

## **Sports Injuries and TCM**

*By: Kevin Young*

### **Abstract**

Traditional Chinese medicine, and especially acupuncture, has become a routine in the treatment of sports injuries. For the practising acupuncturist, being able to make a western medical diagnosis can be invaluable, as can learning specific needling techniques and point selections. This article offers an overview of the treatment of sports injuries by the acupuncturist, and illustrates the application of diagnostic and treatment methods with two typical case sports injuries.

*Keywords: sports injuries, acupuncture, traditional Chinese medicine, tennis elbow, chronic compartment syndrome.*

### **Introduction**

Pete Sampras, Seve Ballesteros and Bolton Wanderers football club are among the many professional sports players and organisations turning to traditional Chinese medicine (TCM) and acupuncture to treat their sports injuries<sup>1</sup>. Stacey<sup>2</sup> found that in 1999, 54% of premiership football clubs in the UK were using acupuncture to treat sports injuries.

Treating sport injuries with TCM and acupuncture, instead of conventional treatments such as ultrasound and interferential/electrotherapy, is now routine, rather than a novelty, both at my own sports injuries clinic and at Maidenhead rugby club where I treat the players.

This relatively recent growth in the popularity of acupuncture for the treatment of sports injuries may seem surprising, but it has its roots firmly in the traditions of TCM.

History tells us that using TCM for injuries, whether derived from sports or everyday activities, has for thousands of years been the practice of Shaolin monks. This form of treatment was called “Dit Dar Jow”, translated as “fall and break medicine”, and martial artists were traditionally taught the treatment and management of injuries sustained in training or combat. Today

this art is not so well known and tends to be guarded secretively within the different martial arts schools and only passed down from masters to senior students. Dit Dar Jow mainly uses herbs and patent external remedies such as balms and poultices<sup>3</sup>.

I strongly recommend that practitioners who intend to treat sports injuries learn some of the basic tests such as the anterior draw test for anterior cruciate ligaments and the posterior draw test for posterior cruciate ligaments. Experience has shown me the importance of using these Western medical joint, muscle and ligament tests to diagnose an injury and ascertain the severity, not least because severe cases of bone fractures or ligament/menisci tears require surgery or bone setting to enable a full recovery. If a patient has not been seen by their medical doctor, they should be referred to do in cases where a practitioner is in doubt about the diagnosis.

In the treatment of sports injuries with TCM, whatever the injury may be, there will necessarily be some form of qi and blood stagnation (pain, bruising), possibly complicated by dampness (manifesting as fluid retention) in a local area and in the affected channels and collaterals. The understanding of these fundamentals gives TCM practitioners an “extra” treatment principle in their arsenal, compared to conventional practitioners.

There are certain factors which need to be borne in mind when treating sports injuries, or athletes in general. Athletes will generally train for their chosen sport to a degree that would be regarded as excessive by a casual observer, and often to a point which could be defined as obsessive; training outside for many hours in very extreme weather conditions, for instance. The significance of this is that athletes’ focus on the fitness goals they are trying to achieve may make them oblivious of the abnormal stresses they are imposing on their body, or the inhospitable nature of their surrounding environment. The phenomenon of the endorphins produced by exercise masking the pain of injuries, even bone fractures, sustained in the process until some time after the exercise has been concluded is well documented<sup>4</sup>.

When treating such patients, therefore, despite the temptation to attend to the specific injury purely in terms of a localized qi/blood stagnation, the first consideration for the TCM practitioner should, as is always the case, be a general assessment of the patient’s general health. This is because excessive and overstraining exercise will almost certainly have led to deficiencies of qi in general and the Stomach, Spleen and Liver in particular, with consequent

weakness in the muscles and sinews. This, over a period of time, can lead to the breaking down of muscle tissue, resulting in the athlete being more susceptible to an indirect trauma at some point. The second and related consideration – but perhaps the more pressing, from the point of view of prophylaxis – is that, if the athlete has become qi deficient, and inevitable concomitant of this is depletion of wei qi (the body's defensive system). The athlete is now prone to attack by external pathogenic factors such as wind, cold and damp. These external pathogens may invade the body and, in turn, attack and weaken the body's internal organs, especially the Spleen, Liver and Kidneys, due to their relationship to the muscles, sinews and bones/joints respectively. Once this has occurred, this could be a predisposing factor for further indirect trauma<sup>5</sup>.

In clinical practice, the practitioner's awareness of the need for sufficient rest and care to ensure a full long-term recovery and the patient's urge to return to competition may be difficult to reconcile.

## **Acute and chronic, direct and indirect injuries**

In Western medicine diagnosis, injuries within the first 48 hours are generally classified as acute, whilst those older than 48 hours are classified as chronic<sup>6</sup>. When making a traditional Chinese medicine diagnosis, it is also important to determine what type of injury has been sustained: whether it is direct or indirect and whether it is in the acute or chronic phase.

### **Direct injury**

A direct injury occurs when the impact of an external force causes bruising, internal bleeding, muscle strain or ligament sprain. This type of injury can also be consistent with more general trauma, such as a road traffic accident, and the patient may be admitted to hospital in more severe cases.

Immediately after the athlete has been released from hospital (or even while still admitted, if this can be agreed) is an ideal time to start acupuncture treatment for blood and qi stagnation, taking into consideration problems arising from damp and any involvement of the zangfu.

### **Indirect injury**

An indirect injury is one where there has been no direct damage to the body from an external source. The injury may have been caused by excessive twisting, bending, tripping, or overstraining by overloading the body to an

excessive point, giving rise to tearing, straining or spraining of muscles, tendons or ligaments. In practice, these patients will sometimes show some form of zangfu disharmony, for example of the Spleen (muscles) or Liver/Gall Bladder (tendons), hence the importance of a full TCM diagnosis.

### **Acute injuries**

During the acute phase of treatment I will use ice to slow down the process of swelling and inflammation, and deal with any cold/damp invasion which may result from the use of ice at a later stage by applying moxa or a heat lamp. Ice should be applied indirectly (using a wet cloth between the ice and skin) for between ten and twenty minutes every four hours. I will also use Dit Dar Jow type medicines topically or in the form of a poultice such as Zheng Gu Shui liniment. I have found this formula to be very beneficial in the treatment of acute injuries to help with the early stages of qi and blood stagnation. At this stage I will also use auricular acupuncture. I always combine ear shenmen (to help with the pain and inflammation arising from an injury), with points corresponding to the specific area or joints involved. Mitchell<sup>7</sup> has stated, “Use of these auricular points is very effective in helping with pain and calming inflammation whilst treating injuries and in rehabilitation”.

As well as auricular acupuncture, I commonly use distal body points in the treatment of acute injuries:

- the ying-spring point/s of the affected channel or channels can be used in cases of heat and inflammation (the jing-well points tend to be too painful).
- the shu-stream points are indicated for clearing obstruction in the channels and I invariably use these points in my treatment.
- the yuan-source point point/s of the affected channel or channels, combined with Yanglingquan GB-34, is excellent for pain relief.

Yanglingquan GB-34, which is able to soothe the sinews and clear damp and stagnation from the channels and connecting vessels, is effective for pain anywhere in the body.

- Similarly Hegu L.I-4, the yuan-source point of the Large Intestine channel, is effective for pain anywhere in the body.

### **Chronic injuries**

It is in treating the chronic phase of an injury that I feel the benefits of an accurate TCM diagnosis will be seen most clearly. The injury will often have developed over a period of weeks or months, so correct understanding

of the signs and symptoms is important for successful treatment and outcome. The use of heat (in the form of moxibustion, heat lamp or wheat bags) and exercises is generally effective for assisting rehabilitation, along with patent balms such as red flower oil and tiger balm which can be given to the patient to apply topically two or three times a day. The acupuncture points used will be chosen from those listed above in combination with suitable local points and needling techniques, as well as points chosen to address any deficiency that might be present. As far as manipulation is concerned, in the chronic phase the norm is that the injury will feel better with movement, obviously because of the stagnation. Stretching an area restores the shortened muscles and restricted channels back to their natural length and enhances the flow of qi and blood through the channels, eliminating stagnation.

## **Needling techniques**

Over the past four years of treating sports injuries with acupuncture, I have found the following techniques to be effective in my practice.

### **Thread needling**

This technique has been used in China for pain control during surgery, and I was introduced to it at the University of Westminster via a video recording from China of a caesarian section being carried out under acupuncture anaesthesia. The anaesthetist in that operation inserted 12-inch needles on either side of where the incision was to be made and added electro stimulation.

I use the thread needling technique to treat superficial injuries that cover a large area and often thread the needle along the course of a channel. Using a 3 inch or 4 inch needle, immediately after penetration of the skin I change the angle of needling to horizontal, threading the needle just under the skin along the area to be treated. In some cases, where there is injury to larger muscles, I angle the needle more obliquely to enable deeper stimulation.

### **Eagle claw needling**

This technique is simple, and, as its name suggests, involves inserting and threading two or three 1 inch needles towards each other in the formation of an eagle claw, aiming the needles directly into the injury site. This is very effective for treating small localised injuries such as tennis elbow, aiming

the needles directly towards the epicondyle.

### **Starfish formation**

This is similar to the eagle claw technique but is generally used for larger areas. Seven 1 or 1.5 inch needles are threaded in a starfish formation directly into the injury site. I learnt this from the description in Royston Low<sup>8</sup>. He cites the example of using the technique with particular success into and under the patella for knee problems.

## **Typical case histories**

### **Case history 1**

Male rugby player, 19 years of age.

*Main complaint:* bilateral calf strain.

This player's position is prop forward. As such, in addition to the stresses of sudden sprinting (recent changes to rugby in this country mean a more expansive game is played), the frequent changes of direction to take or maintain possession of the ball, and the high-velocity moves of pushing and straining, he finds himself in the front row of the scrum. This involves a good deal of compression pressure when the two sides of the scrum come together, with the opposing team pressing down on his shoulders, while members of his own team provide pressure from behind to hold him in place. The athlete weighs approximately 240 pounds (109kg) and is very solid and stocky in build. As would be expected, his legs, and especially his calves, are very large, strong and thick set. He complained about six months ago of pain and tightness in the calf muscles during and after games and training sessions. He says the pain is more of a cramping sensation, but he has experienced sharp pains running down the lateral aspect of the soleus muscle (approximating to the Gallbladder channel) and the mid-posterior calf (Bladder channel). On further investigation from a physiotherapist and myself, it was agreed that the Western diagnosis was possible mild chronic compartment syndrome (no MRI scan was available). Chronic compartment syndrome is characterised by increased pressure within a closed anatomical space that compromises the circulation and function of the tissues within that space. Symptoms occurred to this patient during exercise when the blood rushed quickly to his enlarged calf muscles. The arteries and veins expanded and the blood had no room to move freely, causing tightness in the muscle sheath and a cramping sensation with sharp pain.

I made a general TCM assessment, but found no major signs or symptoms that I felt were contributing to the problem. His pulse was slightly slippery and wiry and his tongue showed some signs of stagnation (purplish discoloration).

*Diagnosis:* Qi and blood stagnation in the Gall Bladder and Bladder channels of the calf area.

*Treatment principle:* move qi and blood in the Gall Bladder and Bladder channels.

*Treatment:* Thread a 0.25mm, 3 or 4 inch needle from approx 1 cun below Heyang BL-55 down the Bladder channel towards Chengshan BL-57, and another 3 or 4 inch needle lateral to Chengshan BL-57 along the Gall Bladder channel towards Yangjiao GB-35, with electro stimulation at both points (dense disperse mode and to the patient's tolerance level).

Additional points: (all bilateral) Weizhong BL-40, Chengshan BL-57, Feiyang BL-58, Kunlun BL-60 and Shugu BL-65 (shu-stream point); Yanglingquan GB-34 and Zulinqi GB-41 (shu-stream point); Hegu L.I.-4 (yuan source point); all one inch 0.25 gauge needles.

The needles were retained for 20 minutes. After removing the needles, I finished off with some very light gun-fa (tuina rolling technique) and instructed the patient to do light stretches to the calf muscles to open the channels and allow smooth flow of qi and blood. This treatment was carried out twice weekly and lasted for six weeks. During the last two weeks I carried out five minutes of tuina massage to each calf, consisting of gun-fa and rou-fa (kneading) followed by 10/20 seconds of plucking (frictions), working the acupuncture points in the areas of the Bladder, Gall Bladder and Spleen channels.

The results have been excellent; the player is able to finish full training and play games without pain. We did change some of his routines, not allowing his pre-game and training warm-ups to be so intense and leaving the most strenuous exertions for the game itself.

## **Case history 2**

Male rugby player, 32 years of age.

*Main complaint:* right tennis elbow. This player's position is hooker, and he also throws the balls in at lineout. Because of the continuous throwing action during games and practice, he has a repetitive strain injury (RSI) to the

elbow. Because of the pathways of the nerves which pass through this area I started my examination at the cervical spine area (C3-T1), checking that there was no nerve impingement, and followed the root through the trapezius (across the area influenced by Jianjing GB-21), through the shoulder girdle, down through the elbow joint and through to Hegu L.I.-4, enquiring if there was any numbness in the fingers. I decided that this player had a classic tennis elbow (lateral epicondylitis),

i.e. inflammation of the tendons which insert into the epicondyle of the elbow.

In this condition pain is found on any gripping motion or lifting of the lightest of objects. The reason for this is that the extensor carpi radialis muscles become shortened and cause inflammation at the insertion to the radial epicondyle. I also found that the area from the cervical spine, across the trapezius and down the arm showed some muscle tightness, and decided that this needed to be addressed as well as the tennis elbow.

*Diagnosis:* the TCM diagnosis was qi and blood stagnation complicated by deficiency and cold. I diagnose deficiency and cold in most cases of tennis elbow because this kind of chronic stagnation commonly causes a lack of blood or qi flow to the area or point of pain, and the area of pain will normally feel colder than the surrounding area on palpation. The probable aetiology in this case was invasion of wind-cold-damp due to continuous training with short-sleeved shirts in the cold winter months.

*Treatment principle:* smooth the flow of qi and blood in the area of the elbow and the Large Intestine and Sanjiao channels, thereby also drawing qi and blood to the injured area.

*Treatment:* eagle-claw technique, aiming three 1 inch 0.25mm needles towards and directly into the ahshi point on the epicondyle, obtaining deqi and 'pecking' the epicondyle. Electrostimulation (dense disperse to the patient's tolerance) was added.

I threaded a 1.5 inch needle down the Huatuojiayi (M-BW-35) points bilaterally from approximately C-3 (classically, the Huatuojiayi M-BW-35 points are said to run only from T-1 to L-5, but my belief is that they can be considered to run the whole length of the spine).

I additionally needled Jianjing GB-21, Jianyu L.I.-15, Jianliao SJ-14, Waiguan SJ-5, Shousanli L.I.-10, Quchi L.I.-11, Zhouliao L.I.-12, Yangxi L.I.-5, Hegu L.I.-4, Sanjian L.I.-3 and Zhongzhu SJ-3 (shu-stream points). Treatments were twice weekly for 4 weeks and needles were retained for 20

minutes each time. I then applied tuina gun-fa techniques to the whole area, from the cervical spine to the fingers.

At the end of each treatment I used a technique I learned in China for treating tennis elbow. This consists of cupping, using a very strong medium-sized cup over the epicondyle area (the elbow must be flexed to enable suction). The cupping both draws blood and qi to nourish the area and also promotes circulation of qi and blood. The cup is left in place for approximately 5 minutes. When using this method the patient should be warned that it may leave a strong red mark or haematoma in the affected area for many days.

The results of treatment have been very successful, and the athlete is now able to train and play at ease although I still carry out maintenance treatment to keep the problem at bay.

## **Conclusion**

I have arrived at certain guidelines for the treatment of sports injuries. To precisely diagnose the correct injury and be able to treat it efficiently, I find it is necessary to apply the following.

- Western medical joint, muscle, and ligament testing.
- Differentiation of the injury type: acute/ chronic or direct/indirect.
- Full traditional Chinese diagnosis.
- Treatment by body and ear acupuncture, utilising certain specific needling techniques as well as electro stimulation.
- Bodywork (tuina massage and the use of external liniments and applications) and movement rehabilitation.

My feeling is that the last of these is very important when treating musculoskeletal problems, although I know that many more traditionally oriented acupuncturists may disagree. When treating musculoskeletal injuries, there will always be some form of muscle shortening or decreased joint mobility present. Even though using acupuncture is very effective in treatment, there comes a time in the treatment of an injury when you will need to open the channels physically to allow qi and blood to flow smoothly and to return the shortened muscle back to its normal length. I have treated injuries, which have already been treated via acupuncture and conventional treatment, where the body work/rehabilitation has not been applied and have found shortened muscle fibres or diminished joint mobility still present, hence the stagnation still exists.

## References

1. Times News Group 2002.
2. Stacey R. (1999) Acupuncture and Alternative Therapies in Premiership Football Clubs. *Acupuncture in Medicine* Vol. 17(1): 62.
3. Joiner T. (1999) *The Warrior As Healer*, Healing Arts Press, Vermont USA.
4. Brukner P. & Khan K. (2002) *Clinical Sports Medicine*. Roseville NSW, McGraw-Hill Australia.
5. Sun P. (2003) *The Treatment of Pain with Chinese Herbs and Acupuncture*, Churchill Livingstone, London.
6. Peterson L & Renstrom P (1986) *Sports Injuries: their prevention and treatment*. Dunitz, London.
7. Mitchell IC (1996) *Acupuncture and Sports Medicine*. *Physiotherapy in Sport*, Vol. 9(1): 5-8.
8. Low R. (1987) *The Acupuncture Treatment of Musculo-Skeletal Conditions*, Thorsons Publishing Group, Wellingborough U.K.

## Acknowledgments

To: Simon Canney for help with editing and production.

**Kevin Young** holds a BSc (Hons) TCM: Acupuncture from the University of Westminster and a Diploma in patent herbs from CICM Reading. He is also qualified in sports therapy and sports massage, specializing in the treatment of sports injuries. He has worked with rugby players and American footballers at county and national level for 15 years and runs sports injury and acupuncture clinics in Egham and Maidenhead in the UK. Kevin also teaches at CICM Reading in anatomy and structural diagnosis and presents postgraduate training in “Sports Injuries for Acupuncturists”.