

ELBOW PAIN  
DO I HAVE  
TENNIS ELBOW?

By **GRAHAM NELSON**  
**RUSSELL VISSER**

## ABOUT NORTHWEST PHYSIOTHERAPY GROUP

Northwest Physiotherapy Group was first established as Essendon and Moonee Ponds Physiotherapy Clinic in 1990. We have over 50 years combined experience in muscle and joint conditions, and a fully equipped, purpose built facility with state of the art pilates studio and rehab gym.

We can have you feeling fitter, stronger, more energetic and pain-free in the shortest possible time.

*“Get fast, effective, long term results with new approach to Physiotherapy based on current pain research. We provide expert hands-on assessment and treatment of the whole body and teach you how to manage the cause of your problem”*

We guarantee you will be completely satisfied with our professional, caring and comprehensive service. To book an appointment call us on 03 9370 5654 or visit <http://www.nwpg.com.au/appointment>

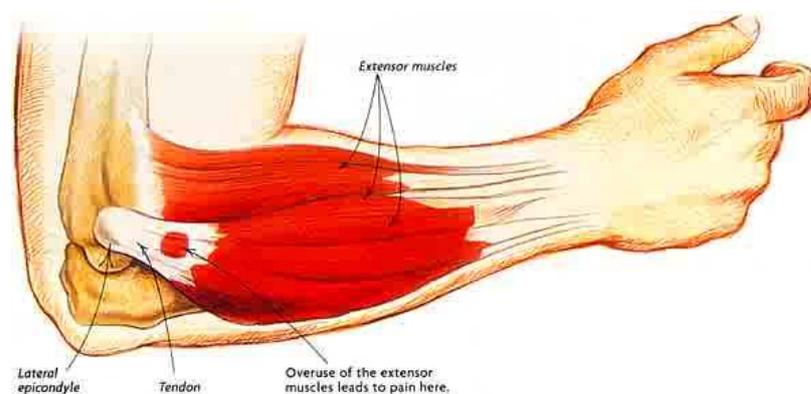


### ***ELBOW PAIN – DO I HAVE TENNIS ELBOW?***

BY GRAHAM NELSON & RUSSELL VISSER

## WHAT IS TENNIS ELBOW?

Tennis elbow (also called lateral epicondylitis or epicondylalgia) is a painful degenerative musculoskeletal condition, characterised by pain and tenderness over the outside aspect of the elbow, and also weakness of the grip affecting daily activities such as opening doors, taps or jars, lifting objects or shaking hands. This condition usually occurs as a result of over-use, overstress or overexertion of the muscles and tendons that move the elbow, wrist and hand.



## HOW DO I KNOW IF I HAVE TENNIS ELBOW?

To confirm that you have Tennis Elbow there are a few simple tests you can do to check for yourself.

You may feel pain or soreness (tenderness) to touch over the outside aspect of the elbow joint, just over the bony prominence. The muscles around this region may be sore also.

You may feel pain on making a tight fist or squeezing someone's hand.

You may be unable to complete normal daily activities using the affected arm i.e. carrying the shopping, lifting the kettle, using a hammer.

Your grip strength may be reduced.

There is range of other manual tests that your Physiotherapist will perform to confirm the diagnosis.

## I DON'T PLAY TENNIS, SO WHY DO I HAVE TENNIS ELBOW?

The name “Tennis Elbow” was given to the condition early in the 18<sup>th</sup> century after a doctor recognised the symptoms in tennis players. Over time, as research developed it was identified that the cause was over-use and over-exertions of the muscles and tendons around the elbow. Many other activities in general life or occupational tasks require repetitive wrist movements and therefore a squash or hockey player or even a builder can develop “tennis elbow” without being a playing tennis. Tennis elbow is now more commonly referred to as lateral epicondylitis as it is no longer a condition exclusive to tennis players, but any person who participate in sport or occupations with repetitive wrist movement. These include painters with repetitive brush strokes, plumbers and builders with the repetitive use of hammers and many more. You may also be at risk if you play sports like squash, hockey, or rowing.

## WHY IS IT MY NON-DOMINANT HAND?

As mentioned, tennis elbow is caused by build up of stress in specific muscles and tendons around the elbow. A person’s non-dominant hand and arm are almost always weaker and smaller than the muscles of the dominant hand. This is due to the predominant use of one hand over the other, resulting in more strength and endurance in that arm. When you use your non-dominant hand in repetitive actions, the muscles are less able to cope with the increased load and can develop micro tears and degeneration over time. The muscles in your non-dominant hand may not be strong enough to overcome the extra loads and repetitive actions.

There is also research that suggests that lateral elbow pain may be referred from other regions, specifically the neck or upper back(secondary hyperalgesia), much like you can have leg pain referred from your back. In these cases, it is not specifically related to overuse and hence can affect either side.

## WHAT ARE THE CAUSES?

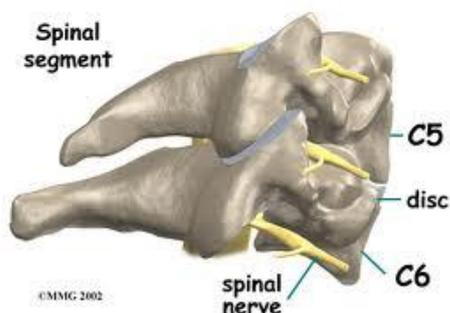
Tennis elbow affects the extensor tendons that attach to the outside of the elbow. These tendons are the attachment of the muscles that function to move the wrist and fingers back, and to stabilise the hand with gripping/manual tasks. Specifically, the extensor carpi radialis brevis has been identified in causing the symptoms of tennis elbow. This muscle attaches to a part of the elbow bone called the lateral epicondyle,

thus giving tennis elbow the medical name 'lateral epicondylitis. **Recent evidence has shown that tennis elbow is not simply an inflammation of these tendons but is now known to be a degenerative process as a result of repetitive use and poor blood supply to the tendon.** This process occurs when microscopic tears are incompletely healed within the tendon. The body has a delayed response to healing, so the degeneration within the muscles and tendons cause pain or tenderness as a result of mechanical stimulation of sensory nerves in the area. There is recent evidence to suggest that this pain is poorly processed by the body (disordered neural processing) which may lead to it lasting so long in many cases.

## OTHER FACTORS THAT MAY CONTRIBUTE TO THE PAIN OF TENNIS ELBOW

### CERVICAL

The cervical spine or neck may be a possible source of referral of pain into the elbow. This is because the nerves that supply the muscles of the arm and sensation to the arm originate in the neck. For the elbow this is more specifically the C5/6 segment, and any dysfunction around this level may be misinterpreted by the brain as originating in the elbow. Research shows that this is the case in some people suffering tennis elbow, but not in all cases. In the clinical setting we have found this to be true, and often there is a component of the pain that may be arising from the neck.



### THORACIC

The thoracic spine or upper back is another possible contributing source of elbow symptoms, which is what we have often found clinically but there is much less

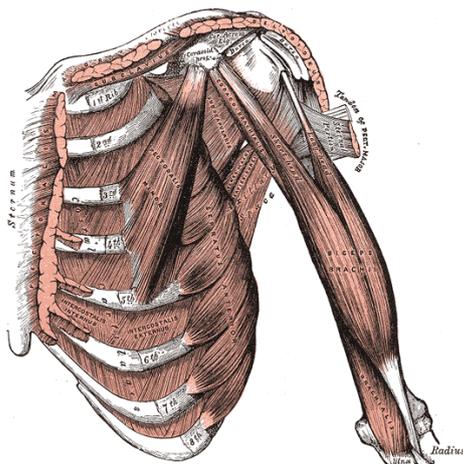
research supporting this. The sympathetic trunk, a branch of the Autonomic Nervous System, lies in this area (along the joints between the ribs and the spine) and is responsible for controlling circulation to the arms (via control of smooth muscle in artery walls). Thus any dysfunction in this area may affect blood flow to the arm and hence healing of local soft tissues.

Many of the muscles that stabilise the shoulder complex also attaché to the thoracic spine, so thoracic dysfunction can lead to reduced shoulder function which will in turn affect the arm.

## SHOULDER

There is literature that supports the existence of trigger points within muscles of the shoulder, especially infraspinatus, that can refer pain into the elbow region. Also the biomechanics of the shoulder region are intimately connected to elbow function by the long head of biceps muscle which crosses both joints. Poor shoulder posture can increase tension on the brachial plexus (a collection of nerves from the neck that go down the arm) and this can also cause elbow pain. Weak scapular retractors are also a common problem that may have an impact on arm pain through poor shoulder positioning.

### Muscles of the shoulder girdle that influence the elbow



## TREATMENTS

There are a number of treatments that have been used on tennis elbow, and there have been many clinical trials and reviews analysing the effects of these treatments.

Following is a brief summary of the most popular treatments and their effectiveness based on current available evidence.

## **CORTICOSTEROID INJECTIONS (CSI)**

In some cases corticosteroid injections can be used to decrease pain and increase function in patients diagnosed with tennis elbow. The process is usually performed by your general practitioner and involves an injection containing a local anaesthetic and an anti-inflammatory agent. The injection is administered into the muscle tendon over the outside aspect of the elbow. Evidence shows that CSI can be beneficial to reduce pain and increase function, therefore allowing for optimal rehabilitation. CSI are usually a short-term solution for a more persistent condition and occasionally more than one injection is required.

Evidence suggests that their effect does not usually last more than 3-4months.

## **BRACES**

The elbow brace is used to reduce the loading forces on the elbow joint and are applied just below the elbow. By reducing the load through the elbow there is less tension on the muscles and therefore can reduce pain and subsequently increase function. Evidence shows that bracing can be effective in helping people return to daily activities such as cooking, cleaning and lifting, possibly allowing you to return to work. However, it is important to understand that as well as decreasing the stress on the injured muscle fibres it is also important to increase strength and endurance of these muscles, and long term use of a brace has been found to reduce strength and muscle endurance.

## **ACUPUNCTURE**

This is a treatment used for a range of musculoskeletal condition including tennis elbow and involves the insertion of fine, sterile needles into specific areas of the body. The effect of acupuncture is thought to be related to blocking pain impulses to the muscle where the needles are located. A recent systematic review concluded that acupuncture may be successful at reducing pain for patients with tennis elbow but the results only last up to maximum of 24 hours.

## AUTOLOGOUS BLOOD INJECTIONS (ABI)

This treatment is sometimes used to treat tendon degeneration conditions such as tennis elbow. The process begins by extracting blood from the patient, then injecting that same blood into the affected tendon around the elbow. A general practitioner or radiologist administers this procedure using ultrasound to guide the direction and location of the injection. The blood contains cells called platelets, which are thought to help promote healing in tendons. ABI's have been shown to have long term success for the treatment of chronic elbow pain.

## PHYSIOTHERAPY

Physiotherapy can play a large role in the assessment, diagnosis and treatment of tennis elbow and lateral elbow pain. Physiotherapist can use a wide range of techniques to treat the condition including the treatments mentioned above as well as manual therapy, ultrasound, soft tissue therapy, dry needling and exercise. Physiotherapy treatments have been proven to help in patients with tennis elbow especially in long-term management. It can help to reduce pain, increase strength and importantly increase function and use of the affected arm. As tennis elbow is a degenerative condition, it is important to assess the biomechanics of the body and find the original source of the problem. This may include looking further up the kinetic chain to the shoulder, neck and even the back. Evidence exists on the use of cervical mobilising techniques in reducing pain and improving function in patients with tennis elbow, and specific graded strengthening exercises have been proven to have lasting and significant effects on this condition.

**As you have read lateral elbow pain or tennis elbow may be caused by a number of factors, and elbow pain may originate from other areas of the musculoskeletal system. It is vital to assess all these areas thoroughly for their contribution to this condition so that treatments may address all aspects of related dysfunction. It is only by doing this that effective results can be achieved, and the source of the problem addressed, not just the symptoms.**

## CONCLUSION

Elbow pain is a common presentation in physiotherapy and medical clinics and requires a thorough musculoskeletal assessment to achieve optimal results. Tennis elbow can be a very debilitating and long-term condition that usually has a large

impact on people's lives. Acknowledging this, it is vital to get the correct treatment, specific to you and your condition.

At Northwest Physiotherapy Group we have over 50 years of combined experience and we routinely manage patients who have elbow pain and dysfunction. Our treatment philosophy is based on a comprehensive assessment of the whole musculoskeletal system and a results based hands on approach.

There are good research studies that have demonstrated the effectiveness of Physiotherapy in the treatment of elbow pain, especially in the long term.

## WHAT TO DO NEXT?

Simply call our rooms at Moonee Ponds on **9370 5654**, or send an appointment request through the website and they will book you in for your assessment.

Your satisfaction with our professional, caring and thorough service is guaranteed.

(Please bring all reports/scans with you and be prepared to disrobe.)

Look forward to many years of increased energy, activity and enjoyment doing the things you love to do!!

## REFERENCE

Regan, W., Wold, L., Coonrad, R., & Morrey, B. (1992). Microscopic histopathology of chronic refractory lateral epicondylitis. *The American Orthopaedic Society for Sports Medicine*, 20(6), 746-749.

Greene, J. J., & Bernhardt, D. T. (1998). Unusual forearm pain in a high school baseball player. *Journal of Athletic Training*, 33(2), S29.

Smidt, N., Daw, Assendelft, W. J. J., Deville, W., & Bouter, L. M. (2004). Corticosteroid injections, physiotherapy or a wait-and-see policy for lateral epicondylitis: a randomised controlled trial. *Nederlands Tijdschrift Voor Fysiotherapie*, 114(1), 14.

Mishra, A., & Pavelko, T. (2006). Treatment of chronic elbow tendinosis with buffered platelet-rich plasma. *American Journal of Sports Medicine*, 34(11), 1774-1778.

Green, S., Buchbinder, R., Barnsley, L., White, M., Smidt, N. & Assendelft, WJJ. (2008). Acupuncture for lateral elbow pain. *The Cochrane Collaboration*(4).

Struijs, P., Kerkhoffs, G., Assendelft, W. & van Dijk, C. (2004). Conservative Treatment of Lateral Epicondylitis. Brace Versus Physical Therapy or a Combination of Both - A Randomized Clinical Trial. *The American Journal of Sports Medicine*, 32(2), 462-469.