

The Complete Guide to Tennis Elbow

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Hi, my name is Mr. Ranjan Vhadra.

I work in the area of orthopaedics, a branch of surgery concerned with the musculoskeletal system.

If you've ever broken a bone or needed a hip replaced, it was an orthopaedic surgeon who operated on you.

In this guide I'd like to explain how you can get your tennis elbow better in a few easy steps. I am also going to explain what tennis elbow is, why some people suffer from it when others don't and what your treatment options are. I will also explain how my new treatment **Tenease** works to relieve the pain and accelerate recovery from the condition.



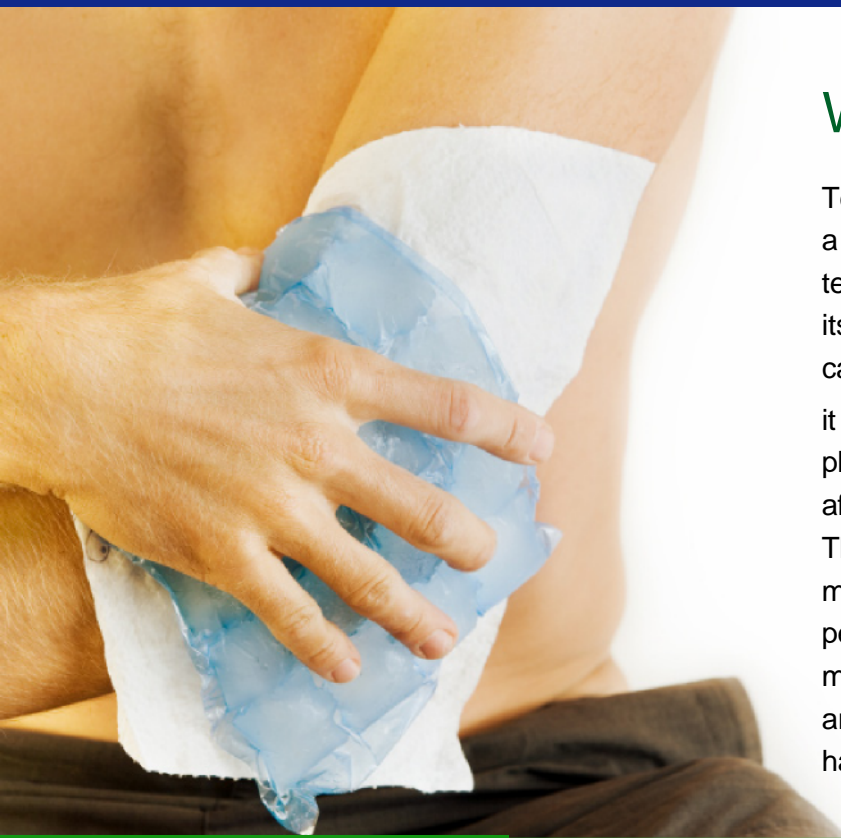
A little about me

I am a practising consultant orthopaedic surgeon working in Guernsey, which is one of the beautiful Channel Islands in between England and France. I trained as a doctor at the world famous St. Bartholomew's Medical school in London and undertook my training in surgery at many prestigious hospitals around Britain including the Royal National Orthopaedic Hospital, Wrightington Hospital and the Robert Jones &

Agnes Hunt hospital in Oswestry. I also trained at the Hospital for Special Surgery in New York.

As a consultant surgeon I have a busy practice seeing and treating patients with orthopaedic problems. I also have the privilege of teaching and lecturing orthopaedic surgeons around the world. I fit all this around my family, my wife who is a doctor and three adorable small children.





What is Tennis Elbow?

Tennis elbow is a painful condition that often occurs as a result of strenuous overuse of the muscles and tendons of the forearm and around the elbow joint. As its name suggests, tennis elbow can sometimes be caused by playing tennis, but

it can also occur as a result of a number of other physical activities. It is a common condition which affects at least 2 – 3% of the population every year. This means that in the United Kingdom there are a million new cases of tennis elbow every year. It affects people from all walks of life but manual workers are more prone to suffering from it and it can affect either arm irrespective of whether you are right or left-handed.

The understanding of tennis elbow has improved over recent years.

It was thought to be an inflammatory condition with the tendon becoming inflamed. This is the tendon which attaches the forearm muscles to the bony prominence on the outside of the elbow. The bony lump that you can feel on the outside of the elbow is called the lateral epicondyle which is why Tennis Elbow is referred to as *lateral epicondylitis* in medical circles.

Because it was thought to be an inflammatory condition the classical treatment has been a corticosteroid injection into the tendon. Recent

research shows that it is not due to inflammation therefore a steroid injection is the wrong thing to do. There is damage to the tendon called micro trauma. In patients who are susceptible to tennis elbow this micro trauma doesn't heal which is probably due to the change in the blood supply to the tendon.

Patients who get tennis elbow have a tendon that is unable to heal itself due to this restricted blood supply and therefore they get a chronic condition which is tennis elbow. Most patients with tennis elbow find that with some rest their symptoms improve but as soon as they use their arm the pain returns.



In 90% of cases, the patient is able to return to work within 2 weeks of the injury. In 10% of cases, the patient is unable to return to work within 2 weeks of the injury. In 10% of cases, the patient is unable to return to work within 2 weeks of the injury.

What treatments are available?

There are no ideal treatments for tennis elbow. In a recent review in the British Medical Journal (23rd January 2010) the recommended treatments are:

- Information and exercise leaflet
- Advice on avoiding aggravating factors.
- Basic exercises and stretches.
- Pain relieving drugs
- Corticosteroid injection.

If we look at each of these treatments in turn, you'll see why until now, there's been no real treatment for the condition.



Corticosteroid Injections

Steroid injections have been a very popular treatment for tennis elbow. This was due to the belief that the condition is caused by inflammation of the elbow. However, recent research shows that as tennis elbow is not caused by inflammation but a lack of it, the use of injections as a treatment is not ideal.

The recent evidence also suggests that these injections provide a short term benefit but not a long lasting effect. They can also have side effects including depigmentation (colour change of the skin) and atrophy of the injection site (indentation of the skin).

Tendons can also be weakened by the injections and tendon ruptures have also been reported.

Strapping and Banding

There are some advantages to strapping up the elbow. Rest is an important part of the recovery process and immobilising the elbow with a strap is certainly an advantage. When performing any activities that put the elbow at risk, a strap will often help avoid re-injury.

The disadvantage with strapping is that it doesn't assist the recovery of the elbow tendon and it doesn't relieve the pain. There is very little evidence to show that strapping or braces improve tennis elbow.



Anti Inflammatory drugs

This is the usual first line of treatment for tennis elbow.

All pain relieving (analgesic) treatments work by blocking the pain signal to the brain. Drugs such as paracetamol, ibuprofen and morphine do this chemically. They block chemical mediators that allow the pain signal to pass from nerve to nerve on its way to the brain. These drugs are not specific to the site of injury. The body is bathed by the drugs and only a very small portion of the pain killing drug that you take actually works on the

damaged tissue. On the whole these drugs are very safe but they do have side effects in some patients.

Anti inflammatory drugs such as ibuprofen (neurofen) and aspirin can cause gastritis and stomach ulcers. Very rarely they can cause life threatening bleeding if used for more than a few weeks. In comparison Tenease is perfectly safe and can be used for as long as is needed.

All these drugs work to take the pain of tennis elbow away but do not speed up the recovery of the condition.



TENS machines

Another option for pain relief is a Transcutaneous Electrical Nerve Stimulator (TENS machine). TENS machines deliver small electrical pulses to the body via electrodes placed on the skin. This is thought by some to help ease pain.

TENS machines are useful in back pain and for women in childbirth but not so practical for tennis elbow.

It is difficult to apply the TENS electrodes to the elbow for it to be effective. A study published in the Journal of Pain showed that the vibration therapy that Tenease uses is far superior to TENS in its pain relief for the condition.



Physiotherapy

A physiotherapist will initially aim to reduce the pain and potential inflammation if you are in an acute episode.

Deep tissue and friction massage techniques can also be used to break down underlying adhesions and improve the local circulation.

Once the acute stage has settled the aim is to restore function of the involved muscles by a graded exercise plan targeting the flexibility, strength, and endurance of the wrist extensor muscles. Your physiotherapist will advise you on this.

The new research showing tennis elbow to be a lack of inflammation however is starting to move us in a different direction. Treatment of inflammation makes less sense if there cannot be shown to be any. Stretching and progressive loading of the extensor muscle in an eccentric manner is the current best practice. Eccentric in this case means the exercise is done in a manner which allows the muscle to lengthen at the same time. A bit like having a dumbbell in your hand curled up to your shoulder and letting it down repeatedly as the exercise.

The disadvantages of physiotherapy are that it is expensive, time consuming and although it helps to recover the movement of the arm, it's a very lengthy process. Patients often require more immediate help than a weekly trip to a physiotherapist for treatment.



Conclusion

Conventional treatments for tennis elbow are either painful, costly, carry side effects, or are ineffective. Many do not address the real cause of the condition which is a lack of inflammation and micro trauma to the tendon itself. Until now, nobody has solved the problem which affects nearly one million people a year in the UK alone.

How did I come up with the answer to Tennis Elbow?

As a surgical trainee I undertook many research projects some of which I have published and presented at orthopaedic meetings around the world. One such project was looking at vibration therapy for the treatment of tennis elbow. This treatment was well recognised for chronic pain and the study involved patients who had tennis elbow that was resistant to all other forms of treatment.

The equipment that applied the treatment was large, expensive and complex to operate. It required a therapist to apply 20 minutes of treatment which the patients received once a week. I was actually surprised at how much benefit the patients received from the treatment. However, the treatment was only available in hospital and the patients were limited in their use of the machine. The eureka moment was when

I realised that I could redesign the equipment to make it small, inexpensive and easy to operate. This would give all the benefits of the hospital equipment but in a portable device that sufferers of tennis elbow can use at home.

The small battery operated machine has a custom made microprocessor that controls the transducer within it. **Tenease** is easy to use, provides instant relief from the pain and in my own prospective study I have found that it speeds up the recovery of tennis elbow. My patients have found **Tenease** to be comfortable, safe and effective. In fact, many of them loved it so much that they were reluctant to give back the trial Tenease machine I gave them in case their tennis elbow symptoms returned.

How does Tenease work?

Tenease works by relieving pain and helping to heal the damaged tissue. Pain is an important function of any living organism. It tells the brain that there is damaged tissue and in the case of tennis elbow this is the chronic degeneration of the tendon on the side of the elbow caused by micro tears within the tendon itself.

In recent years scientists have learnt a huge amount about how pain travels through the body. It's now possible to block the 'pain signal' as it travels from the injured area to the brain.

This means no need for drugs that affect all the body, and no need for painful injections.

Tenease works by a mechanism called the Gate theory.

This was first discovered in 1965, by Melzack and Wall's in their classic Science article "Pain Mechanisms: A New Theory". The pain signal that runs up to the brain can be blocked by an inhibitory neuron. This inhibitory neuron can be activated by accurately stimulating the vibration sensors in the body.

Tenease has a microprocessor unit within it which controls the transducer which sends the vibration signal. Studies have shown for this to work properly the amplitude and frequency of the signal has to be controlled and delivered accurately. Tenease has patented technology which delivers this pain relieving treatment.

As tennis elbow is caused by a lack of inflammation within the tendon, it occurs in people that do not have a good blood supply to the middle of the tendon. These people then cannot heal the

damaged tendon leading to a chronic situation which is tennis elbow. Surgery is usually a last resort and consists of either exposing the tendon and either mechanically stripping it or burning little holes in it. This works by inducing an inflammatory reaction in the tendon and surrounding tissues. This inflammation causes angiogenesis (the formation of new blood vessels) and this brings nutrients to the damaged tendon and allows it to heal. **Tenease** works the same way that an operation would. It promotes inflammation but in a precise and controlled way which allows the tendon to heal. Its also painless and much less complicated and risky than an operation on your arm.

Tenease is an easy to use and effective treatment for tennis elbow. Compared to other treatments it is safe, side effect free and cost effective.

I truly believe that in time **Tenease** will be the first line treatment for all tennis elbow sufferers and I'm so confident that you'll find it the answer to your tennis elbow condition that I've asked the company that makes the device to guarantee to refund all of your money if you're not completely satisfied. Just return the unit within 30 days for a complete refund.

If you'd like to take up this offer [click here](#) to purchase your device

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