

The Treatment of Low Back Pain Using Classical Needle Techniques Combined With Modern Motor Points

Abstract

Acupuncture is an ever-evolving treatment method, with thousands of years of clinical practice in which practitioners have always worked to improve their knowledge of the body, disease processes and treatment methods. This paper presents a clinically effective strategy that integrates the theories of the sinew channels (jing jin) and needling methods from the *Huang Di Nei Jing* (Yellow Emperor's Internal Classic) with modern knowledge of myofascial anatomy and motor points. Although this strategy is framed in this article in terms of the treatment of low back pain, it can effectively be applied to other parts of the body.

Introduction

With the recent publication of the study 'Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians'¹ more eyes have been on the use of acupuncture for the treatment of back pain. In this guideline acupuncture is recommended as a primary treatment strategy for both acute and chronic back pain. While in school, acupuncture students learn various ways to treat and diagnose back pain, but in the experience of the author once in practice they often come up against frustration as they find clinical results can be disappointing. This paper shares a clinically-based strategy for the acupuncture treatment of low back pain that integrates needling techniques and the traditional pathways and connections of the sinew channels (jing jin) as described in the *Huang Di Nei Jing Ling Shu* (Yellow Emperor's Internal Classic Spiritual Pivot) with a modern approach that focuses on the specific muscles that make up these channels. Although distal needling can be an important part of the treatment of low back pain, the discussion in this article is confined to illustrating the integration of classical and modern theory and treatment through local treatment.

Back pain and the sinew channels

According to Chinese medicine theory there can be many causes of low back pain, but when it comes to the sinew channels the pain is by definition caused by stagnation of qi and blood. This stagnation may be caused by an injury like a sprain or strain, or it may

be caused by the invasion of wind, cold or damp, or localised/organ deficiency. As stated in my previous article in this journal,² the *Ling Shu* indicates that sinew channel symptoms include stiffness, muscle knotting, cramps, spasms and difficulty moving the affected part of the body. A key diagnostic symptom that the sinew channels require treatment is pain upon movement, as one of their primary functions is the movement of the body. Thus if a patient has low back pain that is worse with movement, accompanied by limited range of motion and that includes signs of blood stasis, qi stagnation, or exterior pathogenic cold symptoms, we should select the sinew channels for treatment rather than other channel layers.

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When choosing sinew channels that are related to low back pain we should focus primarily on the Leg Taiyang Bladder, the Leg Shaoyang Gall Bladder and the Leg Yangming Stomach channels, based on the classical descriptions of their pathways in chapter 13 of the *Ling Shu*. Authors such as David Legge³ and Donald Kendall⁴ suggest further dividing these channels into their constituent muscles. From this modern biomedical perspective, low back pain is usually attributable (although not necessarily limited) to the following nine muscles, categorised according

By: Jack Schaefer

Keywords: Ling Shu, needle technique, motor points, sinew channels, jingjin, classical needle technique, ashi needling

to their aforementioned sinew channels by Legge.⁵

- The Leg Taiyang Bladder sinew channel includes the multifidus, longissimus and iliocostalis.
- The Leg Shaoyang Gall Bladder sinew channel includes the gluteus maximus, gluteus medius, gluteus minimus, piriformis and quadratus lumborum.
- The Leg Yangming Stomach sinew channel includes rectus abdominis.

Improving sinew channel point selection

Classically, sinew channels were treated by choosing the site of the pain as the place to be needled. Chapter 13 of the *Ling Shu* discusses the treatment of the sinew channels solely in terms of local needling, and in particular in terms of using a heated needle to needle local ashi/trigger points, or other tight spots or painful areas. It states:

‘When treating, prick with a heated needle and pull out the needle instantly after pricking, the times of pricking are not limited ... stop the pricking as soon as the disease is remitted, and prick the painful locations only’.⁶

Motor points cause a more global release and return to proper function of the muscle.

Modern knowledge of muscles and how they function can be used to refine and improve the local aspect of sinew channel treatments. A modern method that has shown its effectiveness is needling motor points in the specific muscles involved. A motor point is defined by the sports medicine specialist Matt Callison as a point ‘found in the central aspect of the muscle where the motor nerve enters the muscle, [it] has the greatest influence on electrical activity and, as a result, the greatest impact on pain.’⁷ These locations are often at commonly recognised acupuncture points such as Jianjing GB-21, Tianzhu BL-10 and Juliao GB-29. However, many are not located in classically documented points. One of the benefits of using a motor point is that less needles are generally required to obtain a positive treatment effect; based on my clinical experience, multiple trigger points are required to get the same result as one or two carefully selected motor points. This is likely due to the trigger points influencing a limited number of muscle fibres, whereas motor points cause a more global release and return to proper function of the muscle.

The local muscles and motor points associated with the three sinew channels that are most commonly involved in low back pain, along with their suggested needling depths (as defined by Legge⁸) are as follows:

Leg Taiyang Bladder channel

- Multifidus: The motor points correspond with the Huatuoji points of the associated vertebral level. Perpendicular needle insertion 1-1.5 inches.
- Longissimus: The motor points are along the inner Bladder channel from Jueyinshu BL-14 through to Sanjiaoshu BL-22. Oblique needle insertion 0.5-1 inch.
- Iliocostalis: The motor points correspond with the outer Bladder channel points Shentang BL-44 to Zhishi BL-52. Oblique needle insertion 0.5-1 inch.

Leg Shaoyang Gall Bladder sinew channel

- Gluteus maximus: The motor point is slightly inferior to Zhibian BL-54. Oblique needle insertion at Zhibian BL-54 directed inferiorly 1.5-2.5 inches.
- Gluteus medius: Two motor points: 1. At the junction of the medial third and lateral two-thirds of a line joining the posterior superior iliac spine (PSIS) and the superior border of the greater trochanter of the femur. Perpendicular needle insertion 2-2.5 inches. 2. Located 3 cun superior and 1 cun posterior to the superior border of the greater trochanter. Perpendicular needle insertion 2-2.5 inches.
- Gluteus minimus: The motor point is located midway between the iliac crest and the superior border of the greater trochanter of the femur. Perpendicular needle insertion 1.5-2 inches.⁹
- Piriformis: The motor point is halfway between Baohuang BL-53 and Zhibian BL-54. Perpendicular needle insertion 2-3 inches.
- Quadratus lumborum: The motor point is slightly lateral to Zhishi BL-52. Oblique needle insertion, starting 3.5-4 cun lateral to the spine, directed toward Zhishi BL-52. The point is approximately 1.5-2 inches deep.

Leg Yangming Stomach sinew channel

- Rectus abdominis: The motor point associated with low back pain is located below and slightly lateral to Taiyi ST-23. Transverse needle insertion 2-2.5 inches starting from edge of rectus abdominis and threaded toward the midline.

While the *Ling Shu* recommends only treating the area local to the pain, one could of course also treat distally if necessary based on diagnosis. This concept is also seen in the trigger point referral patterns utilised in modern acupuncture. For example, there is often a trigger point located near Feiyang BL-58 in the soleus muscle that refers towards the sacro-iliac joint.¹⁰

Sinew channel needle techniques

Based on my experience of supervising and teaching acupuncturists, when treating the sinew channels modern practitioners tend only to needle trigger points. Although they may select points well, their needle technique is often

limited. Modern textual sources tend to provide minimal description of the needling method for treating the sinew channels. Legge, for example, only suggests that 'the needles are inserted to a depth that is indicated by the tissue changes detected by palpation.'¹¹ When treating low back pain according to the strategy outlined above, rather than merely inserting a needle into the relevant motor points, we can improve the efficacy of treatment by using an effective needle technique. Although chapter 13 of the *Ling Shu* merely suggests that the practitioner needle the areas of pain repeatedly until the symptoms are cured, elsewhere in this text other techniques are discussed. In *Ling Shu* chapter 7, 'Guan Zhen' (Official Needle) 26 different needle techniques are listed. When we look closely at them we find they are specific to the various channel layers in the body: some are for luo-connecting vessels, some are for primary channels and some are for sinew channels.¹² The needle techniques from this chapter for treating the sinew channels are called fen ci (divide piercing), hui ci (extending piercing), hegu ci (valley piercing) and fu ci (floating piercing). These are described as follows:

- Fen ci (divide piercing): Needling the areas where muscles are thick and show clear bands of tightness or muscle spasm. This is an ashi technique that focuses on needling palpable bands of tension in the muscle belly. It is particularly effective for muscle spasms when the muscle is needled across its fibres.¹³
- Hui ci (extending piercing): A probing technique where the needle is inserted perpendicularly, then directed obliquely in multiple directions away from the initial insertion. This technique can be used in large muscles that become knotted or tight, such as the gluteal and piriformis muscles.¹⁴
- Hegu ci (valley piercing): Three needles are inserted in the shape of a chicken claw - one straight into the ashi point and one to the left and right of the first. Then, holding the handles of all of the needles, they are stimulated as a single unit using a shaking motion. This technique is used in areas where muscles are thick.¹⁵ I frequently stimulate the motor point in the quadratus lumborum located near Zhishi BL-52 with this technique.
- Fu ci (floating piercing): The needle is inserted obliquely and superficially into the muscle to avoid penetrating the primary channels. This technique treats spasms and cramping and is usually used on ashi points. In one treatment there may need to be multiple needles in the area of the pain.¹⁶

These four techniques promote local qi and blood circulation and are therefore effective in releasing cramping, spasm and tension in a muscle/sinew channel which may be caused by cold, wind, qi stagnation or

blood stasis. If we determine the underlying cause of the stagnation, then we can support acupuncture treatment with other techniques. For example, I often use gua sha to release the exterior if the problem is caused by wind or cold, in order to fully disperse the pathogen. The beauty of these four techniques is that they are variable enough to be used on sinew channels all over the body (with modification), although for reasons of brevity this paper confines itself to the local treatment of low back pain. However, rather than applying them only to ashi points, for superior results these classical techniques can be used to needle motor points in the affected muscles. This clinical strategy provides a powerful mix of traditional and modern to produce optimum clinical results.

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Case Example

A fifty year-old man had experienced back pain for 10 days, which started after a weekend of landscaping. He saw his primary care physician, who diagnosed it as muscle spasms in his back and prescribed ice and the muscle relaxant drug baclofen. After three days without relief the man went for a massage, after which he experienced about 10 to 15 per cent relief for a day or so. On presenting at our clinic he was diagnosed as having taxation bi-impediment in his leg Taiyang Bladder and leg Shaoyang Gall Bladder sinew channels. From a modern anatomical perspective we found that his pain was centred in the left piriformis and gluteus medius muscles and the lower aspect of his multifidus bilaterally. Palpable spasms and trigger points were identified in all of these muscles.

His treatment consisted of needling the Huatuoji points - the motor points of the multifidus - from the third to the fifth lumbar vertebrae bilaterally, plus the left side piriformis and gluteus medius motor points. The needle technique used was the hui ci (extended piercing) method. The needles were then retained for 15 minutes. After treatment his flexion and extension both improved by about 50 per cent and his muscle pain decreased about 25 to 30 per cent, which improved to 50 per cent by the next day. The treatment was repeated two days later, and he recovered 100 per cent within two days after that.

Conclusion

Acupuncture is a method of healthcare that has steadily evolved since the Han Dynasty. Practitioners have continually added to the treatment methods and strategies to improve their clinical results. We can continue to inform the knowledge that we already have with modern understandings of the body. While there are many different

ways to treat back pain, the combination of classical needle techniques at ashi points in the sinew channels plus motor points in the specific muscles affected is an extremely effective integrative strategy. Although this paper focuses on low back pain, this strategy is equally useful for pain and injury patterns in other parts of the body.

Jack Schaefer is a Professor at Southwest Acupuncture College and maintains a private practice in Boulder, Colorado, USA. He can be contacted at jack.d.schaefer@gmail.com.

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