The Advantages of an Integrated Approach to the Acupuncture Treatment of Musculoskeletal Conditions

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Abstract

This article makes a case for integrating a traditional Chinese medicine (TCM) approach with modern methods in the diagnosis and treatment of musculoskeletal conditions. To illustrate the advantages of an integrated approach, the article provides advice on a variety of clinical scenarios where this perspective improves diagnostic clarity and optimises therapeutic outcomes.

Keywords
Acupuncture, Chinese medicine, TCM, musculoskeletal, pain, diagnosis, jingjin, sinew channels

Most acupuncture practitioners will have had to deal with a musculoskeletal condition at some point in their career – either as the primary presenting condition where the patient expects to see results relatively quickly, or as a secondary issue where the patient has been undergoing treatment for another condition. The question of whether to integrate traditional Chinese medicine (TCM) and biomedicine approaches in the treatment of musculoskeletal conditions is not new. In his book, *The Treatment of Musculo-Skeletal Conditions* (1987), the well-known British osteopath and acupuncturist Royston Lowe observed that TCM has much to say on internal medicine, but little on the treatment of musculoskeletal conditions (other than pain management). Lowe countered the view put forward by TCM purists that biomedical knowledge is unnecessary, stating that 'particularly where musculoskeletal problems are involved, this is not only complete rubbish, but dangerous rubbish'. He went on to point out that explaining TCM in biomedical terminology is impossible, but that 'one needs the ability, not to compartmentalize one's mind, but to view the two streams separately yet simultaneously, to see where one complements the other and to draw on both aspects as required', pointing out that this is the reason why Chinese doctors receive full training in both aspects of medicine (Lowe, 1987, p.12). I observed this skill personally during my numerous visits to China to study with Professor Wang Ju-Yi and at a Tuina Hospital in Beijing. Professor Wang loved to comment on embryology and was passionate about the fascial network, whereas Dr Richard at the Tuina hospital lectured in one breath on blood stasis in the shaoyang channel sinew (*jing jin*) and on compression of the lateral femoral cutaneous nerve (*meralgia paresthetica*) in the next. I was informed that tuina was a six-year doctorate level programme and was subsequently only able to quench my thirst for further knowledge of musculoskeletal therapeutics by formally studying osteopathy alongside my continuing studies into Chinese medicine.

This problem does not seem to be solely a UK

phenomenon. Mark Seem, in his book *A New American Acupuncture* (1993), comments on the lack of training in the treatment of chronic pain in most Western acupuncture schools. Seem describes how he stepped back from clinical supervision at a national level in the US Acupuncture Colleges and Acupuncture Certification framework, leaving his third-year clinical interns in the hands of an experienced supervisor recently returned from post-graduate research in the People's Republic of China (PRC). On his return, he found that students had no idea how to touch their patients and were diagnosing musculoskeletal conditions purely using pulse, tongue and questioning. Seem goes on to say that the fault lay not with the students, but with the internal medicine perspective the supervisor had brought back from the PRC, which totally ignored the channel system that was at the core of his acupuncture school's curriculum. He concluded that 'once one has had too great a taste of TCM acupuncture with its heady logic, facile abstractions, and even more facile repetitive point combinations, a hands-on, meridian-based approach often seems inferior' (Seem, 1993, p.vi). My own personal observation, having taught courses both on First Aid and musculoskeletal conditions to groups of acupuncture practitioners and students throughout the UK, is that there appears to be a lack of knowledge of functional anatomy in our profession, together with anxiety about treating musculoskeletal conditions. I would say that if one is not aware at a basic level of what is happening within the body, then the application of 'special' points or point combinations tends to be a very hit and miss clinical approach. One series of points may work well in a patient with one clinical presentation, but may result in no effect on another.

Dr Richard at the Tuina hospital lectured in one breath on blood stasis in the shaoyang channel sinew (jing jin) and on compression of the lateral femoral cutaneous nerve (meralgia paresthetica) in the next .

By way of further context, in April 2021 the National Institute for Health and Care Excellence (NICE) in the UK published their revised guidelines for the treatment of chronic primary pain (where the underlying cause is unclear) in the over 16s (NICE, 2021).[1] They point out that chronic pain (pain that persists or recurs for more than three months) is common, affecting up to half of the population, while chronic primary pain affects between one and six per cent of the English population. The guidelines recommend that patients taking pain medication (including non-steroidal anti-inflammatory medications, paracetamol, opioids, antipsychotic drugs or anti-epileptic drugs) should have their medicines reviewed due to the lack of evidence for their use in chronic primary pain and possible dependence issues. They recommend instead considering the use of exercise, psychological therapy, limited pharmaceutical therapy and acupuncture. The evidence supporting acupuncture included 27 studies in total, and showed that acupuncture was cost-effective, reduced pain and improved short-term quality of life (up to three months), although there was insufficient evidence to determine longer-term benefits. The TCM profession is ideally suited to step up to the challenge identified by these guidelines. With acupuncture, tuina, herbs and movement/mindfulness techniques (including tai chi and qi gong) we are in a unique position to fulfil the majority of these recommendations using a comprehensive medical system, tried and trusted by a large number of the world's population for over 2,000 years. However, I suspect that many other healthcare professionals (e.g. physiotherapists, osteopaths, chiropractors) will, on the back of these NICE guidelines (especially with only a recommendation for further research as to the use of manual therapy in the treatment of chronic pain), be looking to support their practices by utilising acupuncture (as dry needling), and other traditional techniques such as cupping (known as 'decompression techniques') and gua sha (known as 'instrument assisted soft tissue mobilisation' [IASTM] or 'Graston's technique').

As health-care practitioners, we owe it to our patients to ensure that we are able to deliver the most effective care and thereby aid them in as speedy a recovery as possible. As a teacher, it is still surprising to me how many practitioners do not undertake a thorough hands-on orthopaedic examination of patients with musculoskeletal problems, including exposing and palpating the area of concern and testing range of motion (RoM).[2]

In this article, I put forward the argument that using the best of what both TCM and biomedicine has to offer results in optimal patient care. Additionally, I hope to add a few pointers that may help clinicians in the diagnosis and treatment of musculoskeletal conditions. In my experience, the optimal clinical effectiveness of TCM for musculoskeletal problems lies in combining an understanding of the channel system with functional anatomy, and applying the different modalities that make up TCM (including bleeding, cupping, moxibustion, gua sha, tuina, herbal liniments and poultices, qi gong, tai chi and nutritional advice) as part of an overall treatment

plan to treat both the root and branch (*ben* and *biao*) of the condition.[3]

The jing luo and jing jin

When I was a student, I was confused about the difference between the *jing luo* (channel collaterals) and the *jing jin* (channel sinews). I knew that an understanding of the latter is important in the treatment of musculoskeletal conditions, but the explanation as to what they actually are was unclear. Because the original classical descriptions of the *jing jin* are so vague, many differing interpretations are open to the practitioner. Because these are such fundamental concepts in the treatment of musculoskeletal conditions, I include here an explanation of a clinically useful understanding of them.

According to the *Nei Jing* (Inner Classic) normal physiology of the *jing luo* involves two types of qi movement. Chapter 10 of the *Ling Shu* (Divine Pivot), describes circulation of qi in the *jing luo* in terms of a circuit - i.e. qi flows from the Lung to the Large Intestine, then to the Stomach, then to the Spleen, and so on. Chapter 2 of the *Ling Shu,* however, describes qi flow from the distal points of the fingers and toes through the five transportation points[4] towards the torso; the qi of the channels then dives deep into the body to connect with the organs, with the *Ling Shu* implying that distal channel qi flow plays a part in the physiology of the internal organs (Robertson, 2008). Professor Wang Ju-Yi likened the *jing luo* to a river; in the same way that a river influences life on the riverbank - trees, flowers, plants and animals - so the *jing luo* irrigate and nourish the surrounding muscles and tissues (Wang, 2011). The *jing jin* are the sinews nourished by their associated channel. Wang further stated that the *jing jin* are the 'armour of the body and protect it, containing the 100 bones'. Unlike the *jing luo*, the *jing jin* have no set points apart from the jing-well points, which are common to both *jing luo* and *jing jin* and which are important in the treatment of *jing jin* conditions. Although they do not have any specific points, they do have binding points (usually near to joints), which can be felt; this is why palpation of the *jing jin* is so important in diagnosis and treatment (Wang, 2011).

In his excellent book on the *jing jin*, David Legge organises these channels in terms of specific muscle groupings, which I have found clinically extremely useful (Legge, 2010). In doing this, Legge acknowledges the vital insight provided by Thomas Myers in *Anatomy Trains* and Travell & Simons' seminal *Myofascial Pain and Dysfunction – The Trigger Point Manual*. These two bodies of work are extremely useful in understanding myofascial pain, although they present the connections of the fascial network in a slightly different way to *jing jin* theory. Although I have found Legge's book clinically very useful to identify the *jing jin* pathways, I have noted some variances. For example, Legge places the psoas muscle within the Spleen *jing jin*, and yet clinically I find a lot of correlation between the psoas muscle and lower back pain located along the foot Tai Yang Bladder *jing jin*. Based on dissection of cadavers, Matt Callison and Brian Lau place the muscular portion of the psoas within foot Shao Yin (Kidney) *jing jin* and the psoas tendon insertions within foot Jue Yin – Liver (Callison & Lau, 2021). This appears

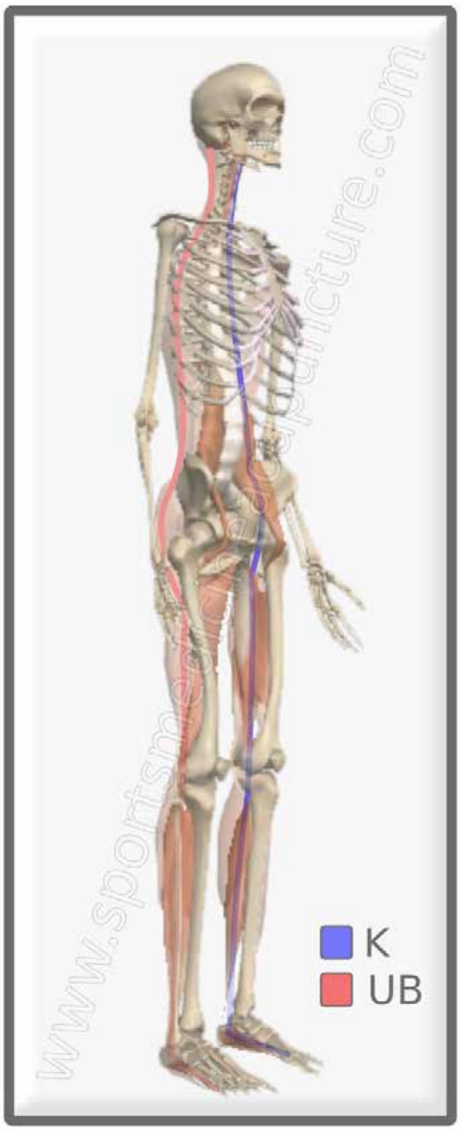

Image 1: Kidney & Bladder jing jin (kind permission of Matt Callison, www.sportsmedicineacupuncture.com)

The jing jin are the sinews nourished by their associated channel.

to tie in better with my own experience, with symptoms of psoas major muscle pathology impacting either these *jing jin* or their interior-exterior pairings (foot Tai Yang and foot Shao Yang). Also, Legge's book seems to intimate that muscle 'x' is always associated with one channel, whereas it seems to me that muscles like the psoas and trapezius can be nourished by multiple channels – hence proper channel differentiation is paramount (Robertson, 2021).

A clinical example

In order to illustrate the advantages of an integrated approach to the treatment of musculoskeletal conditions, let us take a clinical example: a patient comes in with shoulder pain. Many acupuncture practitioners will treat as follows:

- Needle distally from a range of points such as Hegu LI-4, Waiguan SJ-5 or Zhigou SJ-6, Wangu SI-4 or Yanggu SI-5, Taiyuan LU-9 or Tiaokou ST-38;
- Needle locally at the site of injury, at points such as Jianliao SJ-14, Jianyu LI-15 or Jugu LI-16, Jianzhen SI-9, Naoshu SI-10, Tianzong SI-11 or Bingfeng SI-12;
- Include moxibustion, electro-acupuncture or gua sha;
- Treat any underlying deficiencies (especially if it is a chronic condition).

This is probably the route I would have taken nine or ten years ago, and textbooks are full of suggestions for point combinations along these lines. However, whilst this approach may be successful in some cases, in my experience it is overly simplistic and will frequently be unsuccessful. In the example of our shoulder-pain patient, practitioners should consider the following:

- The shoulder pain could be caused by impingement of the nerves supplying the arm where they leave the spine. Degenerative changes (which can start as early as one's mid-thirties) termed spondylosis, can narrow the intervertebral foramina (the channels through which the nerve exits the spinal column), which is called stenosis. This can then compress the nerve roots where they exit the spine causing radicular symptoms (e.g. pain, discomfort and paraesthesia). The dermatome that corresponds to the shoulder area reflects issues at the C5/C6 spinal segment, which is the area that typically suffers the most structural stress and therefore the greatest resultant degeneration. Reduced neural stimulation causes the paraspinal muscles to shorten, which then pull the vertebrae even closer, causing even less neural stimulation - a positive feedback system. According to Matt Callison, this condition, which is very common in the ageing population, is caused by declining Kidney qi and *jing* (essence) and leads to increased susceptibility to *bi* (impediment) syndrome (Callison, 2019, p 33). A differential diagnosis of impingement of the spinal nerves can be confirmed by straightforward orthopaedic testing such as Spurling's test (also known as the Quadrant test, which approximates the vertebrae and facet joints, thereby increasing symptoms) and the Distraction test (in which distraction of the vertebra - i.e. separating the joint surfaces - should decrease any neurological symptoms). Palpation of local *ashi* tender spots around the cervical spine to test sensation along the relevant dermatomes will also help to clarify diagnosis. If positive, the use of the *Huatuojiaji* M-BW-35 points at the relevant spinal segment may help.
- Alternatively, shoulder pain may be caused by impingement of the brachial plexus (the network of nerves in the neck and shoulder that carries motor and sensory signals from the spinal cord to the arms and hands) due to pressure on the nerves at the point at which they leave the neck and go towards the arm - termed thoracic outlet syndrome. The main pinch points include:
  - The neck, where the brachial plexus exits between the anterior and middle scalene muscles (the interscalene triangle). These muscles can become hypertonic due to excessive use of the upper ribs in chest breathing (due to emotional stress, asthma or lack of diaphragm movement) or by adaptive shortening brought on by

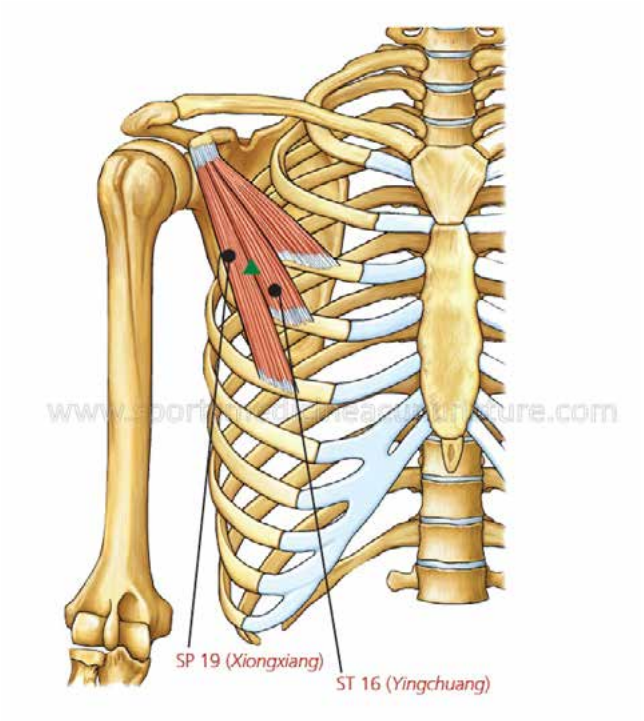

Image 2: The pectoralis minor muscle (kind permission of Matt Callison, www.sportsmedicineacupuncture.com)

poor posture (e.g. a protracted head) due to long hours over a computer or telephone.
  - The sub-clavicular area: The brachial plexus can become compressed as it travels between the clavicle and the first rib because of approximation of these structures due to carrying heavy backpacks for prolonged periods of time.
  - The sub-pectoral area: The pectoralis minor muscle may become hypertonic and shortened if the shoulder is protracted forward concurrent with a head-forward posture, which is a frequent result of computer work. In this pattern the brachial plexus, which passes between the pectoralis minor muscle and the first and second ribs, may be compressed when the patient reaches behind themselves to pick something up (eg from the back seat of a car). In this case release of the muscles can be effectively achieved using acupuncture and/or manual therapy.
- Students are often taught to undertake simple range of motion (RoM) tests in patients with musculoskeletal problems. However, apart from noticing any restriction to movement and/or if the pain is reduced on passive movement, they are very rarely taught clearly what this information means. In the case of the shoulder pain patient, if they can flex their arm/shoulder to 170 degrees but only abduct to 60 degrees before the pain starts, which then gets less at about 120 degrees (this is termed the painful arc), what does this mean clinically? Many would say it indicates a supraspinatus issue or a sub-acromial impingement and the popular 'full/empty can test' might prove this. However, according to a systematic review in the *Journal of the American Medical Association*, a more effective evaluation is obtained using the 'drop arm' test and the 'external rotation resistance' test (*JAMA*, 2013). Also, is the supraspinatus issue:
  - The cause, i.e. the supraspinatus is weak, in which case local needling, cupping or gua sha will increase local circulation of qi and blood, drain inflammatory products and help reduce pain, ideally in conjunction with appropriate strengthening exercises.
  - An effect, i.e. is the supraspinatus overworked because other tense muscles are acting as brakes (e.g. the pectoral or latissimus dorsi)? Or is a weakened infraspinatus not playing its role in controlling the arm during abduction, causing the humeral head to hit the supraspinatus tendon, in turn causing microtrauma? The latter scenario can be confirmed by a simple manual muscle test. If any of these dynamics are present, it is doubtful that local treatment alone will have a long-lasting effect, and the other tight or weakened muscles will need to be released or strengthened as appropriate. This is where understanding functional anatomy is important and hands-on physical examination to differentially diagnose which systems are at fault is paramount.
- Practitioners should also ask themselves which channels (*jing luo*) travel through the area of pain, and which muscle groups (*jing jin*) are affected? Also, what does channel examination - specifically observation (*shen*), touching the body surface (*men*) and pressing (*an*) - say about which channels are involved? Does pressing specific points on the channel modulate the pain or RoM? Does pressing points on the corresponding channel in the six level system (on the same or opposite side) also modulate the pain or RoM? If so, then using points on both channels is likely to increase the efficacy of the treatment.
- Are the emotions a primary cause or a maintaining factor? Could a loss (which could be of a friend or family member or of a job and its associated prestige) be impacting the metal phase of the *wu xing* (five phases) and thus adversely affect the Lung and Large Intestine, causing internally rotated shoulders and a collapsed chest? The resulting weakened metal phase may then not be able to control wood, thereby affecting the Liver and Gall Bladder channels, manifesting in tight shoulders and trapezius muscles. In turn, imbalanced wood may overact on earth (Spleen/Stomach) causing excessive worry, thus exacerbating the stress. In addition, wood may generate heat (either full or empty), which may impact on the fire phase (i.e. Pericardium / San Jiao) causing flaring fire and sleep issues.

A differential diagnosis of impingement of the spinal nerves can be confirmed by straight forward orthopaedic testing.

A patient-centric, integrated paradigm

Accurate diagnosis is paramount – otherwise practitioners are just guessing - and history taking is key. Professor Wang emphasised that, if using a Chinese medicine approach to disease, it is vital to tailor the treatment strategy to the patient's individual presentation. This is very similar to the classical osteopathic view, where treatment is tailored to the patient's specific requirements, taking into account social, emotional and lifestyle needs as well as the presenting complaint. In a lecture professor Wang gave to a small group

of students in 2009, he told the story of when he personally witnessed a meningitis outbreak in Shi Jia Zhuang (near the Great Wall) during the 1950s, at a time when Western medicine (ie antibiotics) was in short supply. With a high child mortality rate, a famous herbalist (Dr Pu Fuzhou) was consulted to treat a young child, and he used the formula *Ma Xing Shi Gan Tang (*Ephedra, Apricot Kernel, Gypsum and Licorice Decoction*).* The child recovered and the Western trained doctors went on to use that formula for similar presentations, which was successful to help reduce mortality rate. The outbreak came to an end during the winter months. However, there was a new one a year or two later. The doctors prescribed the same formula, but this time it did not work as well. They brought Dr Pu Fuzhou back who, after meticulous history taking, said that this strain had a more damp presentation, tweaked the formula and it again worked as effectively as it had in the past (Wang, 2009). Professor Wang went on to admonish students not to be clinicians that just mindlessly apply protocols. In this spirit, he gave the example of a patient coming in with sciatic pain. Many practitioners will use one set of points from a book, such as Kunlun BL-60, Weizhong BL-40 and Yanglingquan GB-34. If this does not work, they might turn to another book and use Houxi SI-3, Chengfu BL-36 and Zhibian BL-54. If this also does not work, another textbook approach is found, and so forth. This is guesswork based on experiential points and does not do justice to the depth of Chinese medicine. When treating disease - including musculoskeletal conditions - treatments must be based on and modified according to the presenting symptomology – with different patterns requiring differing approaches (Wang, 2009).

In the clinic: the HOPS approach

Surgeon Atul Gawande, in his book *The Checklist Manifesto* tells the story of the importance of checklists, especially as biomedical procedures become increasingly complicated (Gawande, 2010). One such checklist that I have found useful in the clinic is HOPS: History, Observation, Palpation and Special tests. Although in a clinical situation I may change the order slightly (undertaking channel palpation, pulse and tongue examination during the history taking, or palpating shu-stream points whilst observing RoM), by the end of the first session I will have completed all the elements to enable an accurate differential diagnosis.

History

As has already been alluded to, the clinician must spend time to understand the specific presentation of the condition – and must always write this down, otherwise how can progress be monitored? When a patient comes in, before I set pen to paper, I ask the patient to tell me in their own words how I can help them. At this point I do not ask questions or write anything down; I simply listen and observe. By listening to the patient's story, I acknowledge their condition and start to build a therapeutic relationship. To start with, I determine whether the condition is acute (one to 72 hours), subacute (three days to three weeks) or chronic (over three weeks). If it is chronic, it is quite possible that their explanation may not match with the presentation (e.g. lifting up a toothbrush 'caused' a sudden onset severe back pain). If the condition is chronic I also know that although there may be an excess which must be dealt with, there is also likely to be underlying deficiency that in the long term must also be addressed.

The checklist I use for my history taking is based on the acronym **S.O.C.R.A.T.E.S.**

Site of pain: Where exactly is the pain? Dr. Wang cited a story from early on in his career of a friend who came to see him with back pain. Being confident and having treated a number of cases of back pain, he started to use a set of points, to little effect. The next week he tried a different set of points, also to little effect. By the time of the third treatment, he was getting frustrated with the patient and enquired if he was doing anything to aggravate the problem. The friend answered he was not, but queried why Dr Wang was needling a specific area of the back, when the pain was elsewhere. Appropriate points were then used and the patient made a quick recovery. From that moment on, Dr Wang paid particular attention to the site of the presenting issue (Wang, 2009). Practitioners should therefore pay particular attention to identifying which channel goes through the area of pain: this is the beginning of the differential diagnosis.

Onset of pain: When did the pain start? Is it an acute or a chronic problem? If chronic, have there been any previous episodes, and what triggered the current episode (e.g. a change in work, poor sitting posture, an increase in computer work/driving/stress, etc)? This points us toward the possible deficient or excess nature of the pattern.

Character of pain: Is it a sharp, stabbing pain or a dull ache? Or is it a constant ache with occasional sharp exacerbation on certain movements? These distinctions tell us about blood stasis and deficiency, and also whether the problem is ligamentous (commonly described as sharp pain that occurs on waking when the body has stiffened up overnight) or muscular (sometimes described as a dull ache that is worse at the end of the day when the muscles are tired, the tonic postural muscles are inhibited and the phasic muscles take over their job, fatiguing in the process).

Radiation: Are there any radiating symptoms, e.g. shooting pain, electric shock sensations or paraesthesia (with sensations of burning, prickling or pins & needles)? Does the sensation follow a dermatome?

Associated signs/symptoms/treatments: Does the patient take any medication (e.g. pain medications)? Have they had any imaging (e.g. X-Ray or MRI)? Have they received any other therapies? If so, is there channel exhaustion?[5]

Timing: Is the pain worse on waking (likely indicating stagnation and an excess condition) or does it worsen towards the end of the day (which likely indicates a deficient condition)?

Exacerbates/Eases: Does the pain ease with gentle movement (excess) or does movement make it worse (deficiency)? Is it better with rest? Is it worse with cold or damp? Note that most pain gets better with heat, unless in the acute inflammatory stage.

Severity: On a scale of one to 10, what is the pain level now? Was it worse before?

Observation

This should start as the patient walks into the clinic. Are they walking with an antalgic gait (that develops as a way to avoid pain)? How do they get up or sit down? Have they a kyphotic posture (if so, that will often coincide with reduced neck rotation, and may influence the entire Tai Yang *jing jin*). Have they got rounded, protracted shoulders with an internally rotated gleno-humeral joint (often present in people bent forward working at the computer)? This may reduce their ability to breathe well, which could result in Lung qi deficiency, which in turn which may manifest in Lung *jing jin* issues, with adaptive shortening of the pectoralis minor.

All my patients attending for musculoskeletal conditions are informed in a pre-attendance email that they may be required to undress down to their underwear for postural assessment. I will then observe active RoM (i.e. movement undertaken by the patient). In terms of the shoulder, if there is a painful arc, this could be indicative of rotator cuff-related shoulder pain, whereas if there is pain on all ranges of motion, this may indicate adhesive capsulitis, especially if there is also restricted passive motion (felt with the practitioner moving the affected limb) and a hard end-feel (an abnormally hard, ungiving sensation felt by the practitioner when they move a patient's joint to its end of range). Returning to the rounded, protracted shoulder patient - if the pectoralis minor muscle is shortened, this may inhibit shoulder movement. Movement of the shoulder requires the scapula to rotate, and the anterior part of the scapula – the coracoid process - is the origin of the pectorals minor muscle as well as of the short head of the biceps and the coracobrachialis).

After a thorough patient intake, the practitioner should have a hypothesis as to the differential diagnosis; this hypothesis then needs to be put to the test. I was taught by Yefim Gamgoneishvili, an apprentice of Dr Wang whose special interest was musculoskeletal conditions, to palpate points to identify channel dysfunction. If, whilst pressing firmly on the *shu*-stream or *yuan*-source points (or sometimes the *luo*-connecting or *xi*-cleft points), the patient's RoM test or pain levels improve, this indicates that the channel is dysfunctional. I personally undertake an examination of all the channels to confirm any *zang fu* pathology that might have been identified during the history taking. Unilateral channel changes are usually associated with musculoskeletal conditions, whereas bilateral changes often correlate to internal zang fu imbalances.

Palpation

Palpation should be undertaken on and around the injury site, pressing to blanch the skin, and observing if there is a delayed capillary refill time (this confirms stasis of blood in the tissues) and also palpating for any *ashi* points. According to Bob Flaws (2008), the named and numbered acupuncture points are where qi and blood flow can best be affected, but the *ashi* points are the actual location of the qi stagnation and blood stasis.

Unilateral channel changes are usually associated with musculoskeletal conditions, whereas bilateral changes often correlate to internal zang fu imbalances.

Next, from the history taking and the RoM observation, the myofascial 'brakes' - muscles working antagonistically to those obviously affected by an injury - may need to be checked. I was first introduced to the concept of 'release the brakes' by the late Phil McQueen in his final London seminar. Clinically, I have found that many back-pain patients have adaptive shortening of the psoas and/or hamstrings, especially if the condition is a chronic one with a history of prolonged sitting. Palpation of these muscles, together with RoM testing of the antagonist muscles, can confirm this. I personally find that if there are 'brakes', using manual methods together with giving the patient stretches as homework is usually very effective. If this aspect of pathology is not addressed in the treatment plan, it is quite likely that the condition will continue to re-occur despite the best efforts of the practitioner.

Special tests

There are many orthopaedic tests - the trick is knowing which ones are relevant in any particular case. Some tests are still used through rote repetition, even though the evidence may show that other tests are more effective. As has already been stated, no one test is 100 per cent effective, hence it is best to have two or three effective tests to rule a differential diagnosis in or out and/or to know if the patient may need to be referred on. To be a safe practitioner it is important to know when to refer on for further imaging/diagnosis/treatment, and when the symptoms could be an indication of something more sinister (could that headache actually be signs of a space-occupying lesion like an inter-cranial bleed or a tumour?). Some basic neurological testing should be within the repertoire of any serious musculoskeletal practitioner. A patient recently attended my clinic having fallen off their horse whilst at a canter onto hard earth. They attended a local minor injuries unit, and were released without imaging, just with pain relief. They were able to drive but were still in constant pain (eight out of 10) a week later. After in-depth history taking together with simple testing using a tuning fork (the use of which can aid in deciding whether to refer a patient for further imaging, see Moore, 2009), I advised them to go to casualty, where a CT scan revealed a transverse fracture across their entire sacrum; they were immediately admitted into hospital.

Conclusion

Traditional Chinese medicine and biomedicine both have a lot to offer. It is incumbent on us as healthcare professionals to ensure that we can deliver the best treatment for our patients. Chinese medicine has a rich heritage, based on thousands of years of observational research, with an emphasis on whole system relationships and the channel system. Biomedicine, although much more reductionist, can focus our clinical approach by using a systematic methodology to test, measure and record. Many would say that we are not biomedically trained physicians, and therefore why would we need this knowledge? I would argue that without some kind of integrated knowledge we are missing a trick. Even just knowing how to 'release the brakes' or undertaking myofascial release down the *jing jin* is helpful. In addition, knowing some simple tests - and what to do with their results - is essential in the effective treatment of musculoskeletal conditions.

Medicine - whether traditional Chinese or modern - is by nature dynamic. One has to be able to embrace new effective approaches, whilst retaining tried and trusted methods. All too often a new piece of research throws doubt on a particular technique – only to be overturned a year later. Conversely, not everything that was written down over the past 3,000 years stands up to rigorous scrutiny; hanging onto ineffective procedures can be just as dangerous. Prof. Wang would always admonish us to adapt our treatments to what works effectively for the patient. I think it is essential for both paradigms to work together, although it is a delicate balance to keep both systems in mind simultaneously, without being overly dependent on one or the other. We need to be able to use what is best from both systems to be safe and effective practitioners.

Alex Brazkiewicz BSc (Hons) Acup, B.Ost (Hons), Dip Tuina obtained his acupuncture degree from the College of Integrated Chinese Medicine and his Diploma in Tuina from the London College of Traditional Acupuncture. Shortly after qualifying he met Jason Robinson, who subsequently introduced him to his teacher, Professor Wang Ju Yi. Over the subsequent five years Alex studied with him every year, both in China and Europe, and in 2013 undertook a month-long internship at the Beijing Tuina Hospital. Alex has always had an interest in musculoskeletal conditions, having trained in Japanese martial arts since the early 1980s, and as undertook his degree in osteopathy in 2015. Alex is currently in private practice in Malvern, Worcestershire and has developed a short course on treating MSK conditions for acupuncturists, details of which can be found on his website www.eastwesthealth-hub.com/training.

Endnotes

1. Examples of chronic primary pain include fibromyalgia, complex regional pain syndrome, chronic primary headache, orofacial pain and chronic primary visceral and musculoskeletal pain. Examples of secondary pain caused by an identifiable condition include osteoarthritis, rheumatoid arthritis, ulcerative colitis and endometriosis.
2. In fairness, this assessment is a waste of time and a mere 'box ticking exercise' if the practitioner is unable to use the findings diagnostically.
3. Biomedicine is also starting to recognise that a build-up of stressors such as poor nutrition, stress and sedentary lifestyle - dubbed 'allostatic loading' (McEwen & Stellar, 1993) - can be a maintaining factor in chronic musculoskeletal pain conditions, and therefore a whole-body approach is necessary for a long-term patient treatment plan.
4. The jing-well, ying-spring, shu-stream, jing-river and he-sea points.
5. Professor Wang explained this phenomenon as being caused when a patient receives too many treatment modalities and/or too vigorous needling, which exhausts the channel system, resulting in problems obtaining deqi during needling.

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