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Tennis elbow

Tennis elbow is a condition where there is pain on the outer side of the elbow. It is often caused by overuse strain, causing damage to tendons around the elbow. In many people, symptoms improve over time just by stopping activities that bring on the symptoms.

Studies have not yet confirmed the best way to treat tennis elbow. Painkillers may help to ease the pain until the condition improves. A steroid injection may also ease pain in the short term. However, the pain often returns. Physiotherapy is another treatment option. Other treatments are sometimes used if symptoms persist.

What is tennis elbow?

Tennis elbow causes pain on the outer side of the elbow. The medical term for tennis elbow has traditionally been 'lateral epicondylitis'. This is because the pain is felt around the area of the lateral epicondyle (the lower, outer, bumpy part of your humerus bone in the upper arm). The 'itis' means inflammation. However, it is now thought that tennis elbow does not involve inflammation.

Tennis elbow symptoms

For most people with tennis elbow, the pain only occurs when they use their forearm and wrist, particularly for twisting movements such as turning a door handle or opening a jar. However, for some people the pain is constant; it occurs at rest and can affect their sleep. The pain may travel down your arm from the elbow towards the wrist.

It may be difficult to hold items such as a knife or fork, a cup or a pen, or to straighten the arm fully. Some people also notice a stiffness in the affected arm.

Golfer's elbow is the name given to a similar condition that produces pain around the inner side of your elbow, also known as medial epicondylitis.

What causes tennis elbow?

The site of the pain in tennis elbow is where some tendons from the forearm muscles attach to the bone around the elbow. The pain is thought to be caused by swelling or thickening of the tendon initially and eventually degeneration (wearing) of the tendon.

This damage is usually caused by overuse of the forearm muscles in repeated actions such as wringing clothes or manual work (particularly with twisting movements such as using a screwdriver).

Playing tennis or other racquet sports can also cause tendon injuries. However, despite being called tennis elbow, racquet sports are only thought to be the cause in about 5 in 100 cases. In most people, tennis elbow affects the arm used to write with (the dominant arm).

Who develops tennis elbow?

About 1 to 3 people in 100 have tennis elbow. It mainly affects people between the ages of 40 and 50. Women and men are affected equally.

Tennis elbow is more likely to occur in someone with unfit forearm muscles. For example, it is more common in someone who suddenly plays a lot of tennis whilst on holiday, or who does a DIY project or some gardening when they are not used to strong forearm actions.

However, even people who are used to heavy work can overdo it and injure a tendon. People whose work involves repeated twisting and gripping actions, such as carpenters and plasterers, are prone to developing tennis elbow.

It can often be difficult to pinpoint an exact event that started the symptoms. In many people, the condition develops for no apparent reason without any prior overuse or injury to their arm.

How is tennis elbow diagnosed?

Tennis elbow can usually be diagnosed by a clinician asking questions about the symptoms and by examining the arms. It is typical to experience pain when the clinician examines the outer part of the elbow. Moving the wrist in a particular way will also usually bring on your pain.

Tests are not usually needed to diagnose tennis elbow but if, after a few months, the symptoms are not improving then a specialist referral might be suggested. The specialist may suggest tests such as a [magnetic resonance imaging \(MRI\) scan](#).

How to treat tennis elbow

Modifying activities that bring on your symptoms

It is important to recognise which movements tend to bring on the pain and avoid these as much as possible. Typically, pain is made worse by lifting, gripping and twisting movements of the affected arm.

Resting from activities that bring on pain can help the tendon injury to heal. In many people, just modifying their activities and cutting out repetitive movements of the arm or hand can be enough to improve tennis elbow.

It might be necessary to discuss with an employer if the job seems to be contributing to your tennis elbow or preventing it from healing by itself. There may be different tasks that can be done at work while the tennis elbow is healing. It is also advisable for everyone to take regular breaks when they are working.

Pain relief

[Ice can sometimes be a good pain relief](#) in tennis elbow. An ice pack (such as a pack of frozen peas wrapped in a towel) can be used on the tender area twice a day for ten minutes.

[Painkillers](#) such as [paracetamol](#), with or without codeine added, may be helpful.

Anti-inflammatory painkillers such as [ibuprofen](#) are commonly used to ease pain in tennis elbow. Some anti-inflammatory painkillers also come as [creams or gels](#) which can be rubbed over the painful elbow. These tend to produce fewer side-effects than those taken by mouth. There are various brands which you can buy, or obtain on prescription.

The evidence suggests, however, that these painkillers do not improve the condition in the long term. They also have a risk of side-effects.

Physiotherapy

Physiotherapy has been shown to be helpful in the treatment of tennis elbow. A physiotherapist may be able to use techniques such as massage, laser therapy and ultrasound therapy as well as exercises to treat tennis elbow. It is not certain if any one of these physiotherapy treatments is better than others.

Studies have shown that physiotherapy may not be as good as a steroid injection at relieving pain in the short term (that is, within the first six weeks). But, it may be superior to steroid injections in the long term. However, there may be a wait for a physiotherapy appointment.

Supports and splints

These can include wearing a special elbow armband or bandage. This may help to give support and protection to the elbow until symptoms ease.

Another option may be to wear a wrist splint which may ease pain by helping to rest the muscles that pull on the elbow.

Wearing supports such as these and having physiotherapy at the same time may give better symptom relief in the long term.

Steroid injection

If the above measures do not work, or if there is severe pain and difficulty using the arm, an injection of a steroid into the painful area of your elbow may ease the pain.

A number of studies have shown that [steroid injections](#) may be helpful in easing pain in the short term but that pain tends to come back in many people. In one study, short-term (six weeks) success rates were greater for steroid injections than for physiotherapy or a wait-and-see policy. However, in the long term (one year), success rates were greater for both physiotherapy and a wait-and-see policy than for injections. The short-term benefit may be sufficient to warrant an injection – for example, for a student about to sit important examinations.

Even if a steroid injection has eased the pain, the arm still needs to be rested and it remains important to avoid any activities that may have brought on the pain previously. Activities should be built up slowly over some weeks to try to reduce the chance of the tennis elbow coming back.

A steroid injection may sometimes be repeated after some weeks if pain recurs. However, it is not usually recommended to have more than three injections at the same site over a lifetime. There may also be some side-effects of steroid injections – for example:

- Pain on injection.
- Shrinking (atrophy) of the fatty tissue under the skin at the injection site.
- Loss of colouration (depigmentation) of the skin around the injection site.
- Damage to the tendon around your elbow (this is very rare).

The treatments below have inconclusive evidence on efficacy and are rarely available on the NHS:

Shock wave therapy

Shock wave therapy using high-energy sound waves is sometimes used to treat tennis elbow. A special device allows the shock waves to be passed through the skin around the elbow to the affected area. A local anaesthetic may also be given, as sometimes the shock waves can be painful. One or more treatment sessions may be needed.

Shock wave therapy appears to be safe but it is not clear yet exactly how well it works and more research is needed.

There is a small chance of side-effects, including short-term reddening of your skin, swelling of the area that is treated and pain during the procedure. It is thought that there may also (rarely) be a risk of the tendon around your elbow tearing (rupturing).

Autologous blood injection

This procedure is generally only considered if other treatments have failed. It is not clear yet how effective this treatment is and more research is needed.

Blood is taken from the affected person and then injected into the area around the damaged tendons at the elbow. It is thought that the blood helps to heal the tendons. A local anaesthetic is often given as a pain relief during the procedure. Several treatment sessions may be needed. A splint is likely to be needed to be worn after the procedure and physiotherapy will often be offered.

Possible problems with this procedure include pain, bruising, damage to other structures near the tendon (such as nerves or blood vessels) and infection.

Botulinum toxin A injection

Injection of botulinum toxin into muscles in the forearm has been shown to be an effective treatment for tennis elbow. However, for a few months after the injection, it is not possible to move the third and fourth fingers so it is only considered in very severe cases.

Surgery

If the tennis elbow symptoms persist for some time and are really troublesome then a specialist may advise an operation. The common operation to ease symptoms is to remove the damaged part of the tendon. Only a small number of people require surgery to relieve symptoms.

Tennis Elbow Management Options

Each treatment option for Tennis Elbow has various benefits, risks and consequences. In collaboration with health.org.uk, we've put together a summary decision aid that encourages patients and doctors to discuss and assess what's available.

What is the outlook (prognosis) for tennis elbow?

If the arm is rested and activities that bring on the symptoms are avoided, tennis elbow will usually settle over time. Rest and painkillers are all that most people with tennis elbow need.

For most people, tennis elbow lasts between six months and two years. Most people are better in less than one year. Unfortunately, once tennis elbow has occurred once, it may return. For a few people, tennis elbow does not improve on its own and needs more drastic treatment such as surgery.

How to prevent tennis elbow

It is not always possible to avoid a sudden overuse of the arm, which can cause tennis elbow. However, increasing the strength of the forearm muscles may help to prevent a further bout of tennis elbow in the future.

The aim is to exercise and strengthen the muscles but to avoid twisting movements. There are several online sites advising on the best exercises. There are examples in the further reading section below. A physiotherapist may be useful if these exercises are not improving symptoms over several weeks.

If tennis elbow has been brought on by playing some kind of sport, advice from a professional coach should be sought to improve technique, racquet grip size, etc.

If it has been brought on by a repetitive action at work, a physiotherapist may be able to advise. They may be able to suggest how to avoid it recurring in future.

Further reading

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- [Tennis elbow](#); NICE CKS, November 2020 (UK access only)
- [Exercise Advice for Tennis Elbow](#); Chartered Society of Physiotherapists

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