

# FROM THE SOLE

Tips to keep you running at your best



# intraining

running injury clinic

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# MEDIAL KNEE PAIN

The knee plays an important supporting role in running. The joint is required to be both strong and flexible in order to withstand the impact of running (absorbing up to 4x your bodyweight). Simply being strong and flexible in this region may not be enough, as the foot and hip also affect the function of your knee.

Hip weakness, and to an extent foot pronation (rolling in) can place stress on the knee that contributes to certain injuries – particularly those on the medial (inside) of the knee. This can also cause lateral (outside) knee issues such

as ITB syndrome (covered in the July 2016 magazine article), so the role of hip strength can't be understated. The lateral gluteal muscles have a role in stabilising the leg which helps prevent the knee from rotating inwards. This is particularly important when running as you will land on one leg with considerable force. Weak hip muscles and/or a pronating foot may see the knee roll inwards putting stress on the patella (knee cap), medial cartilage, and several tendons and ligaments. While foot pronation can be controlled by various means (supportive shoes, taping, orthotics, gait training), there are no quick fixes for weak glutes. Common injuries affecting the medial knee include Patello-Femoral Pain Syndrome (PFPS – commonly known as runner's knee); Pes Anserine Bursitis and Tendinitis; and medial compartment degenerative conditions such as Osteoarthritis and meniscal injuries. The first two injuries tend to be overuse injuries (but can affect new runners), whereas the degenerative conditions tend to strike later in life (although meniscal tears can occur at any age).

'Runner's Knee' is an uncomfortable injury that often starts as a mild niggle but gets progressively worse if left untreated. It is usually caused by poor knee stability that can lead to the knee turning inwards when your foot lands and the patella is pulled out of place. Certain factors such as a shallow patella groove and ligament tightness may increase the likelihood of this happening. The injury is much more prevalent in female runners due to relative differences in strength, flexibility and biomechanics to male runners.

The 'Pes Anserine' is located about a hand width below the medial knee joint and consists of three tendons that help bend the knee. These tendons are attached to hamstring and adductor (inner thigh) muscles and can become inflamed with overuse, over striding, and if the muscles are tight. Muscle tightness may develop as a result of weak glutes as the adductor muscles are required to work harder in an attempt to stabilise the knee and hip.

Degenerative knees tend to have worn cartilage and are often quite painful. It's been shown that good muscle strength around the hip and knee can improve the function of the knee. When knees are painful, a small period of rest may be beneficial, however regular exercise is important – not just for the cardiovascular benefits, but to maintain the strength of the knee.

If you've developed a knee injury it is important to properly look after it. If the pain doesn't improve after a few days of rest, it is recommended you see a Physiotherapist or podiatrist to assess your knee injury and identify the causes. It will often be a variety of factors that need to be addressed including your gait, footwear, flexibility and strength in your legs and hips. Call the intraining running injury clinic to have your knee injury treated today.

By Doug James  
intraining physiotherapist and podiatrist

# WINTER LUNCH IDEAS: SAVOURY MUFFINS

By Liz Lovering,  
sports dietitian, runner, coach and chef

Savoury muffins can make a nice change from sweet varieties and when served with a soup make a delicious winter lunch. Muffins freeze well so why not make up a batch at the weekend so you can pop a muffin into your lunch box during the week. The following recipe is delicious!

## Mediterranean Vegetable Muffins

Makes 12 large muffins

Ingredients:

- 2 tablespoons extra virgin olive oil (EVOO)
- 1 medium onion, chopped (I used red onion)
- 200g eggplant, diced
- 200g zucchini, diced
- Herbs – small handful fresh basil leaves, pinch dried thyme, sprig fresh rosemary
- 50 g Kalamata olives, pitted and chopped
- 100g semi-dried tomatoes, chopped
- 150g reduced fat feta cheese, crumbled
- Cracked black pepper to taste
- 1 cup reduced fat milk
- 2 large eggs
- 1 ½ cup (150g) self-raising flour
- 1 cup (75g) wholemeal self-raising flour

### Method:

Pre heat oven to 1800C (1700C fan assisted)  
Spray muffin trays with spray oil or line with muffin cases  
Heat EVOO in a large fry pan over a medium heat  
Add onion, fry for a couple of minutes then add eggplant and cook for another couple of minutes, stirring, then add zucchini and chopped herbs and cook until vegetables are tender

Remove pan from heat and add olives, sun-dried tomatoes, feta, black pepper and mix gently  
Whisk the milk with the eggs in a bowl  
Sift the flours into a large bowl, add the milk and eggs and mix until just combined. Then gently fold in the vegetable mix. Do not over mix.  
Divide the mixture amongst the muffin tins.  
Bake in pre-heated oven for 20 to 25 minutes until muffins have risen, become pale golden on top and a wooden skewer inserted comes out clean.  
Cool slightly and turn out onto a wire rack to cool.

### Serving Suggestions and Tips

Delicious served warm or cold. Enjoy on their own or serve with soup for a warming winter meal. These muffins freeze well.

### Nutrition

Each muffin contains approximately  
26g carbohydrate, 9g protein, 8g fat,  
3g fibre and 900kJ (215 calories).



# GLUTE STRENGTHENING

As discussed in the 'Medial Knee Pain' article, the trick to keeping your knees happy is to keep your gluteal (hip) muscles strong. Single leg squats are a commonly prescribed exercise to build hip strength, however if you have a painful knee or poor balance you might find that the exercise is both difficult and ineffective. Instead, bridge exercises - and particularly single leg bridges - are a useful way of improving strength without placing excessive pressure on the knee, or requiring much balance.

To perform a bridge, lay on your back with your knees bent 90° and feet flat on the floor. Raise your hips off the floor to form a straight line from your knee to shoulder. Hold this position for 10 seconds then lower. Once you feel comfortable with this exercise, try straightening one leg while keeping your hips stable and hold for 5 seconds. Aim to repeat on both legs 10 times. Repeat for three sets. (Be mindful not to arch your back too high, and cease the exercise if it causes pain).



By Doug James  
intraining physiotherapist and podiatrist

# GROWTH RELATED INJURIES IN CHILDREN

Heel pain is one of the most common complaints from children when they play sport. Usually this is a growth related injury at the back of the heel where the Achilles tendon attaches onto the bone. At the end of all the long bones in a child's body is a growth plate. This is an area connecting the main bone and another smaller piece of bone where new cells are generated. With maturity, the growth plate changes its constituency and eventually fuses the two bones.

The problem for children is that the Achilles tendon attaches to the back of the heel, and when they do a lot of physical activity, a huge amount of pulling force goes through the growth plate. This is exacerbated when the muscle and tendon attaching to the area have not lengthened enough to match the changed bone with the level of sport. This particular growth related injury is called Sever's Disease (although it is not an actual disease), technically known as Calcaneal apophysitis.

The knee is another area that affects children where the tendon of the quadriceps muscles attaches onto the leg bone (tibia), and also at the tip of the knee cap. Children in ball sports that involve more stop/start play and changing directions are more likely to experience pain in either or both of these areas. These two growing injuries are called Os Good Schlatter Syndrome and Sinding-Larsen-Johansson Syndrome.

Early detection, understanding and management of these niggles is important to help reduce the severity of the injury and reduce the amount of disruption to sport and play. It is useful to book in to see one of intraining's podiatrists or physiotherapist to not only discuss management of the injury, but also to help empower your child to learn how to manage their own niggles while they are developing as athletes.

By Margot Manning  
intraining podiatrist and coach



Fig. 1 X-Ray side view of the foot showing the Calcaneal Apophysis



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# IMPORTANCE OF SETTING NEW TRAINING GOALS

It can be hard to regain your motivation and training focus after a big event. Following a long-term training program towards your major event goal, and completing that event, is very satisfying, but can also be both mentally and physically draining.

After a long training block it's important to take some time to revel in your performance, and enjoy some well-deserved time off with rest and/or easy training. Recovery is vital as it decreases injury risk and mental fatigue, and allows your body to adapt and benefit more fully from all your training. During this recovery phase, you should take time to decide where to take your next step.

Setting a new goal is very important because it will encourage continued training enjoyment and success, and allow you to re-focus. Without direction, your training will lack purpose, and might become erratic – either excessive, or not enough.

Many runners become over-zealous, and train excessively (too much volume and speed) too soon after a big event, which can significantly increase injury risk. These runners need

a goal and a structured training program to keep them reined in. A periodised program incorporating overload and adequate recovery time is designed to keep everything in perspective, and highlight the importance of taking adequate time in building towards the next goal - so as to reduce the risk of overtraining, and/or mental burnout.

Other runners struggle with post-event blues and lack motivation after their target event. This is ok, but you can't rest on your laurels forever. Setting a new goal can help re-invigorate your passion and give you the extra drive to get out of bed and out the door for training. Sometimes you need to change your focus in

order to re-gain interest and motivation. Target a different event distance, or chase a specific time, or venture out a do some trail running or a triathlon.

If you're running events regularly, you should consider targeting just a couple each season as key events, with more emphasis on performance. You should race hard, recover well, and then re-focus towards your next long-term goal. Be sure to always set specific, achievable and measurable goals, including a targeted training approach. Most importantly - enjoy your running experience!

By Steve Manning  
intraining podiatrist and coach

