TENNIS AND PHYSICAL INJURY

In recent years the rivalry of today’s elite tennis players such as Roger Federer and Rafael Nadal, then in later years Andy Murray and Novak Djokovic, has propelled the popularity and level of tennis to new heights.

But with these new performance levels come risks, as even elite tennis players suffer from injuries that recreational players do too.

By understanding more about these five common tennis injuries we can learn that there are steps we can take to prevent them.

Research evidence has shown that there are around 54 injuries per 1000 tennis matches played, which is about half the number of injuries that occur during the same number of football(soccer) matches, for example.

There is also less risk of injury during tennis compared with individual sports such as running and golf. It’s for this reason that an understanding of the most common tennis injuries can go a long way in preventing them in the future.

In the meantime, we here at PhysioRoom.com are able to suggest some useful products that can help you during your rehab period.

Things to remember when buying a brace or support:

• **What type do I need?** Tennis appropriate braces come in different shapes and sizes, but can usually be categorised in to four types, sleeves, supports, stabilisers and hinges. Sleeves easily slip over the leg or arm, while supports are adjustable and usually wrap around the knee. Stabilisers offer advanced support by featuring steel springs either side of the joint. While hinged braces allow the joint to move in a natural motion while offering the most support.

• **What style do I want?** There are two standard styles of braces, the slip-on or the wraparound. Slip-ons are used by putting your foot through the brace and pulling up the leg. While wraparound braces, of course, wrap around and can usually be adjusted by straps made of such material as Velcro.

• **What size do I need?** This all depends on which brace or support you choose. Typically, each will feature a size guide, but may require some DIY measuring for products such as knee braces. If you are between sizes, it’s often recommended you go for the larger size, but this may vary from product to product.
SPRAINED ANKLE

What is it?

Sprained ankles are relatively common in tennis players. The likes of Roger Federer and Andy Murray have all suffered sprained ankles. The sudden sideways movements that are required during tennis can cause the ankle to twist, particularly if the surface is slippery or the player is fatigued.

A twisted ankle causes damage to ligaments and other soft tissues around the ankle. This is called a Sprained Ankle. The damage causes bleeding within the tissues, which produces a swollen ankle that can be extremely painful.

How can you prevent it?

Applying an ankle brace or support to the ankle can help to reduce the risk of ankle sprains and it’s a strategy that is employed by tennis pros like Andy Murray and Novak Djokovic. Previous research has shown the injury incidence in people with taped ankles was 4.9 ankle sprains per 1000 participant matches, compared with 2.6 ankle sprains per 1000 participant matches in students wearing ankle braces. This compared with 32.8 ankle sprains per 1000 participant matches in subjects that had no taping or bracing.

Treatment

In the first few days following an ankle sprain it is important to follow the PRICE protocol - protection, rest, ice, compression and elevation (never apply ice directly to the skin).

Rehabilitation with a chartered physiotherapist significantly improves the level of ankle function. Wobble board training in the later rehab stage is designed to assist the re-education of the proprioceptive system.

For a support/brace option, check out the across product...

• The Aircast A60 Ankle Brace (white) was designed specifically for British tennis star Andy Murray for his Grand Slam tournament play at Wimbledon and is only available through official channels exclusively at PhysioRoom.com

• The A60 Ankle Brace is one of our most lightweight and minimal bulk supports providing a perfect balance combination between protection, support and functionality making it one of our best-selling products.

• It has a light-weight anatomic shape which enhances your comfort fitting easily into athletic footwear. Also stabiliser guards are fixed at either side of the ankle at a 60 degree angle offering optimal ligament protection against ankle roll.
SHOULDER PAIN

What is it?

Shoulder pain can occur in tennis players because there are repeated stresses during tennis strokes, particularly the serve. There are several sources of shoulder pain in tennis players, but one of the most common causes is shoulder bursitis. Bursitis is inflammation of a sac of fluid called the bursa.

In the shoulder frequent overuse of the rotator cuff muscles (a group of small muscles, situated close to the ball-and-socket joint of the shoulder, that provides stability to the ball and socket) can cause the bursa to get impinged between the muscles and the bony prominence of the shoulder, leading to inflammation. This causes pain whenever the arm is raised.

How can you prevent it?

For tennis players, attention must be paid to flexibility, strength and endurance of the shoulder muscles. Shoulder stabilisation exercises under the supervision of a chartered physiotherapist can also help prevent impingement.

In addition, any increases in the amount of training or competition must be gradual so as not to overload the shoulder. In particular, repetitions of the service action should be increased gradually to allow the body to adapt to increased workload.

Treatment

The first aim of treatment is to reduce the amount of inflammation through ice therapy (never apply ice directly to the skin) and anti-inflammatory medication prescribed by a doctor. The Shoulder Cryo Cuff, as seen below, is the most effective method of ice therapy treatment at home. Alternatively, a reusable cold pack can be used with some sort of wrap to keep it in place.

Once the inflammation and pain has settled, exercises to regain full movement can begin, followed by a carefully graded strengthening and stabilising programme.

• The Aircast Shoulder Cryo Cuff is the ultimate shoulder ice therapy/cryotherapy device. It provides compression to minimise bleeding and swelling, and cold to minimise pain following shoulder injury.

• Many elite athletes use this product following shoulder injuries and shoulder surgery. Anyone with a shoulder injury can also benefit from using this product. It can be used at home for the treatment of all shoulder injuries, such as shoulder sprain, dislocated shoulder, shoulder arthritis, labrum tears, SLAP lesions, bankart lesions, hill sachs lesion, following shoulder arthroscopy and shoulder surgery.
CALF STRAIN

What is it?
The calf muscle group consists of the Gastrocnemius, Soleus and Plantaris muscles, situated at the back of the lower leg. Their function is to pull up on the heel bone and these muscles are most active during the push-off when a tennis player has to move quickly to react to an opponent’s shot. A strain occurs when the muscle is forcibly stretched beyond its limits and the muscle tissue becomes torn.

How can you prevent it?
Diet can have an effect on muscle injuries. If a tennis player’s diet is high in carbohydrates in the 48 hours before a match there will be an adequate supply of the energy that is necessary for muscle contractions.

However, if the muscles become short of fuel, fatigue can set in, especially during long matches. This fatigue can predispose a player to injury. Carbohydrate and fluids can be replenished during matches by taking regular sips of a sports drink between games.

Treatment
The immediate treatment consists of the ‘PRICE’ protocol: Protection of the injured part from further damage, Rest, Ice, Compression and Elevation. The aim of this protocol is to reduce bleeding within the muscle tissue. Many people find that the Neo G Airflow calf/shin support provides reassurance and therapeutic heat following a calf muscle injury.

The rehabilitation after this period involves gradually stretching the muscle to elongate the scar tissue and progressively increasing the muscle strength. Once this has been achieved, the player can begin tennis-specific exercises. To reduce the risk of re-injury, this should be done under the supervision of a chartered physiotherapist.

• The Neo G Airflow calf/shin support with multi zone compression provides a snug and flexible fit helping to warm muscles and support the calf/shin during sporting or occupational activities.

• Suitable for wearing under everyday clothes, the Airflow support is made from a breathable fabric that controls moisture during intense activities, whilst providing support during movement.

• Fits left or right side, while the slimline and lightweight with multi zone compression provides a snug and flexible fit.
# STRESS FRACTURE OF THE BACK

## What is it?

A stress fracture of the back, or lumbar spine, is one of the more common bone injuries in young tennis players. Lower back stress fractures are usually characterised by an ache in the lower back which is exacerbated by sporting activities and eased by rest, although a small percentage of people with a stress fracture can be pain free. Typically it is sore when the patient bends backwards, particularly if standing on one leg. If a lower back stress fracture is suspected, a doctor may decide to refer the patient for a scan to confirm the diagnosis.

## How can you prevent it?

Serving in tennis requires a combination of spinal hyperextension (bending back) together with rotation and side bending of the trunk. This puts a lot of stress on an area of the vertebra called the Pars Interarticularis and this is where the stress fracture develops.

Practising the service should be carefully monitored by the coach to ensure the lower back is not being overloaded. This is particularly important in adolescent players who have just experienced a growth spurt as they are known to be more at risk from this injury.

## Treatment

In most cases, complete rest from tennis is the treatment of choice. This would usually be for a period of 6 weeks to allow the bone to heal. In the early stages, a soothing heat pack can reduce back pain and alleviate back muscle spasm. During this period, a progressive exercise programme may commence, under the supervision of a chartered physiotherapist. This usually starts with exercises to increase the muscular stability in the lower back.

For an effective heat pack solution, check out the below product:

- The PhysioRoom.com Instant Heat Pack is a mouldable pack that becomes an instant therapeutic heat pack. Ideal for soothing warm pain relief.

- Instant Heat Packs are ideal for use in the treatment of pain and muscle spasm, in circumstances where you don’t have access to an external heat source. Ideal for applications such as neck pain, arthritis, back injuries and shoulder injuries. Instant Heat Packs can be carried on day trips and away matches where conventional hot packs are not practical.

- Instant Hot Packs are activated by squeezing an internal compartment within the pack. This starts a chemical reaction that instantly makes the pack warm. The Instant Hot Pack stays warm for 15 to 20 minutes. Single use only.
TENNIS ELBOW

What is it?

Tennis elbow is inflammation of the muscles and tendons of the forearm as they attach to the humerus (upper arm) bone. This inflammation is caused by prolonged gripping activities such as hammering, driving screws, weight lifting, playing certain musical instruments, canoeing, digging in the garden, driving and, of course, racquet sports.

Tennis elbow causes pain when the lateral epicondyle (outermost part of the elbow) is touched and also if the elbow is straight and the hand is moved forward and back at the wrist. The pain is exacerbated by gripping activities and in some cases simple things like turning a door handle can cause intense pain.

How can you prevent it?

Tennis elbow is usually caused by gripping activities, and gripping either too hard or for too long can bring on the pain. Make sure the item that you are gripping, whether it's a tennis racquet, a hammer, or a canoe paddle, is the correct size for your hand. If it is too small it will cause you to grip too hard. If you play tennis for the first time in a long while, or you have to do a strenuous activity such as decorate a room in one weekend, make sure you take regular breaks and stretch the muscles which work over the wrist by doing 'limp wrist' and 'policeman halting traffic' type stretches.

For those who have suffered from tennis elbow in the past it may be a good idea to wear a PhysioRoom.com Tennis Elbow Support Strap. They work by preventing the wrist extensor muscles (that run along the outer side of the forearm) from contracting fully, thus reducing the strain on the elbow.

Treatment

The success of rehabilitation of tennis elbow is dependent upon first controlling the inflammation. Depending on the severity of the condition, this may be alleviated simply by rest or with the use of anti-inflammatory medication or a Corticosteroid injection. However, in longstanding cases where there is degeneration of the extensor tendons, anti-inflammatory medication, especially corticosteroid injections, should be avoided. This is because they can hinder tissue healing and in fact cause more degeneration.

A big part of Tennis Elbow rehabilitation is an eccentric strengthening programme for the extensor tendons. It's crucial that the load and number of repetitions are carefully recorded and progressively increased under the supervision of a chartered physiotherapist. This ensures that the overload on the tendon is carefully controlled and gradually increased.

For a support to wear during your rehab, try the product below...

- Simple yet effective strap applies pressure to the forearm and elbow to ease the symptoms of tennis elbow and more.
- Used particularly by golfers and racket sports players to prevent and reduce the pain and discomfort of commonly suffered symptoms such as bursitis, tennis and golfers elbow.
- Secured just below the elbow using Velcro, this easy to wear strap applies pressure and support to the forearm and elbow while giving the wearer the freedom to carry on playing sports or carrying out work and every day activities.
PHYSIO ROOM
Group First House,
12a Mead Way,
Padiham,
Lancashire,
BB12 7NG.