SPECIALIST UPDATES **ORTHOPAEDIC AND SPORTS MEDICINE**

Summer sports and treating common knee injuries

27th November 2012
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Summer in Australia is a great time to be outdoors. The warmer weather allows for more exercise outside rather inside at the gym. People that have taken the winter off tend to go back to their favourite sports, but many of them do so far too quickly.

A planned approach needs to be taken when returning to sport since exercising at the gym and playing outdoor, side-stepping sports are very different.

Common summer sports include touch football, cricket, tennis and exercising on the beach. These involve running and side-stepping movements that your patient may not have practised for many months. Care needs to be taken to avoid both repetitive and acute injuries.

If your patient complains of knee pain, they should stop the activity causing the pain to prevent serious injury. Anti-inflammatory medications are frequently helpful in managing knee pain. In addition, the familiar mnemonic, RICE, is a good guideline for dealing with knee pain when it first appears:

- Rest
- Ice
- Compression
- Elevation

A physiotherapist will be able to treat most minor knee aches and pains quite successfully.

If the pain doesn't go away after following the RICE guidelines and seeing a physiotherapist then further investigations are warranted.

This is particularly true if there are mechanical symptoms such as locking of the knee, swelling or giving way. Always start with a plain x-ray of the knee. Ultrasound is rarely useful but an MRI scan is very helpful to confirm clinical suspicions.

Patella tendonitis, hamstring strains, iliotibial band tendonitis and chondromalacia patella can take many weeks to settle.

One of the more serious knee injuries involves the anterior cruciate ligament (ACL). These injuries are common and usually result from a side-stepping injury where the knee gives way.

Beach rugby

The patient may hear a pop or crack or even fall to the ground. They are usually very

painful. Typically the knee swells over the next twelve hours and is more painful to walk on the next day. The patient may find that the knee gives way with side-stepping, twisting or walking on uneven ground.

Female athletes are far more likely to tear their ACL than male athletes playing the same sport. While this is partly due to anatomical differences such as a narrower intercondylar notch and increased ligamentous laxity, specific exercises are known to reduce this risk.

By adding neuromuscular and proprioceptive exercises to the training regimen of female (and also male) athletes we can halve the number of ACL injuries. This applies both before and after ACL reconstruction surgery.

ACL reconstruction surgery is generally very successful with a low complication rate. Until recently the re-rupture rate of the graft has been higher than one would have liked for female athletes returning to their sports.

The Santa Monica Sports Medicine Foundation has studied the problem and designed an ACL Prevention exercise program which has been shown to be successful.[1]

This program is a highly specific 15-minute training session that replaces the traditional warm-up. It should be performed at least twice a week and teaches the athlete strategies to avoid injury by:

- Increasing strength
- Increasing flexibility
- Increasing proprioception
- Avoiding vulnerable positions
- Including plyometric exercises in training

Figures 1, 2 and 3: Plyometric exercises involve high-intensity, explosive muscle contractions that invoke the stretch reflex.

Plyometric exercises (Figures 1–3) are specialised, high intensity training techniques used to develop athletic power (strength and speed).

They involve high-intensity, explosive muscular contractions that invoke the stretch reflex (stretching the muscle before it contracts so that it contracts with greater force). Examples include hops, jumps and bounding movements (for example: jumping off a box and rebounding off the floor and onto another, higher box). These exercises typically increase speed and strength and build power.

It is important to use proper technique during jumping moves (straight up and down jumps without excessive side-to-side movement), and aim for soft landings.

This new information makes what has always been a successful operation even more reliably
successful.

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http://smsmf.org/pep-program