The Clinical Significance of Palpable Channel Changes

Abstract

Channel palpation serves as an objective means of verifying symptom-based clinical diagnosis in Chinese medicine. Interpretation of palpable channel changes is based on an integration of classical channel theory and symptom analysis. Understanding the correlation between channel palpation and pathology is the key to effectively utilising channel theory in diagnosis and treatment. This article discusses the structure of channels and the types and significance of commonly-palpated changes, with the theory illustrated by examples from the clinic of Dr. Wang Juyi.

Channel palpation is a diagnostic tool that constituted a significant part of medical examination in ancient China, but was gradually abandoned in mainstream Chinese medicine practice due to increasingly conservative attitudes toward physical contact during the Tang and Song dynasties. Consequently, by the Ming and Qing eras the development of channel theory and channel palpation had reached a standstill. Dr. Wang Juyi has used channel examination in his clinical practice since the early 1980s, and encourages the use of this skill as part of TCM diagnostics through his teaching and ongoing research. Although channel palpation is just one of the five techniques that make up channel examination (see below), it is the one used most often and has thus been chosen as the focus of this article.

As a component of one of the four pillars of diagnosis (inspection, listening and smelling, inquiry and palpation), pushing along the channels can provide valuable insight into the location and pathomechanism of disease. If we integrate the findings from channel palpation with other diagnostic methods, together with a careful analysis of clinical signs and symptoms, we can arrive at a very precise diagnosis and treatment strategy. It should be noted that simply palpating the channels and noting the location of changes is not enough to understand the nature of a disease or which channels or points to select for treatment. However, through correct guidance and extensive practice one is eventually able to recognise what is felt under the fingertips and how to use this information in diagnosis and treatment. Most of all, it is through knowledge of classical channel theory that one is able to make sense of palpatory findings.

The specifics of channel theory and the ‘how to’ of channel palpation are beyond the scope of this article; those who want a comprehensive, systematic discourse on channel theory and palpation are advised to read Applied Channel Theory in Chinese Medicine and Channel Palpation by Wang Ju-yi and Jason Robertson. The purpose of this article is to explore the specific tissue structures associated with the formation of palpated channel changes, and what these changes imply in terms of pathology.

What is a channel?

Over the last century or so there has been much debate regarding the anatomical identity of acupuncture channels. Since the emergence of Western medicine in China, Chinese doctors and researchers have been trying to identify the material basis of channels. Their first instinct was to look for something with tangible physical form and a tubular shape such as blood vessels, nerves or muscle fibres. After testing various hypotheses about the nature of channels, these researchers failed to find a satisfactory answer. It is for this reason that many doctors – both Chinese and Western medicine alike – came to doubt the existence of acupuncture channels and the validity of acupuncture itself as a treatment modality. Now that acupuncture has been proven to be an effective means of treating disease and is used all around the world, more research is being done on acupuncture channels to identify the exact physical entity that constitutes them.

According to the Huang Di Nei Jing Ling Shu (Yellow Emperor’s Inner Classic – Spiritual Pivot), ‘The twelve channels lie in the spaces between muscles (经脉者，伏行分肉之间, jīng mài shì fēn ròu zhī jiān). Although the Chinese character 肉 (ròu) here is literally translated as ‘muscles’, it more actually refers to the five tissues traditionally identified in Chinese medicine – the skin, vessels, muscles, sinews and bones. This sentence thus points out that the
Formless pathological substance in the channels turns into palpable substance when impairment of qi and blood flow leads to fermentation, rotting and deposit of physical substance.

Channels are the crevices between tissues - not the tissues themselves. Acupoints are the sites along these channels where one or more tissue structures intersect, divide or merge. These sites are referred to as 'junctures' (募, jiè). Acupoints are made up of various types of junctions: some lie in folds of skin, such as the wrist crease, and are thus called 'skin junctions' (皮募, pì jiè); some are just distal to the point where an artery bifurcates, and are called 'vessel junctions' (脉募, mài jiè); the majority of acupoints are found in crevices between muscles, and are thus referred to as 'muscle junctions' (肉募, ròu jiè); points located where sinew inserts into bone are called 'sinew junctions' (筋募, jīn jiè); and points located in joint spaces are called 'bone junctions' (骨募, gǔ jiè). Acupoints that are made up of more than one type of tissue junction tend to have a broad range of functions and indications, as is the case with yuán-source points. Unfortunately how such point anatomy influences point function and indication is too broad a topic of discussion to cover in this article.

Categories of channel changes
Palpable abnormalities along the channels involve qualitative changes in skin, connective tissue, fat, blood vessels (arteries and veins), muscles, tendons, fascia and ligaments. Formless pathological substance in the channels turns into palpable substance when impairment of qi and blood flow leads to fermentation, rotting and deposit of physical substance. This may involve coagulated blood, tissue proliferation or deposits of interstitial fluid. Such physical changes can easily be felt by pushing along the pathways of the channels of the hand and foot, and whilst one may encounter various types of change all will fall under the six categories described below. Although pain is also considered a channel change, it can easily misguide diagnosis due to variations in individual tolerance for pain, and is thus not classified as an objective channel change.

1. Lumps (结块, jiè kuài)
Lumps are large nodular swellings found within or along the edge of the channel crevice. They often appear on the forearms, calves and back (including along the Du mai [Governing vessel] and Bladder channel) where the muscles are plump. They are less elastic (harder) than the surrounding tissues and their edges are smooth. They may be swollen and accompanied by distension and/or pain. They vary in size and thickness – from the size of a soybean to that of a broad (lima) bean. Lumps are likely formed when inflammatory metabolites (waste products) within crevices or surrounding tissues accumulate and cause stagnation of interstitial fluid, and clinical observation has shown that they can disappear with correct treatment. Lumps indicate chronic disease of the channel or organ, with possible proliferation of tissue in the associated organ (although this does not necessarily mean a tumour - see below). The amount of pathological tissue tends to be directly proportional to the size of the lump. Lumps are generally caused by qi stagnation and blood stasis. If a lump is found at the margin of a crevice, it indicates inflammation of the fascia or zangfu pathology. If found within the crevice, it indicates chronic stasis of interstitial fluid due to buildup of metabolites. The softer, more superficial and elastic the lump, the milder the problem, and such lumps generally disappear after treatment. The harder and deeper the lump, the more severe and chronic the pathology. Hard, deep lumps often remain long after a patient recovers from treatment; such lumps also predict future relapse of the associated condition. Very hard lumps with sharp edges often indicate stubborn, chronic, intractable disease with poor prognosis (e.g. cancer). Lumps may also be a sign of local trauma. Lumps can appear one after another along the channel, in which case they are called 'chain lumps' (条索 tiáo suō). Chain lumps often indicate multiple problems because each point with a palpable change may imply a specific pathology or disease site. Generally speaking with regard to channel palpation, the bigger the palpable change, the larger the physical area affected by pathology. Lumps therefore often reflect a larger site affected by disease than other palpable changes, even including collateral disease (see example 2 below).

Example 1
A 60-year-old male patient recently diagnosed with amyotrophic lateral sclerosis and an aneurysm of the ascending aorta suffered from slow and difficult speech, choking while drinking and poor memory. MRI and CT results were normal. Channel palpation revealed a hard, deep lump at Shaohei HE-3 and a congealed collateral (see below) at Yinxi HE-6. The diagnosis was impaired microcirculation in the brain due to stasis in the Heart collaterals. The main points used in treatment were Tongli HE-4 and Zhaohai KID-6 in order to free the collaterals of the Heart and brain.

Example 2
A 21-year-old female complaining of a chronic sore throat with sputum had been diagnosed with chronic tracheitis (of three years duration). She had a deep, painful lump at Chíze LU-5, which reflected possible scar tissue in the trachea as a result of the chronic tracheitis. The focus of her current symptoms in the throat region helped to refine the diagnosis, and indicated injury of the hand Taiyin...
collaterals (collateral pathology tends to affect a relatively small area of the body – see below). Points selected for treatment included Chize LU-5 and Lieque LU-7. After several treatments the symptoms were resolved. The lump did not disappear, however, but became smaller and less painful and remained in the deep level. It was therefore predicted that the condition would at some point relapse.

2. Nodules (结节, jié jié)
Nodules are smaller than lumps and are formed by sediments/deposits in the tissues surrounding the crevices. They are generally found in the spaces between muscles, and their size varies according to location. Small nodules are the size of rice grains, while larger ones are the size of mung beans. Nodules that appear one after another in a chain are called ‘chain nodules’ (条索, tiáo suò in Chinese). Like chain lumps, chain nodules can indicate multiple pathologies, or a larger area affected by pathology with a longer disease course.

In general nodules indicate chronic or severe illness (but less severe than implied by lumps). They can also indicate dampness, phlegm, cold or blood stasis. Nodules are harder and less elastic than lumps. Some are movable, while others are not. Movable nodules reveal a short course of disease, while immovable nodules point to chronic illness. Like lumps, nodules can occur at varying depths: if a nodule is deep and hard with sharp edges it points to a chronic, irreversible disease with a poor prognosis.

Example 1
A 48-year-old man had a small nodule of moderate depth one cun distal to Chize LU-5, but had no history of chronic cough, throat discomfort or tonsillitis (all possible symptoms suggested by changes at this point). Further questioning revealed that his father had been diagnosed with throat cancer at the age of 82. Although the patient was not currently experiencing discomfort of the throat or trachea, he was told to remain aware of the possibility of developing problems in this region and take the necessary preventative measures.

Example 2
A 55-year-old woman who had experienced a stroke five months prior to her visit to the clinic exhibited paralysis and looseness of the left facial muscles. She showed no wrinkles on the left side of her forehead when she raised her eyebrows, and liquid would leak out of the left corner of her mouth when she drank. Channel palpation revealed shallow chain nodules along the hand Yangming Large Intestine channel between Weliu LI-7 and Shousanli LI-10. The diagnosis was Yangming weakness. Treatment included left-sided Shousanli LI-10 and Zusani ST-36. After three treatments the left facial muscles regained proper function so that the wrinkles on her forehead began to show when she raised her eyebrows, and she no longer drooled when drinking.

Example 3
A 35-year-old woman who had suffered from nausea, a burning sensation in her stomach and belching for many years had a soft nodule at Shangliu LI-9. She had been diagnosed with a cyst in her liver, which was reflected by a sore nodule at Xuanzhong GB-39. This is an example of a disease affecting the channel of the paired organ, manifesting as a palpable change on the paired channel. In this case, the liver cyst (Jueyin) showed up as a change on the Gall Bladder (Shaoyang) channel. Overall, the two nodules point to sluggish movement in both the yin and yang channels that govern ‘closing’ (Jueyin and Yangming).

3. Congealed collaterals (絡结, dié lù)
Congealed collaterals are string-like structures that lie along or across the channel pathways. They are commonly displaced or hardened small blood vessels, tendon fibres, fascia or small branches of ligaments. Congealed collaterals are likely formed by pathological changes in local interstitial fluid that affect the quality and shape of associated blood vessels, tendons, fascia and ligaments.

Congealed collaterals often point to channel sinew pathology (which may or may not be induced by external trauma), as well as exogenous or endogenous disease that may have affected the collaterals. Congealed collaterals caused by external trauma are often accompanied by impairment of motor function and pain upon movement; if acute, light pressure should produce sharp, intense pain across a relatively large area. Early stage channel sinew trauma with displacement of sinew can be corrected using miù cì (修割). If an injury is left untreated or given inappropriate treatment, there may be permanent hardening or thickening of the tendon, fascia or ligament in the injured region. In such cases, the pain upon pressure or movement would be dull and relatively mild.

Exogenous disease (caused by the six climatic factors) is often acute in nature. External pathogens first injure the collateral system, then the associated channel, then the fu and finally the zang. In contrast, endogenous illness first affects the zang, then the paired fu, then the associated channel, and if left unresolved over a long period of time finally enters the collateral. Sometimes a collateral can have a pathology unrelated to its associated channel or organ (i.e. local tissue pathology caused by external trauma). Whenever a collateral is affected by pathology, a congealed collateral is formed along the collateral pathway of the associated channel.

In comparison to lumps, congealed collaterals indicate a relatively small physical area affected by disease. That is, a congealed collateral only represents the result of a disease process – the collateral affected – and not any further-reaching course of pathology.
Example 1
A 20-year-old female had sprained her right ankle the day before her visit to the clinic, and was experiencing pain in the area of Qiuuxu GB-40 when she walked. Palpation revealed a congealed collateral adjacent to Yangchi SJ-4 at the left wrist. This is clearly an acute injury to the channel sinew, for which miù ci was appropriate. A one-inch needle was inserted into the sorest and largest crevice that could be palpated next to the congealed collateral. The correct depth of needling was reached to elicit deqi and the needle was twirled, after which the pain was immediately reduced.

Example 2
A 33-year-old female had suffered from ‘ringing in the brain’ for the previous five years, which would worsen when she was fatigued or when she flexed her neck. She also had a bitter taste in the mouth and a history of constipation. Channel palpation revealed a congealed collateral at Yangchi SJ-4 on the left hand side. The diagnosis was Shaoyang heat harassing the collaterals of the brain. Waiguan SJ-5 and Zulinqi GB-41 were the main points chosen in order to clear the Shaoyang. Although the patient was unable to come regularly for treatment due to her busy work schedule, she reported a slight decrease in the volume of the ringing after just one treatment using these points.

Example 3
A 53-year-old man presented with toothache. He had a pale tooth-marked tongue with a white coating, and a deep, wiry pulse. He also had a congealed collateral at Shangqiu SP-5, although unexpectedly no changes were evident at Neiting ST-44 (toothache is commonly attributed to Yangming heat in zangfu pattern differentiation, a diagnosis often confirmed by a palpable change at Neiting ST-44). The diagnosis was Spleen deficiency with dampness and Liver heat injuring the Spleen collaterals. The following points were selected for needling: Jianli REN-11, Zusani ST-36, Taibai SP-3 and Shangqiu SP-5. The patient recovered after one treatment.

4. Crispy collaterals (脆络, cui luò)
These irregularly-shaped changes are thinner and shorter than congealed collaterals, and on palpation feel like broken plexiglass that easily disappears upon pressure. Their structure often feels like spokes radiating from a centre or, less commonly, they can be web-like. Crispy collaterals often appear in areas of the body where the flesh is thin and the collateral vessels are shallow, such as around the yuan-source points. They often appear during periods when symptoms are active, and disappear once the symptoms are gone. The mechanism behind the formation of crispy collaterals is unclear.

Example 1
A 30-year-old woman with gingivitis and mouth-ulcers had crispy collaterals at both Taibai SP-3 and Gongsun SP-4. The diagnosis was Spleen deficiency with damp-heat. As the functions of the two points exhibiting this type of change happened to coincide with the zangfu pattern differentiation, they might be considered in treatment. However, experience has shown that Shangqiu SP-5 is more effective in treating mouth sores due to dampness affecting the Spleen, and so this point was used instead.

Example 2
An overworked 34-year-old female experiencing chronic insomnia with profuse dreams exhibited a pronounced plexiglass-like crispy collateral at Shenmen HE-7 and soreness at Taibai SP-3, Gongsun SP-4 and Sanyinjiao SP-6. Accompanying signs and symptoms included a strong craving for sweets, occasional disinclination to speak, loose stools, tired eyes and a pale puffy tongue with teeth-marks. The diagnosis was dual deficiency of the Heart (blood) and Spleen (qi), and treatment focused on needling the points Shenmen HE-7 and Sanyinjiao SP-6. As the insomnia improved, the crispy collateral became less noticeable.

Example 3
A 51-year-old female had recently been successfully treated for pain, distention and inhibited flexion of the left knee due to chronic stasis in her Spleen and Bladder collaterals caused by an external trauma five years previously. One day prior to visiting the clinic this time she complained of numbness and tingling in her left big toe from Yinbai SP-1 to Dadu SP-2. Palpation revealed a sore, web-like crispy collateral at Dadu SP-2 that had only appeared when she started experiencing the numbness and tingling in her left big toe. A needle was inserted at left Dadu SP-2, twirled to obtain deqi, and then immediately removed. Two days after treatment, the patient reported a 70 per cent decrease in the numbness and tingling in the left big toe. The crispy collateral at Dadu SP-2 was much less pronounced, reflecting the improvement.

5. Increased muscle tone
This is hypertonicity and stiffness of the muscles in a particular area, sometimes accompanied by distention and/or pain. It is caused by qi and blood accumulation (endogenous or due to external trauma) or lingering stagnation of cold, heat, blood stasis or dampness leading to compromised channel or organ function. If the increased muscle tone is painful upon pressure it means there is inflammation in the related organ. It can also indicate channel sinew pathology that is more acute and covers a wider area than that indicated by congealed collaterals. This type of channel change is commonly found along areas of thick musculature such as the forearms, calves.
and back. Due to the relatively large surface area affected by this type of channel change, it often indicates a large area affected by disease. Sometimes a region of increased muscle tone spans across two channels - often yin-yang pairs - indicating a dual pathology of both channels.

If there is thickening and swelling of the muscle due to external trauma, do not needle locally or it can further damage the local tissues. External plasters can instead be applied to the area, or the jing-well points bled to move the stagnation (which has the effect of stimulating yang qi to unblock the collaterals). Hypertonicity can also appear on the affected limbs of stroke patients, indicating qi stagnation and blood stasis in the brain. Some stroke patients exhibit areas of hardness on the affected side of the body, indicating local qi, blood and interstitial fluid stagnating in the channel. In the case of stroke, if there is hypertonicity of muscles on the yin side of the arm, treat the yang side of arm, and vice versa.

Example 1
A 65-year-old man had fractured his right wrist in a skating accident one year prior to his visit. He received carpal tunnel surgery in which a metal plate was installed in the wrist; this led to a relapse of trigger finger in his right middle finger a few months later (which he had suffered on and off for over 20 years). His right hand exhibited soft, loose depressions in the thenar (Yangming) and hypothenar (Taiyang) muscles. He had cold hands and feet, occasional floaters in his visual field and a history of anaemia. His tongue was pale with a thin white coating, and his pulse was thin. The pathomechanism in this case involved pre-existing qi/yang and blood deficiency, which combined with the wrist surgery to cause poor circulation of qi and blood in the channels of the hand (manifesting as atrophy of the right thenar [Yangming] and hypothenar [Taiyang] muscles) and a relapse of hand Jueyin channel sinew pathology. Treatment involved application of suspended (pole) moxibustion at Wangu SI-4 and Hegu LI-4.

Example 2
A 33-year-old female complained of distending pain in the vertex and left temple. She reported that her entire body felt swollen and distended, and she had a history of chronic diarrhoea. Palpation revealed softness and looseness along the entire hand Shaoyang channel. The diagnosis was of constitutional Spleen yang deficiency manifesting as insufficiency of Sanjiao qi transformation. Treatment included moxibustion at left Yangchi SJ-5.

Example 3
A 52-year-old male with a history of hiatus hernia and oesophageal cancer had suffered from paroxysmal abdominal distention and hiccups accompanied by nausea for two years. His current symptoms included abdominal distention, belching and acid reflux. Since the surgical removal of the cancer-affected part of the oesophagus three years prior to the visit he had lost 10 kilograms in weight. His Spleen channel exhibited softness and looseness at Lougu SP-7, Diji SP-8 and Yinlingquan SP-9. The pulse was slippery, slightly wiry and forceless at the deep level. The diagnosis was Spleen deficiency with the wood phase invading earth. Points selected for needling were Taibai SP-3, Zusanli ST-36 and Yanglingquan GB-34. Moxa was applied at Taibai SP-3. After four treatments his symptoms were relieved. Surprisingly there were no abnormalities on the hand Yangming Large Intestine channel, which usually exhibits changes in pathologies of the oesophagus; this was possibly due to the surgical removal of the pathological part of the oesophagus.
Beware that subcutaneous and cutaneous lesions (lipomas, neuromas, subcutaneous scars, moles and birthmarks, as well as dermatological lesions such as pimples, canker sores and linea) should be differentiated from the above categories of changes and not treated as channel abnormalities. Channel changes are usually bilateral and appear along the pathways of channels (i.e. within the channel crevices), whereas subcutaneous/cutaneous lesions tend to be more randomly located. Palpable cutaneous lesions do not vary much, if at all, in form or shape; for instance, all neuromas are basically of the same shape, although they may present with different sizes. Another distinguishing trait is that these lesions will not feel sore or tingly when pressed, and do not disappear when their suspected associated channel symptom disappears.

Channel changes and diagnosis
It cannot be stressed strongly enough that palpated channel changes must be integrated with the presenting signs and symptoms in order to determine their clinical significance and arrive at a precise diagnosis. While it is true that a specific change on a given channel or point can indicate the possibility of particular pathologies or disease locations, one should not fall into the trap of always correlating one area or type of channel change with specific symptoms or locations of disease. It is more important when making a diagnosis to note which channels display particular types of changes, and combine this information with other presenting signs and symptoms within the context of channel theory.

Like diagnostic imaging, palpated changes can produce unreliable diagnoses when symptoms are disregarded. For instance, although a congealed collateral at Wangu SI-4 often indicates cervical spondylopathy, this is not always the case. Equally, lumps in the area of Chize LU-5 or Kongzui LU-6 without the presence or a family or personal history of lung or respiratory illness can simply reflect a dysfunction of the qi dynamic of Taiyin. Dr. Wang once had a patient in his early 70’s who would always wear a scarf because he disliked getting his neck cold. An X-ray of his cervical spine showed severe narrowing of the cervical vertebral canal. His doctor told him that it was a miracle that he was alive, because it was impossible for someone with such narrowing to have adequate blood supply to the brain. Although the patient never received treatment for the vertebral stenosis, he continued to wear a scarf to shelter his neck from the cold, and lived another 10 years. Dr. Wang has encountered many cases of dizziness with physical abnormalities of the cervical spine where the dizziness remains after corrective surgery. Equally it is common knowledge that autopsies often disprove original diagnoses given by neurologists. Physical findings can only provide part of a clinical impression; there is no definitive cause and effect relationship between physical examination findings and symptoms. In addition to physical findings such as lab test results, diagnostic imaging and channel palpation, accurate assessment of pathology should also be based on signs and symptoms. This is the only way channel palpation can be properly utilised in diagnosis and treatment.

In addition, developing the habit of only selecting points that exhibit abnormalities (i.e. ashi points) for treatment greatly deviates from the traditional Chinese medical approach. This ignorance of or disregard for proper pattern differentiation and channel diagnosis leads to an improper and/or oversimplified treatment approach that often proves ineffective. Ashi point selection is only appropriate for some cases of pain due to channel sinew pathology (see examples above).

Conclusion
From the perspective of Chinese medicine, the formation of channel abnormalities involves the five tissues of skin, vessel, muscle, sinew and bone. Palpable channel changes are found either in the crevices bordered by these tissues, or on the membranes of these tissues. The modern medical explanation of these abnormalities involves qualitative changes in the composition of metabolites, interstitial fluids, skin, subcutaneous connective tissue, fat, blood vessels, muscles, tendons, fascia and ligaments. In order to determine the location (channel and associated zangfu) and mechanism of disease, several factors need to be taken into consideration: the location of the palpated changes (i.e., the channels, collaterals or channel sinews to which they belong), the category of changes, and the accompanying signs and symptoms. The accuracy of this entire process depends upon the practitioner’s level of proficiency in channel diagnosis, channel selection (for treatment) and disease analysis in the context of channel theory.

Dr. Wang Juyi has practised Chinese medicine - particularly acupuncture - for almost 50 years. In 1962 he graduated as a member of the first class of the Beijing University of Chinese Medicine. After three decades of clinical practice at the Xuanwu Hospital of Chinese Medicine in Beijing, he retired to edit the journal Chinese Acupuncture (Zhong Guo Zhen Jiu). Since then he has continued to practise privately. In 2008, he published Applied Channel Theory In Chinese Medicine: Wang Ju-Yi's Lectures on Channel Therapeutics with Jason Robertson.

Mei Li, L.Ac., graduated in 2003 from the Pacific College of Oriental Medicine, New York, with a Master’s degree in Oriental Medicine. She has lived and worked in China from 2004 to 2012, and has been apprenticing with Dr. Wang Juyi in Beijing since 2009. Mei was also a translator, editor and project manager for the People's Medical Publishing House from 2006 to 2011.
The Clinical Significance of Palpable Channel Changes

Endnotes and references

1. 经络诊察 jìng luò zhěn chá includes inspection (視, shì), feeling pulsations of various arteries (切, qiē), channel palpation (pushing along the channels; 摸, xīn), pressing (按, àn), and pressing lightly to feel for changes in moisture and temperature (捏, niē).


3. Journal of Chinese Medicine, Number 83, February 2007


8. Although in the English language ‘sinew’ and ‘tendon’ are synonymous, the Chinese character 筋 jīn is translated hereas ‘sinew’ and not ‘tendon’ because 筋 jīn includes both tendons and ligaments.

9. The concepts of ‘opening’, ‘pivot’ and ‘closing’ (開穴, 合穴, 合穴) summarise the physiological functions of the six channel levels according to classical channel theory. For more details, see Applied Channel Theory in Chinese Medicine (Wang & Robertson, 2008).

10. Some translate this as ‘sinew channel’, although the sequence of the Chinese characters implies otherwise. The emphasis of this structure is the sinew – a jīngjūn (經筋) is a ‘channel-like sinew’ whose nourishment is supplied by the channel system to which it belongs. ‘Sinew channel’ implies a separate channel made of sinew.

11. Mìù cì (缪刺) is a method of point selection mentioned in texts such as The Yellow Emperor’s Inner Classic (黄帝内经, Huáng Dì Nèi Jīng) and The Systematic Classic of Acupuncture and Moxibustion (針灸甲乙經, Zhēn jù jiǎo Yǐ Jīng). It calls for selection of corresponding points on the right side of the body for diseases on the left (and vice versa), or selection of points on the upper body for diseases of the lower (and vice versa). A common clinical application of mìù cì is to use the corresponding location on the channel with the same name on the opposite side of the body (e.g. choose a reactive acupoint near the ankle on the foot Shaoyang channel to treat pain of the hand Shaoyang channel near the wrist joint).

12. Ye Tianshi, a renowned physician of the Qing Dynasty, greatly emphasised the concept that ‘chronic disease enters the collaterals (久病入络, jiǔ bìng rù luò)’. In his Case Histories as a Guide to Clinical Practice (伤寒杂病论, Shāng hán zá bìng lùn), it states, ‘[In the] initial [stage of disease], qi binds [and the disease] is in the channels; [when] chronic, blood is injured [and the disease] is in the collaterals (初为气结在经，久则血结入络，chū wéi qì jié zài jīng, jiǔ zé xuè jié rù luò).

13. Ringing in the brain (腦鳴, nǎo míng) is a severe form of tinnitus that emanates from the brain. It is more difficult to treat than ringing in the ears (耳鳴, ěr míng).

14. 秦繚繚 (qín liǎo liǎo) is an ancient Chinese term meaning ‘knead and rub’.

15. Even Western medical doctors are encouraged to integrate X-ray, CT or MRI scans with other signs and symptoms. At the bottom of the report forms for these scans there is often a section that reads, ‘These findings must be integrated with clinical signs and symptoms’.