

# FROM THE SOLE

*Tips to keep you running at your best*

JULY 2017



**intraining**  
running injury clinic

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# LATERAL KNEE PAIN

by Steve Manning - intraining podiatrist, coach and runner

ITB is a flat thickening of the deep fascia that holds the muscles in place. However it becomes more like a thick cord as it approaches and passes the knee joint to attach to the main lower leg bone, the Tibia.

## ITB FRICTION SYNDROME (ITBFS):

The pain in ITB friction syndrome is rarely within the ITB itself. It is more commonly caused by inflammation or irritation of a bursa on a bump on the thigh Bone (femur). Bursa's are lubricating sacks that help to reduce the friction between a tendon and the bone.

Excessive compressive force from the ITB as it slides past the bursa during gait can cause trauma to the Bursa triggering the injury. This usually happens just after footstrike at about 20 degrees of flexion. The pain from ITBFS can be sharp and intense or aching. It will usually not warm up as you run but get worse the longer you go. Downhill running with its increased impact forces are more painful than running on the flat.

## TREATMENT:

One interesting factor in ITBFS is that it can be caused by two opposite motions. Excessive pronation or rolling in of the foot causes a stretching strain of the ITB as the pronation results in internal rotation of the knee. Lateral instability and rolling out of the foot also puts tension and strain on the ITB. It is critical that the biomechanics that is causing the tension be identified as any orthotic or footwear intervention can make the problem worse if misdiagnosed.

Tightness of the ITB or adhesions to the deeper muscle are a factor in the risk of ITBFS. Stretching of the ITB has not been shown to be effective. Mechanically stretching the ITB with massage is much more effective at increasing flexibility and reducing adhesions. Regular use of ITB rollers will reduce recovery time and the risk of recurrence of the injury. Icing and anti-inflammatory gel will quickly reduce the severity of symptoms.

## BICEPS FEMORIS TENDINOPATHY:

One injury often misdiagnosed as ITBFS is tendinopathy of Biceps Femoris one of the hamstring muscles. It usually hurts just before its insertion on the head of the smaller leg bone the Fibula. The symptoms can be very similar to ITBFS however the location of pain is distinctly different being more posterior. Sometimes tension from Biceps Femoris affects the fibrous joint between the two lower leg bones requiring mobilisation.

## KNEE JOINT LINE PAIN:

Pain on the knee joint is often from trauma or degeneration to the lateral meniscus. The knee sometimes gives way when there is a tear in the meniscus. It is sore along the joint line crossing under the ITB and below where the ITB usually hurts. Clinical tests can often identify meniscal abnormality but an MRI may be needed. Osteoarthritis in the lateral knee compartment can also cause joint line pain.

# 3 THINGS YOU NEED TO KNOW TO STAY INJURY FREE

by Margot Manning - intraining podiatrist, runner and coach

You may have just run your first major goal race. While this is an exciting running period, it is the time when you are most vulnerable to developing an injury. To help you stay on the road, here are three reminders to keep you running happily running towards your next goal race. Remember these 3 tips, and take action early if any niggles don't go. At *intraining* we work hard to keep you running.

## long runs vs races

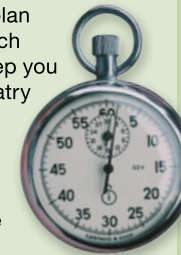
If you have multiple races planned such as the Gold Coast Marathon, Brisbane Marathon Festival and Twilight Bay Run, you should be changing your long run focus in your training plan.

This phase of training is called the competitive phase so the emphasis is more on the racing. Long runs will still occur but less frequently to allow maximum benefit from each of the races you have done.



## pace control

Successful races and improvements in training times are amazing motivators. But it is now that you need to exert even more control in managing your speed sessions and weekend races so not to let your enthusiasm override your goal training pace. Planning your speed work and long run paces in advance can help to avoid overtraining. It can be useful to sit with a coach and plan these paces for each session to help keep you on track. Our podiatry team are also coaches and can help you write an individual program with personal pace targets.



## refresh your footwear

It is 7 months now since you may have set your 2017 goals and purchased your training shoes. If your legs are feeling a little more tired or the shoes are feeling soft, now is definitely the time to replace them or add the new shoe into the mix. Don't let a dying or worn shoes be the cause of an injury that will interfere with the rest of your year's racing. If you aren't sure, or know you need new shoes come into the intraining Stores and have our running shoe team help guide you to select your next pair of shoes.



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Far too much attention is given to stretching, particularly when it comes to knee injuries. While tight quadriceps, hamstring and calf muscles can have a role in certain injuries, muscle weakness and imbalance has a far greater contribution to injury onset. A particularly common recommendation for lateral (outside) knee pain is to 'stretch' the ITB (Ilio-Tibial Band). This is a fruitless endeavour given the ITB consists of relatively inelastic tissue.

Nearly all knee injuries can be prevented with - and should be treated with - strength training that is specific to an identified muscle strength imbalance. Muscle activation timing is also an important consideration but won't be discussed in detail here.

## KNEE PREHAB (AND REHAB) STRENGTH EXERCISES

by Doug James – intraining physiotherapist and podiatrist

### PAIN AROUND THE PATELLA (KNEE CAP)

The quadriceps muscles are king when it comes to most knee injuries (including runners knee, patella tendinosis, and osteoarthritis). Particularly focus on strengthening the inside quad muscle (VMO) to control the smooth movement of the patella.

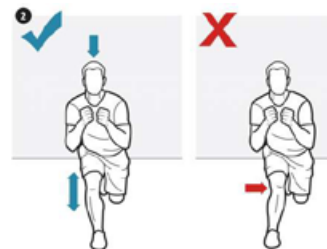
Perform 15 bodyweight squats with a 1 minute rest in between sets. Complete 3 sets in total.



### PAIN ON THE OUTSIDE OF THE KNEE

ITB injuries (lateral knee) are best treated not at the knee, but at the hip. Correcting imbalances between glute muscles and hip flexors is essential for restoring function.

Single leg squats are a useful way to build glute strength and improve knee control. Ensure your hips are kept level, and knee doesn't bow inwards when squatting. Try three sets of 8 squats alternating on each leg.



## KNEE PAIN IN CHILDREN

by Emily Donker - intraining podiatrist, coach and runner

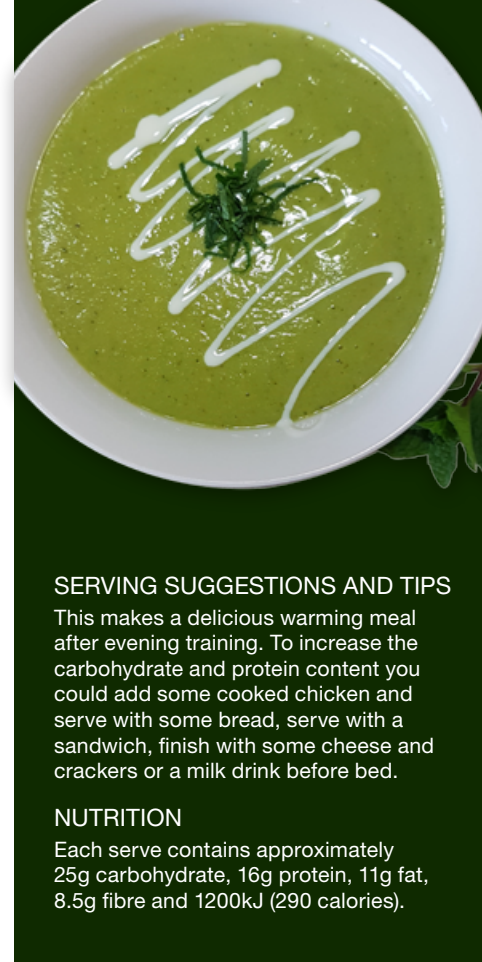
Children also suffer from knee pain, with acute trauma, poorly managed training load and growth-related issues being primary contributors. Growth-related injuries are common, particularly amongst active children when the musculo-skeletal structures are subjected to increased stress.

Bone growth is a multi-stage process (refer to diagram). Stage 4 represents formation of the secondary ossification centre (apophysis), separated from the primary centre by the growth plate (epiphyseal plate). Until fusion (ossification) of the bone takes place (Stage 6), the apophysis is weakened. Tensile forces and traction from muscle attachments can lead to micro-trauma and development of juvenile osteochondritis injuries which present with inflammation and pain at the localised site.

Two osteochondritis injuries commonly affect the knee: Sinding Larsen Johansson Syndrome (SLJS) and Osgood Schlatter Disease (OSD). Anterior knee pain results from both injuries, but the specific location of pain allows differentiation, with SLJS causing pain at the distal patella (kneecap) and OSD at the tibial tuberosity. Both conditions commonly develop amongst active children and adolescents aged 8-15. Girls usually develop earlier than boys, and the reported onset of OSD prior to SLJS. The causative mechanism is the same for both injuries, with rapid growth of the femur decreasing relative length

of the quadriceps muscle and causing increased muscle contraction and tensile force at the injury site.

Whilst osteochondritis injuries will resolve with age, treatment is vital to ensure pain and training load can be managed sensibly so as further and long-term injury does not result. The podiatrists and physiotherapist at intraining Running Injury Clinic are experienced in managing these injuries, so if your child is suffering with knee pain, book an appointment today.



## CANNELLINI BEAN, PEA AND MINT SOUP

by Liz Lovering - intraining sports dietitian, runner, chef and coach

Soup, perfect for the cooler weather and if you are looking for a lighter option after evening training.

Serves 4

### INGREDIENTS:

- 2 x tablespoons extra virgin olive oil (EVOO)
- 2 x cloves garlic, crushed
- 1 x leek, washed and chopped
- 1 x 400g can cannellini beans, rinsed and drained
- 3 x cups stock (vegetable or chicken)
- Handful fresh mint leaves (reserve a few leaves for garnish)
- 1 x 500g bag frozen baby peas
- 1 x cup plain Greek yoghurt (plus a little to swirl on top)
- Salt and pepper to taste

### METHOD:

1. Heat EVOO in a medium sized pan over a medium heat
2. Add garlic and leek and cook until the leek is tender
3. Add the drained beans, stock and mint, bring to the boil, reduce the heat and simmer for 5 minutes
4. Add the frozen peas, bring back to a simmer and cook for 2-3 minutes
5. Remove from the heat and blend until smooth, then blend in the yoghurt
6. Season to taste and serve with an extra swirl of yoghurt and chopped mint



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