

TENNIS ELBOW

Diagnostic and Treatment Issues

by David Legge

Introduction

This article attempts to examine some of the diagnostic issues that musculo-skeletal disorders present, as well as to give some good tips for a more successful treatment of tennis elbow.

The elbow is perfectly positioned to get the hand to the mouth. It is basically a hinge joint between the humerus of the arm and the radius and ulna of the forearm. Thanks to its circular head, the radius can rotate to accommodate supination and pronation of the wrist at any angle of elbow flexion.

Two bundles of muscles have their origins on the epicondyles of the humerus at the elbow: the common extensor origin on the lateral condyle and the common flexor origin on the medial epicondyle. These comparatively small muscle origins allow the muscles to be effective in the various positions of wrist pronation and supination. They are, however, vulnerable to various types of overload, particularly through repetitive actions.

By far the most commonly presenting elbow problem is tennis elbow. This is simply described as a group of related disorders, all caused by overuse, that produce pain around the lateral aspect of the elbow and the adjacent part of the forearm. It is generally a chronic condition by the time you see it in your clinic.

From a TCM perspective the diagnosis is usually no more complicated than a simple local stagnation of qi and blood. This stagnation is superficial to the main channel circulation and is traditionally considered to be at a level regulated by the secondary vessels. There are rarely signs of cold or damp, and deeper channel circulation is not necessarily impaired. As expected in a chronic condition, as well as the more obvious signs of excess, there are often signs of deficiency or vacuity present. These include Liver blood deficiency (the tendons become brittle), Lung qi deficiency (important through the internal external relationship between the Lung organ and the Lung and Large Intestine channels) and local deficiency (in particular, the way the pain tends to worsen with sustained use).

The main treatment principle is to disperse the stagnation. As superficial stagnation can be dispersed directly, the main points are local and ahshi points. Distal points can be used to regulate the main channel flow through the area and to help treat any relevant deficiencies.

This is all well and good but a diagnosis should ideally produce an effective treatment. One of the great insights of TCM is the understanding of deficiency and the need for tonification or supplementation treatment. Sometimes, treatment of the underlying deficiency will be enough to allow resolution of the problem. However in many, if not most, presenting musculo-skeletal complaints, the local stagnation is the most important feature and its treatment the main priority. If the main treatment principle is to directly disperse the stagnation, the most important information is the location of the stagnation. The TCM diagnosis I have so far described does not tell us where to put the most important needles, those in the ahshi points or local points.

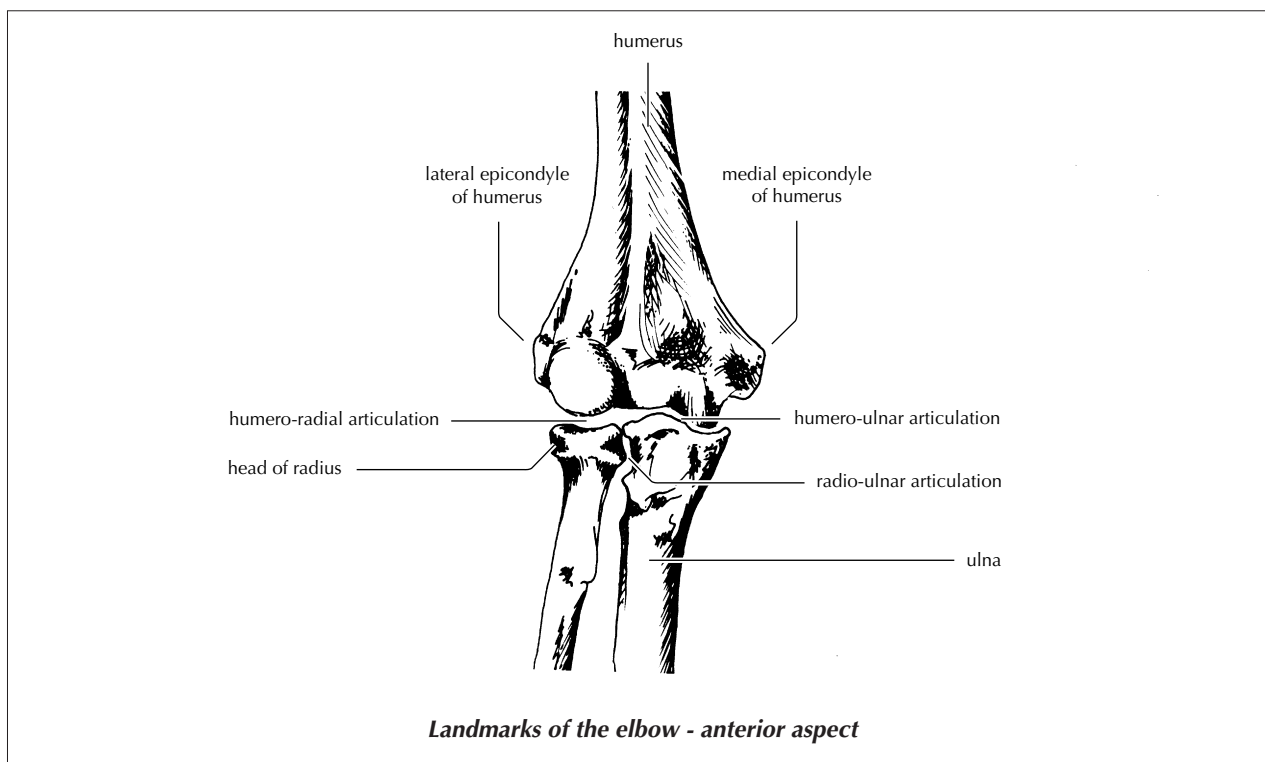
Effective practitioners discover this information by palpation, an art vital to the practice of acupuncture, but sadly under-emphasised in undergraduate education. For information about where to look for the important stagnation and details that will influence the choice of needle technique, we must look outside TCM.

I think of medical models and systems as maps. This helps to remind me that the real territory is the actual human and my maps are only useful to the extent that they help me understand the problems of my patients and improve my ability to treat them. If information I need is not available in one map I am happy to use another. By contrast, even recent texts of Chinese medicine tend to describe musculo-skeletal disorders wholly within the traditional system of channels and zangfu, without reference to anatomical structures. This reflects an almost religious approach where devotion to the system takes precedence over the more obvious realities of the real patient.

Modern medical models

The best models of the musculo-skeletal system and its disorders are the myofascial model, the orthopaedic model, and the biomechanical model.

The **myofascial model** is based on the tendency for myofascial tissue, when overloaded, to form irritable nodules or bands called trigger points. These are palpable and tender. Above a certain threshold, these trigger points can cause pain, often in areas distant to the actual point. The charting of the areas of pain referred from specific points on many major muscles has enabled effective treatment of many previously confusing painful disorders.



There are two very important reasons for acupuncturists to pay particular attention to this model. Firstly, the concept of a trigger point fits extremely well within the TCM concept of local stagnation. This is not to say that stagnation and trigger points are the same thing; trigger points are just one type of stagnation in the musculo-skeletal system. Secondly, it turns out that one of the most effective ways of deactivating trigger points is by inserting acupuncture needles into them. This is completely congruent with the concept of direct dispersion of local stagnation by needling the locally tender or ahshi points.

Trigger points in several muscles refer pain to the lateral aspect of the elbow, as follows:

Medial head of triceps (which, confusingly, can be palpated between 3 and 6 cun above the lateral epicondyle on the lateral aspect of the arm). Trigger points can form in these fibres through repetitive pushing, particularly over the last few degrees of elbow extension. The pain is referred to a discrete area close to the lateral epicondyle.

Extensor carpi radialis longus (ECRL). This muscle has its origin on the supra-condylar ridge that runs between the lateral epicondyle and the shaft of the humerus. It can be palpated as a firm muscle passing superiorly to the epicondyle and the radial head. Trigger points in ECRL refer pain to the lateral epicondyle.

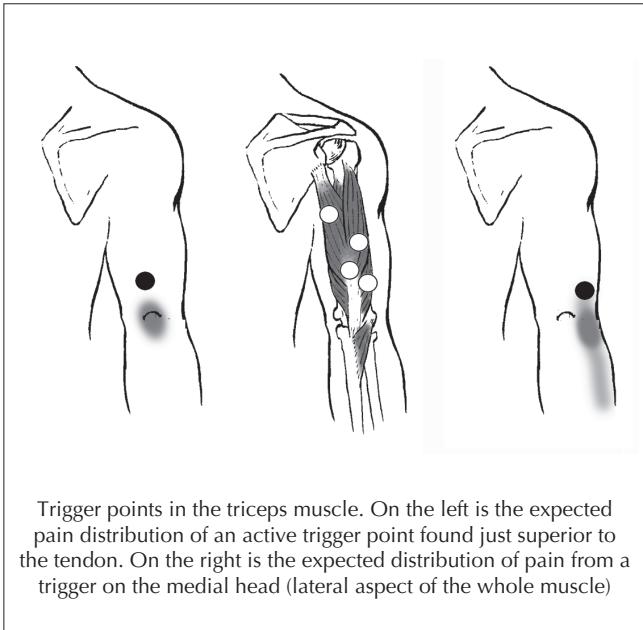
Supinator is a deep muscle, having part of its origin on the lateral epicondyle and with fibres wrapping round the radius under the two muscle described above. It is often involved in tennis elbow, particularly if twisting the wrist provokes pain (e.g. using a screwdriver or opening a jar). Trigger points in supinator also refer pain to the lateral epicondyle.

Trigger points in the *long head of triceps*, *infraspinatus*, and *supraspinatus* all refer pain to the lateral epicondyle but produce more obvious symptoms elsewhere so are rarely confused with tennis elbow.

The **orthopaedic model** describes the disorders from the point of view of pathological processes and changes. Two related areas of disorder are described in this model. Firstly, the tendon of extensor carpi radialis brevis (ECRB), found in the region of Shousanli LI-10, degenerates, becoming oedematous and inflamed. The degenerative changes can extend to the insertion on the lateral epicondyle.

The second area is the common extensor origin on the lateral epicondyle of the humerus. The tendinous attachment becomes slightly torn. Efforts to repair this tear become frustrated by continued use and the inflammatory response becomes chronic from the continuous attempt to fix the problem. This is true lateral epicondylitis. It is likely that the degenerative changes in the ECRB tendon weaken the attachment making it prone to tear with enough stress, such as that arising from repeated activity. The degeneration would also make such a tear more difficult to repair.

The **biomechanical model**, central to the practice of osteopathy and chiropractic, focuses on the way the musculo-skeletal tissues move and has further insights to offer. One of the most important and relevant to us is the relationship between the neck (particularly the lower three cervical segments) and the upper back (particularly the third and fourth thoracic segments) and the elbow. Restriction and stagnation in these segments of the spine can adversely affect the elbow, predisposing it to tennis elbow and hindering its resolution. The biomechanical model also focuses on the role of restriction of the head of the radius in the



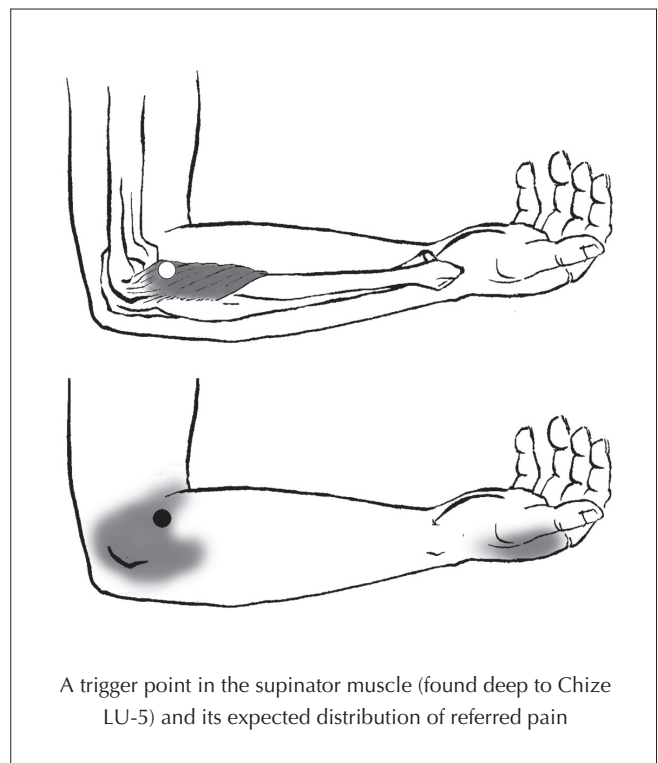
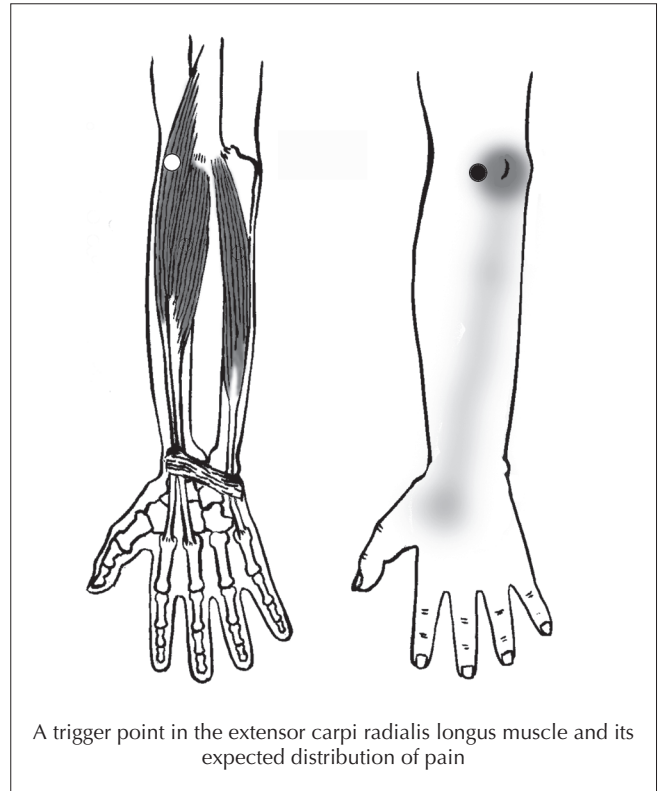
development of some types of tennis elbow.

How does the use of these other models influence our diagnostic and treatment procedures? The examination is the key. As there is rarely obvious restriction or swelling, thorough palpation in the right areas will provide the key to successful treatment.

Examination

The patient best lies supine with the elbow comfortably flexed. The examiner can stand or sit on the affected side.

- Start with triceps, particularly the medial head. Roll the muscle under your fingers feeling for tender hard bands in the muscle. Find the most tender area in those bands.
- Move to extensor carpi radialis longus. If affected, a small, tight, tender wad of muscle can be felt by rolling your finger off the head of the radius towards Quchi L.I.-11.
- Supinator can be palpated deep to Chize LU-5, especially where it crosses the radial head.
- Check the tendon of extensor carpi radialis brevis near Shousanli L.I.-10. Roll it under your fingers to assess tension and tenderness. Check the extent of involvement by resisting extension of the third (middle) finger (ECRB inserts onto the base of the third metacarpal) and asking if it hurts.
- Go to the lateral epicondyle itself and carefully palpate around it on all sides. This is best done by putting your finger on the tip of the epicondyle and rolling the skin over and around the bony prominence.
- Check the low cervical segments by palpating in the gutter between the transverse processes and the semispinalis/trapezius muscle mass.
- Check the upper thoracic segments by palpating the Huatojaji (M-BW-35) and inner and outer Bladder channel points at T 2/3, T3/4.



Diagnosis

What, essentially, are we looking for? The answer is stagnation. The tissue changes that we find, be they trigger points, chronic inflammation, vertebral or rib restriction or degenerative changes all have a similar energetic feel that is as well generalised by the term stagnation (of qi and blood) as any other that I know of. The final local diagnosis requires a clinical judgement based on the relative severity

of the findings at the different locations. If no significant stagnation is found then that area does not need treatment. If one area is obviously much worse than the others then that receives the most attention. Commonly there is a combination of two or three areas that are more obviously involved and can be addressed in treatment.

Is there any weakness or coolness that is evidence of local weakness? Combine this information with information gathered from the more traditional TCM diagnosis. Is there any Lung deficiency, Liver blood deficiency, cold/damp bi? (there often won't be).

Treatment

Treatment largely involves the use of distal points to address any relevant deficiency or channel imbalance. The local treatment depends on the information gleaned from the examination.

- Medial head of triceps. Triggers can be needled from behind to the front or vice versa so that the needle passes through the most tender fibres. Obtain qi and leave the needle in place for 20 minutes.
- ECRL. Needle at an angle so the needle passes through the worst of the tender wad.
- Supinator. Needle perpendicularly and deeply into the most tender area near Chize LU-5.
- Degeneration of ECRB. Needle either alongside the tendon or more superficially across the direction of the fibres. Look for and needle the most tender spot in the muscle itself.
- Lateral epicondylitis. Needle the worst one or two spots around the epicondyle. The needle(s) should pass close to the periosteum. This type responds the best to electrostimulation at low frequency (2 Hz) with the electrodes attached to two needles at the epicondyle or to one on the epicondyle and the other to one of the other ahshi points.
- Blood deficiency I treat with herbs (*Ba Zhen Wan*: Eight Treasure Pill, or *Xiao Yao Wan*: Rambling Pill will do).
- For Lung qi deficiency I add Taiyuan LU-9 and Feishu BL-13 to my acupuncture formula, and for local deficiency I use moxa and encourage the patient to minimise the use of their elbow for a while. Other deficiencies I tend to ignore as irrelevant.

Prognosis

The reason for the variation in patient response is still unclear to me. However simple guidelines rely on the severity of the condition (as judged by the intensity of the symptoms e.g. degree of pain, persistence of pain, timing of pain, presence of weakness or atrophy) and the chronicity. Obviously the more severe or more chronic the condition, the longer the treatment period can be expected. Mild cases lasting less than six months can clear up within five treatments. Cases that have lasted for years will often need some months to recover. I always tell my patients on their first visit that there should be some significant improvement

within the first three treatments. If not they are entitled to find another practitioner and I have to reconsider the value of the treatment. I would estimate an 80% success rate with this condition using the techniques I have described.

Case examples

Case 1: A 36 year old woman who was a teacher presented with pain on her lateral epicondyle of four weeks duration. There was little tenderness on the epicondyle itself but quite severe tender trigger points in the medial head of triceps. She reported, after questioning, that the pain had begun after a prolonged session of photocopying during which she had to repeatedly press a book down onto the surface of the copier. The pain disappeared after a single needling of the tender fibres combined with Quchi L.I.-11.

Case 2: A 24 year old man presented with pain around the lateral epicondyle and extending into the forearm. His elbow ached at night and was aggravated by any keyboard or writing work. He had tried rest and a series of ten acupuncture treatments with another practitioner with no result. Examination revealed extensive areas of tenderness, with the most pronounced around the tendon of ECRB (near Shousanli L.I.-10). Initial treatment was aimed at the ECRB tendon and trigger points in the ECRB and ECRL muscles. As the tenderness in these areas decreased, the most pronounced area of tenderness became the lateral epicondyle. Treatment aimed at this area cleared up the last of his symptoms. The treatment period lasted 6 months.

Case 3: A 38 year old man presented with bilateral tennis elbow. While there were some significant signs of stagnation around the elbow there were also signs, just as severe, in his low cervical spine. He had no history of substantial neck pain although stiffness was evident on palpation. He was also very tender at several points across the T3/4 segment. The main treatment was directed at the spinal segments, with Quchi L.I.-11 and one or two ahshi points on each elbow.

David Legge trained simultaneously in TCM and osteopathy and has specialised in the treatment of painful musculo-skeletal disorders since 1982. He is the author of the text *Close to the Bone* and lives and works on the coast north of Sydney, Australia.

We are sad to report the death of Bernard Auteroche. Bernard contributed important articles to The Journal over many years and was the author of several textbooks including *Acupuncture & Moxibustion* (published by Churchill Livingstone) and *Matiere Medicale Chinoise*, a comprehensive materia medica of Chinese herbal medicine.