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Useful Link: NHS resource on Tennis Elbow:
www.nhs.uk/conditions/tennis-elbow/pages/introduction.aspx

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Information for patients

Tennis Elbow



Hand and Upper Limb

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Tennis Elbow Information Leaflet

What is tennis elbow and what are the symptoms?

Tennis elbow causes pain on the outer side of your elbow. The medical term for tennis elbow is 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 your upper arm).

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 your elbow towards your wrist. You may find it difficult to hold items such as a knife or fork, a cup or a pen, or to straighten your arm fully. Some people also notice stiffness in the affected arm.

You should not have any tingling in the arm or fingers - this would suggest some other condition such as pressure on the nerve in the neck (cervical spondylosis) or at the wrist (carpal tunnel syndrome).

Golfer's elbow is the name given to a similar condition that produces pain around the inner side of your elbow.

Why have I got tennis elbow?

In most people, tennis elbow affects your dominant arm (the arm with which you write). The site of the pain in tennis elbow is where some tendons from your forearm muscles attach to the bone around your outer elbow. The pain is thought to be due to an injury, or several tiny injuries, to one or more of the tendons in your forearm. An injury can cause wear and tear to the tendon as it inserts to the bone and this can lead to scarring of the tendon.

Injuries are usually caused by overuse of your forearm muscles in repeated actions such as painting or manual work (particularly with twisting movements such as using a screwdriver). Playing tennis or other racquet sports can also cause tendon injuries especially if you do not have the correct grip. Most commonly it can be difficult to pinpoint an exact event that started your tennis elbow symptoms and in some people, the condition develops for no apparent reason without any prior overuse or injury to their arm.

Tennis elbow can also occur suddenly when you have used the forearm muscles strongly or repeatedly, for example whilst gardening or DIY, and they are not used to this activity. You may also have a direct injury to the outer elbow from a bang or you may fall onto the elbow causing a bruise to the tendons as they attach to the bone.

Can tennis elbow be prevented?

Healthy tendons can strengthen easily when you gradually increase the activity or load that they carry. However, tendons don't like sudden increases in activity and can easily become irritated if you do this and sudden overload may alter a tendon's structure and allow a degenerative (wear or tear) process to begin. You often cannot avoid a sudden overuse of the arm, which can cause tennis elbow. It is therefore important to gradually increase activity allowing the tendons and muscles to strengthen. This gradual buildup of activity may help to prevent a further bout of tennis elbow in the future. You may wish to see a physiotherapist for advice on how to strengthen your forearm muscles.

If your tennis elbow has been brought on by playing a sport, and always remember not to grip the racquet too hard, seek advice from a professional coach about your technique, racquet grip size, etc. If it is related to your work then look at modifying your activity or changing the handle size of your tools or the position that you work in to see if this helps ease your elbow discomfort.

Research in the management of tennis elbow

You may be invited to partake in a research study that is led by the Consultant team at the Robert Jones and Agnes Hunt Hospital. People who continue to have moderate to severe levels of tennis elbow symptoms with little improvement after physiotherapy may be invited to join the study. The study is looking to see if injections into the painful tendon at the elbow are helpful to improve the tennis elbow symptoms. Injections are commonly used but we do not know if one injection is more effective than another. The present study is looking to compare the effects of injecting saline, or PRP (platelet rich protein) or autologous blood. Injecting substances, such as saline, into the tendon attempts to improve pain by compressing the fine blood vessels which some scientists believe cause the pain in tennis elbow. We want to see if this is helpful with our patients and if there is any benefit in injecting PRP or autologous blood, both of which contain cells that may improve the healing process.

You would need to give your consent to join this study and we would then monitor your symptoms before any treatment began and at several intervals during the study, the last evaluation of your symptoms would be at 12 months after the injection.

You may speak to your consultant about this trial or you can contact the research trial manager directly, Johanna Wales by e-mail johanna.wales@rjah.nhs.uk or telephone **01691 404142**.

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- Autologous blood injection

Autologous blood is blood that is taken from you and then injected into the area around the damaged tendons at your elbow. It is thought that the cells in the blood help to heal the tendons. A local anesthetic is often given as pain relief during the procedure. After the injection there may be some bruising. You will need to return to your physiotherapy exercises to gradually stretch and strengthen the muscle and tendon.

It is not clear yet how effective this treatment is and more research is needed but some studies showed it to be more effective than corticosteroid

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

- PRP injection

PRP (platelet rich protein) is part of your own blood. Blood is taken from you and the blood is spun in a machine to separate the plasma that has a high concentration of platelets and growth factors in it. This is called PRP. It is assumed (but not proven) that the growth factors in the PRP can help the tendons to heal.

The use of autologous blood and PRP has grown over recent years and there is some evidence to support their use. One advantage of these treatments is that there appears to be very few side effects.

Again it is very important for you to return to your physiotherapy exercises to rehabilitate the tendon flexibility and strength.

- Botulinum toxin A injection

Injection of botulinum toxin into muscles in the forearm has been shown to be an effective treatment for tennis elbow. Injection of botulinum toxin (botox) may only be considered if symptoms are severe enough for surgery to be considered. Some people experience temporary weakness of the muscles that straighten the fingers as a side effect of the botox injection.

Can surgery be helpful for tennis elbow?

If your tennis elbow symptoms persist for some time and are really troublesome, then a specialist may advise an operation. Operations can be open (with a small cut, approximately 3 or 4cms), arthroscopic (keyhole) or percutaneous (with a 1cm cut) and are directed to the attachment of the tendon to the lateral epicondyle of the humerus. A variety of techniques can be performed - debridement, release, repair, denervation and lengthening. 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.

Who gets tennis elbow?

About 1 or 2 in 100 adults develop tennis elbow each year. It mainly affects people between the ages of 35 and 55. Women and men are affected equally.

People whose work involves repeated twisting and gripping actions, such as carpenters, plasterers and cooks are more prone to getting tennis elbow.

9 in 100 tennis players develop tennis elbow, with novice players being more affected than professional players.

When will it get better?

Most tennis elbow symptoms normally settle down over 6 to 12 weeks. More irritable symptoms may take longer, but over a 12 month period approximately 80 out of 100 people with tennis elbow will have good improvement of their symptoms.

What are the treatment options?

There are many treatment options available and the correct management is unknown. It is thought that changing your activity, physiotherapy and topical anti-inflammatory creams are likely to provide the best relief of symptoms, particularly if the tennis elbow symptoms are relatively new.

If symptoms fail to improve with these treatments then your GP may refer you to a specialist surgeon and an injection into the area may be considered.

If symptoms persist then your surgeon may suggest an operation. Most people would not be offered this unless they had significant tennis elbow symptoms for over 12 months.

Will changing my lifestyle help my tennis elbow?

The pain from tennis elbow is made worse by lifting, gripping and twisting movements of the affected arm. Avoiding these types of activities or performing them in a different way can help to reduce irritation so that the tendon injury can heal. In some people, just modifying how they do their activities and cutting out repetitive movements of the arm or hand can be enough to improve tennis elbow.

You may need to discuss with your doctor and/or your employer if you feel that your job may be contributing to your tennis elbow. There may be different tasks that you can do at work while your tennis elbow is settling down.

Are painkillers helpful?

Painkillers such as paracetamol can be used to ease pain in tennis elbow. Anti-inflammatory painkillers, such as ibuprofen, taken as a tablet is not thought to help improve the tennis elbow symptoms and some people believe they should be avoided if possible. Ice can sometimes be helpful to improve the pain if you have tennis elbow. Try using an ice-pack, or crushed ice in a plastic bag, on the tender area twice a day for ten minutes.

Can I use anti-inflammatory creams or gels or ice?

Some anti-inflammatory painkillers come as creams or gels which you can rub over your painful elbow. There is some evidence that these are useful to help your tennis elbow symptoms, particularly in the early stages. These creams or gels tend to produce fewer side-effects than the tablet versions taken by mouth. There are various brands which you can buy, or get on prescription. Ask your doctor or pharmacist for advice. Applying ice to the painful area for 15 minutes regularly may also be helpful.

Can Physiotherapy help?

Physiotherapy has been shown to be helpful in the treatment of tennis elbow. Strengthening and stretching exercises for the forearm muscles have been found to be most helpful in reducing the pain and improving the muscle strength of people with tennis elbow and these must form the basis of treatment. The exercises need to be performed consistently and regularly for up to 3-6 months to get the best result. If the exercises are stopped too soon then the muscle and tendon continue to be weak and the pain easily returns or flares up when you start performing harder activities. The physiotherapist may also use joint stretches to the elbow or neck, massage around the elbow and forearm, strapping of the forearm and nerve gliding exercises as these have been reported as having a useful supplementary effect alongside the exercises.

Physiotherapists may also suggest acupuncture or dry needling which has been shown to give some short term benefit in pain relief. Acupuncture can be used to stimulate pain relief or it may also be used to stimulate the tendon as it attaches to the bone. Stimulating the tendon attachment may initiate a healing response in the tendon to encourage it to heal.

It can be normal for your tennis elbow symptoms to worsen a little for the first 4-8 weeks of exercising. Muscle aching is normal when you are trying to strengthen a muscle, but the increase in pain should be at a manageable level. The use of electrotherapy machines such as ultrasound, laser and pulsed electromagnetic energy (PEME) has not been found to add any extra benefit to the exercises.

You can be referred for physiotherapy by your GP or consultant.

Are supports and splints useful?

An elbow clasp may be worn for activities. Biomechanical studies show that wearing the clasp reduces stress on the tendon attachment to the bone and has been shown to give temporary relief whilst it is worn.

Another option may be to wear a wrist splint which may ease pain by helping to rest the muscles that pull on your elbow. You only need to wear the elbow or wrist support when you are doing an activity that would normally aggravate your pain. Wearing supports such as these and having physiotherapy at the same time may give you better symptom relief in the long term. Many therapists use supportive taping along the elbow and forearm to improve pain. Physiotherapists may provide these splints or you may purchase them independently.

What is extracorporeal shockwave therapy - can this help my tennis elbow symptoms?

Extracorporeal shockwave therapy (ECSWT) treatment is offered in some hospitals. It is a machine that is held like a large pen over the sore tendon attachment. The treatment head vibrates against the tendon attachment for approximately 5 minutes. This treatment is normally repeated over 3 or 4 sessions with 1 or 2 weeks between each session. ECSWT is thought to stimulate the injured tendon to start the body's own healing response. ECSWT is used to treat tendon pain around the body, such as plantar fasciitis and achilles tendinopathy. In the research it has become apparent that it is not consistently useful to treat tennis elbow symptoms. This treatment is only useful if combined with the physiotherapy exercises. It has also been shown to cause redness and bruising at the elbow in some people.

What sort of injections are there and can they help?

If the above measures do not work, or if you have severe pain and difficulty using your arm, an injection into the painful area of your elbow may be considered. There are a variety of injection treatments that can be used.

- Corticosteroid injection

The use of corticosteroid injections have been the most popular injection to treat tennis elbow symptoms until recent times. Research evidence shows that corticosteroid injections improves pain in the short term but unfortunately the pain often returns in medium and longer terms. Certainly when compared to wait and see (no active treatment) or physiotherapy, people treated with corticosteroid injection had the worst outcome (most symptoms) at 12 months. In some people steroid injections can cause local complications such as skin discoloration and wasting of the fat at the injection site. The use of corticosteroid injections is now questionable in people who have had long standing tennis elbow symptoms.