

COMMON RUNNING INJURIES

92 % of runners get an injury at some point in their lifetime. 78% of these injuries are overuse injuries (Lopez et al 2012). Most running injuries are treatable with early intervention by a physiotherapist. Pushing through pain/ Ignoring an injury can result in longer term damage and large periods of time undergoing treatment or rehabilitation.

Why Do Runners Get Injured?

It is estimated 60 % of all running injuries are due to training error. Runners are most likely to get injured if **tissue load** is greater than the runners **tissue capacity**.

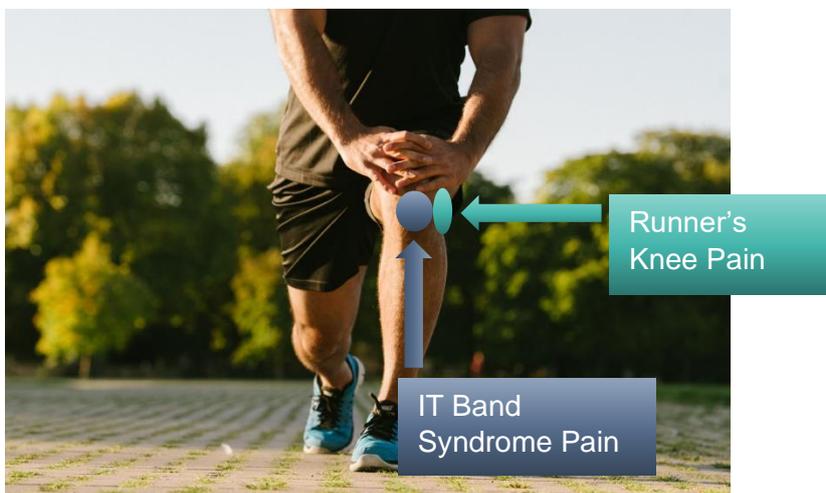
Tissue Load refers to things like:

- Training Intensity
- Training Frequency
- Training Volume

Tissue Capacity refers to the ability of the muscles, bones, tendons and nerves to do their job. Tissue Capacity is affected by:

- Strength
- Mobility
- Adequate recovery
- Functional Movement/Control (how we move our body as a unit)
- Running Style
- Sleep
- Nutrition
- Recovery Time-(Athletes with <2 days per week recovery had a 5.2 fold risk of overuse injury).

Where Are Runners Most Likely to Get Injured?



(Cameron 2013 m Lopes2012, Tauton 2002, Callahan 2001, Matheson 1987,)

1. Patellofemoral pain – 48.8% of Knee Injuries
2. Iliotibial band pain – 1.9% -12% knee injuries.
3. Tibial Stress Injury – ‘Shin Splints’, Stress Fractures
4. Achilles Tendinopathy – 9.1.-10.9% of all running injuries.

Patellofemoral Pain or ‘Runners knee’

Patellofemoral pain or ‘Runners Knee’ is a very common complaint among runners. It typically affects the front of the knee whereby there is friction between the under-surface of your kneecap and knee joint. This is more commonly seen in female runners. Improving gluteal/core strength and control, quadriceps length/strength and run retraining have all been effective in improving symptoms. Avoiding things like downhill running until you are reviewed by your physiotherapist is best to improve function and decrease your symptoms.

Iliotibial Band Syndrome

This is a condition that affects the outside(lateral) portion of the knee. This is due to friction arising between the Iliotibial band and the lateral femoral condyle(thigh bone). This can also be helped by improving gluteal/core strength and control, quadriceps length/strength and run retraining. A cross over run can also aggravate these symptoms and is worth reviewing by a physiotherapist.

Medial Tibial Stress Syndrome/Shin Splints/Stress Fractures

This is an irritation of the inside surface of the lower 2/3rds of the outer layer(periosteum) of the shin bone. It can be brought on by running on hard surfaces and sudden increases in loading. Often this is worse after a run (24-48 hours), at the beginning phases of a run and can disappear once warmed up. If ignored it can stop a runner running completely. It has been linked to inadequate ankle dorsiflexion, decreased calf length/strength, hard training surfaces, sudden increase in training load and decreased hip mobility. Treatments such as temporary orthotics have been shown to be effective alongside physiotherapy intervention. Sometimes it can be confused with a Stress Fracture. This pain is more localized and occurs at the distal 1/3rd of the Tibia. Research has found that stress fractures are more prevalent in female athletes and high-risk factors include reduced bone density, high body mass index, menstrual irregularities, delayed onset of menstruation and reduced calf muscle strength. Stress fractures are also found commonly in the bones of the foot of endurance athletes.

Achilles Tendinopathy

This is an overuse injury to the tendon at the back of the ankle which usually is slow and insidious in onset. It can be reversible once it is in a reactive phase to return to a full healthy tendon. That is why early conservative intervention is important. Tendons can be irritated by suddenly increased training loads when the body is not capable to do so. Heavy Strength Training of the Gastroch and soleus Muscles (calf) can help to improve pain and function. Modifying training loads can help in the early stages. This includes decreasing speed sessions/hills and switching surfaces (i.e. avoiding grass/ sand). 6-8 times our body weight is forced through the calf when we run so it is important, we are strong enough that our muscles/tendons can withstand this.

Other Common Injuries include:

Lateral Hip Pain

Often more common in female runners, with a wider hip to waist ratio over the age of 40. These runners have presented in weakness in the hip stabilizing muscles on both sides. But more often than not one side is weaker than the other. Rehab will include gluteal strengthening program within pain limitations of the runner.

Muscle Strains

These are most likely to occur in the calf muscle of an older athlete but can occur at any age. Risk factors of a calf muscle tear include older age, male, previous injury. This can lead to a decrease in muscle thickness and strength in the calf muscle. Pain is likely to be sudden in onset and is likely to be sharp in nature. In the first few days of a muscle injury swelling/redness is likely and bruising can occur in the affected area. Resting the muscle, maintaining mobility, icing and anti-inflammatories as directed by your GP are beneficial in enhancing recovery.

How can Physiotherapy help?

1. Address Biomechanical issues (such as gluteal/quads/calf weakness, core stability, restoring adequate range of motion needed for running, improve functional patterns needed for running.)
2. Address Loading issues (training schedule, intensity type, volume).
3. Assessing running style (measuring things like cadence, running form and over striding). There is no one way to run but there can be better ways to run which can modify your symptoms, improve running economy and injury rate when needed.



Who else in our multidisciplinary team can help?

Strength and Conditioning can help runners in the long run to improve running economy by 2-8 % and research has shown a reduction in time trials over a 10km distance. This can also be very effective in reducing injury risk by performing this 2-3 times a week alongside a running programmed. (Blagrove et al.2018)



Nutritionists can help to improve a runner's ability to improve the fuel sources through diet to allow our muscles, bones and tendons to withstand the load runners may struggle to take in. Some runners can suffer with Relative Energy Deficiency syndrome. This can affect males and females and increases our risk of injuries like stress fractures. It affects all body systems and can be either intentional or unintentionally provoked.



Podiatrists offer a service to look closely at the biomechanics of the foot and can help with advice of footwear specific to what a runner needs alongside a tailored physiotherapy program.