jog

High skip – opposite arm and leg

High skip – knee across body

Lunge with rotation

Reverse lunge

High knees

Heel kicks

Hamstring kick outs

Running form



Warm down

Jog/walk

Stretching main muscle groups

Hamstrings

Quadriceps

Calves

Balanced training

Running

Non-impact CVS

Strength

Pilates/yoga

Reduced load every 4 weeks

Variety



Injury Prevention

Sleep

Physiotherapy/Massage

Strength

Knowing when to stop/adjust

Cross training

Rest days

Understand your mechanics





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Thank You