

Wagging Knee Pain

by Dr Michael Soon

What's the cause?

- **Ligament injuries** like those affecting the ACL (anterior cruciate ligament) are especially common in soccer players and skiers. Such ligaments are important stabilisers of the knee joint. Once these are ruptured, it is unlikely that you can return to sports without treatment. Athletes like American World Cup alpine ski racer Lindsay Vonn return to full sporting performance only after surgery and rehabilitation.

- **Tears of the meniscus** can also occur at the same time when the knee is twisted. Think of people like Jeremy Lin (basketball) and Luis Suarez (soccer), who sustained tears of their meniscus. The meniscus is essentially the shock absorber of the knee. While it can take direct loading fairly well, it is much weaker with twisting motions. Hence meniscus tears occur more often in sports that involve change of direction and sudden stops and turns.

Small tears can be managed with a sports physiotherapist and non-surgical means. However, if the knee remains persistently swollen, locked or painful such that activity is restricted, treatment in the form of arthroscopic surgery may be required to regain full function.

- **Cartilage injuries** can occur from an acute injury or due to overuse. The cartilage is the smooth covering at the end of the bones, and in essence, it is the joint. A sedentary person takes about 3000 steps a day and if you run

seven kilometres, it goes up easily to 10000 steps a day.

The cartilage in your knee, which measures just 3 mm thick, protects you for today and the rest of your life. Much of its function is determined by how smooth this cartilage surface is. If you take two pieces of ice and move them together, you realise it is very slippery. The cartilage interface is four times that smoothness. Hence, once the cartilage loses that smoothness, it progress predictably towards wear, tear and eventually breakage. Once this occurs, this is known as osteoarthritis.

See a doctor if you notice these signs:

- Inability to bear weight on the knee
- Marked knee swelling
- Inability to fully extend or flex your knee
- Knee instability

Overuse

In runners, overuse injuries are a lot more common. There are many causes, and can even be due to your running style, whether you have a flat foot, or the shoe that you use. Hence, assessment for knee pain in such cases will need to include examination of the entire lower limb, rather than the knee alone.

- **Anterior knee pain** is pain around the knee cap. This is usually due to stress on the cartilage under the knee cap. There may also be underlying problems that may need assessment by a specialist.



Pull the Plug on Pain!

Treat pain by:

1. Physiotherapy – stretching, specific strengthening, pain management and stability exercises. This should be maintained at home too.
2. Methods such as running on a softer surface (e.g. grass or indoor running track)
3. Changing your type of shoes
4. Having adequate rest
5. Cross-training – Change your activity to spread the stress. You can run, cycle, swim or use an elliptical trainer on different days. This allows rest for the injured region to heal.

- **Pain above and below the knee cap**

– This can be due to inflammation of the patella tendon below the knee cap, or inflammation of the quadriceps, which is above the knee cap. The patella tendon connects the knee cap to the shin bone, and transmits the powerful muscle of your thigh (quadriceps) to straighten your knee. With the many repetitions in running, the tendon is “overused” and becomes inflamed. This can lead to pain both during and after running, and curtails speed and distance.

- **Runner's knee** is a form of friction syndrome, where the ilio-tibial band (ITB) rubs on the outside of the knee. The ITB is a large and long muscle that spans from the hip to below the knee. This band rubs on



the bone during running. If the mechanics of the lower limb are off, and this occurs with poor running gait or poor muscle control (especially at the hips) or even being flat footed, this friction is increased and leads to pain on the outside of the joint.

This was the case with Janice. After obtaining corrective arch support to treat her flat foot, and directed physiotherapy, her runner's knee recovered and is now the bee's knees. eh



Dr Michael Soon is a Consultant Orthopaedic Surgeon, practising at the Centre for Orthopaedics, located in Mount Elizabeth Orchard, Mount Elizabeth Novena and Parkway East Hospitals.

“Do I have to stop running?” was the thought that went through Janice's mind. She had been running regularly about three times a week, for a distance of approximately seven kilometres. Everything was good initially but she noted that recently, her knee became stiffer after running. She also noted occasional ‘clicks’ and swelling.

THIS IS AN extremely common scenario. With more people maintaining an active lifestyle, injuries to the knee become more common. Knee injuries can affect people of all ages, and can be broadly divided into accidental/traumatic causes and those due to overuse.

Accidental Causes

Accidental causes are usually easy to appreciate.