

# How traditional Chinese medicine acupuncturists would diagnose and treat chronic low back pain: results of a survey of licensed acupuncturists in Washington State

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**SUMMARY.** Objectives: This survey was undertaken to learn how Traditional Chinese Medicine acupuncturists' diagnose and treat patients with chronic low back pain in order to develop a standardized treatment for a clinical trial of that condition. Design: We surveyed a randomly selected group of 56 acupuncturists in Washington State, USA about styles of acupuncture they used for treating chronic low back pain, diagnoses made, and key features of treatment for this condition. Results: While substantial variability existed among practitioners, there was agreement on several broad features of treatment including: the use of local and distal acupuncture points (86% of practitioners), the use of acupuncture points on the meridians traversing the back (especially the UB meridian, 90%) the use of acupoints determined by palpation (82%), the importance of eliciting *de qi* (60%), and of providing up to eight treatments for achieving therapeutic results (79%). Conclusion: The use of practitioner surveys can enhance the systematic development of acupuncture treatment protocols and should be part of this process in future clinical trials of common conditions. © 2001 Harcourt Publishers Ltd

## INTRODUCTION

Rigorous clinical research in acupuncture is still in its infancy. Although hundreds of clinical studies have been reported in the English language literature, most of the studies have suffered from serious flaws, including small numbers of participants, inappropriate control groups, poorly justified inter-

ventions, and, for efficacy trials, inadequate blinding of patients and practitioners.<sup>1-6</sup>

Researchers evaluating acupuncture have little guidance in selecting appropriate interventions for their studies because treatments in actual practice are individualized to the needs of the patient.<sup>7</sup> Birch has recommended literature reviews to ensure that treatments reflect common practice.<sup>3,8</sup>

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Birch and Sherman<sup>9</sup>, who reported the results of such a review of Traditional Chinese Medicine (TCM) texts for back pain, documented an enormous variety of treatments. They recommended reviews of clinical records and surveys of practitioners to refine the selection of study treatments. Ergil<sup>10</sup> recommended interviews with clinicians to help define appropriate treatments. Sherman et al.<sup>11</sup> analyzed data from clinical records and found that the seven acupuncturists studied used idiosyncratic approaches to treating patients. They suggested that surveys of larger numbers of randomly selected practitioners might elucidate more generalizable patterns. In this paper, we report the results of such a survey of licensed acupuncturists in Washington State, USA, that was undertaken to learn how Traditional Chinese Medicine acupuncturists' diagnose and treat patients with chronic low back pain in order to develop a standardized treatment for a clinical trial of that condition.

## METHODS

### Selection of acupuncturists

We obtained a list of 345 licensed acupuncturists from the Washington State Department of Licensing in late 1997. Of 97 acupuncturists randomly selected from this list, in June 1999 when the survey was mailed, 8 were no longer practicing in Washington State, and mailing addresses could be identified for 73. Of the 73, we received completed questionnaires from 56 (77%).

### Construction of survey

A 23-question survey was designed to elicit information about the diagnoses and treatments used by acupuncturists for patients with chronic low back pain, defined as lasting at least three months. No mention was made of sciatic pain. Acupuncturists were not asked to refer to records to answer the questions. Data were collected on styles of acupuncture practised, diagnoses made, key features of treatment (e.g. number of needles, typical number of treatments, use of specific acupuncture points (acupoints), electrical stimulation of needles, needle sensation, use of additional treatment modalities), and on the training and practice characteristics of respondents. Two acupuncturists, each with more than 13 years of experience, assisted with development of the content of the surveys. The survey was pre-tested for clarity in a convenience sample of six acupuncturists.

### Sources for acupuncture point selection

In order to create a list of widely used acupoints for treating chronic low back pain, practitioners were

queried about their use of 29 specific acupoints for treating low back pain. This list of acupoints was derived from several sources. A survey of 40 accredited TCM acupuncture schools in the US inquiring about written materials used by their instructors for teaching students about the treatment of low back pain identified twelve recommended texts.<sup>12-23</sup> We selected the 11 acupoints recommended by six or more of these texts. We also included: 12 acupoints used by seven experienced practitioners for 50% or more of the back pain patients they treated in a clinical trial whose protocol permitted individualized point prescriptions,<sup>11</sup> three acupoints considered energetically potent from the perspective of Traditional Chinese Medicine, and two acupoints recommended by three to five of the texts and used by practitioners in the previously noted clinical trial for more than 25% of patients. Ashi points, which are points that are tender upon palpation, were also included.

### Statistical analysis

The data from the completed questionnaires were analyzed using SAS 6.12. Results are presented as descriptive statistics (means, medians, ranges, and percentages). Because the survey was focused on the practice of TCM acupuncture, most of the analyses are confined to the 50 practitioners who used TCM to treat chronic low back pain, including 35 who also used other styles of acupuncture.

## RESULTS

The survey respondents practised a median of seven years (range = 2-30 years). Most (82%) received their acupuncture training exclusively in the U.S. Most of the remainder received their training in China. The acupuncturists reported treating an average of 15.9 patients (median = 9.5, range = 1-200) with chronic low back pain each month. They reportedly scheduled an average of 9.3 visits (median = 9, interquartile range = 6-11, range = 1-25) for patients with chronic low back pain and, on average, believed that a minimum of 7.4 visits (median = 6, interquartile range = 4-8, range = 1-48) would be necessary to effectively treat the typical patient with this problem.

Although acupuncturists reported use of more than eight distinct styles of acupuncture both in general and for the treatment of low back pain (Table 1), nearly all practiced TCM (89%). Japanese eclectic and trigger point therapy were also used by about half of the acupuncturists. Seventy-one percent of acupuncturists reported using multiple styles of acupuncture for treating low back pain (median = 2 styles, range = 2-7). Although most (89%) reported using those styles because they believed they were effective, about one in four of the acupuncturists used them

Table 1 Styles of acupuncture practised by 56 surveyed acupuncturists

Style of acupuncture	Typically use %*	Use for low back pain %*
TCM acupuncture	89	89
Japanese eclectic styles (includes Maraka, Nagano, etc.)	50	45
Trigger point/Western styles	41	43
Keiraku chiryo/Japanese meridian therapy (includes Toyo Hari)	32	25
French energetic acupuncture (includes AAMA)	9	9
Korean constitutional acupuncture	7	5
Worsley 5 element	9	5
Other**	12	16

\*% rounded off to whole percentages.  
 \*\*Included American eclectic, ashi points, Chinese auriculotherapy (2), scalp acupuncture, Five element, Korean 5 element, meridian acupuncture, and Nogier's auriculotherapy.

because they were 'enjoyable to use' and a similar fraction believed they were 'easier on the patient'.

The remaining results are presented only for the 50 acupuncturists who practised TCM, often in conjunction with other styles of acupuncture. Most reported 'usually' or 'always' making a diagnosis of Qi and/or Blood Stagnation for patients with chronic low back pain (Table 2). Any of four types of Kidney Deficiency were the next most common diagnoses, with 'general' Kidney Deficiency being most common. Wind/Cold/Damp was substantially less common, with only one-fifth of all practitioners reporting 'usually' or 'always' making this diagnosis.

Among ten signs or symptoms listed on the questionnaire (Table 3), four were considered 'very' or 'exceptionally' important by more than 85% of practitioners for making a diagnosis: patient's description of pain quality or location, patient's report of what relieves or exacerbates the pain, history of pain onset, and practitioner's palpation findings. Less than half of the acupuncturists considered tongue diagnosis or Western diagnosis to be very important.

Acupuncturists reported using an average of 13 needles (median = 12.5, interquartile range = 9-16, range = 0-40) during a treatment for low back pain. They most commonly used a combination of local and distal acupoints (36% reported always using distal acupoints plus local acupoints and 50% reported 'usually' using both types of acupoints). The 15 acupuncturists who practised exclusively TCM used an average of 12.1 needles (median = 11; interquartile range = 8-15, range = 3-20), and needled between two and fourteen different acupuncture points (median = 6.5) during a treatment for chronic low back pain.

Table 4 presents the relative importance of eight factors in determining a point prescription. The palpation of the local area for ashi points and the channel diagnosis were reported to be 'usually' or 'always' important by 80% or more of the 50 TCM acupuncturists. A majority also felt that patient comfort during the treatment and the use of 'experience points' that worked well, regardless of the TCM diagnosis, were important factors affecting their point selections for most chronic low back pain patients. Roughly half considered TCM diagnosis (either Zang Fu or 8 Principal) 'usually' or 'always' important. Only one in four acupuncturists considered Western medical diagnosis 'usually' or 'always' important.

Table 2 Diagnoses used for patients with chronic low back pain by 50 TCM acupuncturists

Diagnosis	Frequency of diagnosis (%)		
	Never/rarely	Sometimes	Usually/always
Qi and Blood Stagnation*	4	50	46
Qi Stagnation**	20	47	33
Blood Stagnation*	24	50	26
Any Qi and/or Blood Stagnation*	0	42	58
General Kidney Deficiency*	20	50	30
Kidney Qi Deficiency*	12	72	16
Kidney Yang Deficiency*	28	68	4
Kidney Yin Deficiency*	28	66	6
Any Kidney Deficiency*	4	56	40
Wind/Cold/Damp* (Bi Syndrome)	16	64	20
Liver Qi Stagnation*	42	50	8
Liver Blood Deficiency*	66	34	0
Spleen Qi Deficiency*	69	31	0
Other**	78	20	2

\*These diagnoses were missing a response from one practitioner.  
 \*\*Included various Meridian therapy/Kototama style diagnoses; Kidney and Liver Deficiency; 8 extra imbalance (2); Qi and Blood Stasis in specific channels; Damp Heat (3); Damp Phlegm; Cold Painful Obstruction.

**Table 3** Importance of specific signs and symptoms in detecting a TCM pattern of disharmony for patients with chronic low back pain reported by 50 TCM acupuncturists

Sign or symptom	Percentage reporting importance as		
	Not at all or a little	Somewhat	Very or Exceptionally
Patient's description of pain quality or location	0	6	94
Patient's report of what makes pain better or worse	4	8	88
Findings from palpation	0	14	86
Patient's history of pain onset	0	14	86
Constitutional factors	6	24	70
Patient's sensation of cold or heat	2	30	68
Pulse findings	8	38	54
Other patient symptoms*	10	47	43
Tongue diagnosis	22	38	40
Western medical diagnosis	14	50	36
Other factors**	74	8	18

\*One practitioner did not answer this question.  
 \*\*These 12 responses included diet and lifestyle (2); emotional state (2); prior response to treatment (2); craniosacral pulse; past history; other treatment; posture/movement; weather and time of day pain is worst; work activities.

**Table 4** Importance of selected factors in influencing the decision of 50 TCM acupuncturists to prescribe specific acupoints for patients with chronic low back pain

Factor	Percentage reporting use of factor as		
	Never or rarely	Sometimes	Usually or always
Palpation of local area for ashi points	2	12	86
Channel diagnosis	2	18	80
Consideration of the position on the treatment table that the patient finds most comfortable	4	22	74
Experience points that work well regardless of TCM diagnosis	10	32	58
8 principles diagnosis	20	32	48
Zang Fu diagnosis	14	40	46
Western medical diagnosis	38	36	26
Desire to vary acupoints in a series of treatments for the same patient	42	38	20
Other*	76	12	16

\*Included accuracy of diagnosis; additional Zang Fu symptoms; other acupuncture styles (5); patient history; range of motion; emotional state; posture/movement; palpation of distal area ashi points of related meridian; patient's tolerance for needles.  
 \*How often do the factors listed below influence your decision about which acupoints to use when treating patients with chronic low back pain?

Acupuncturists most often selected points from the Urinary Bladder, Kidney, Du, and Gall Bladder meridians (Table 5). More than half of the TCM practitioners reported always selecting points from the Urinary Bladder meridian. The Heart, Pericardium, and Lung meridians were rarely or never used by most acupuncturists for chronic low back pain.

Acupuncturists were queried about their use of the 29 specific acupoints we had identified as potentially useful for treating chronic low back pain (see Methods). Thirty-eight percent of the acupuncturists indicated they would always use ashi points (tender points found by palpation) for patients with low back pain followed by 24% who would always use UB40 and 22% who would always use UB23. Ashi points, Huateujiaji points, and three points on the Urinary Bladder meridian (UB23, UB40, and UB60) were 'usually' or

'always' used by more than half of the respondents (Table 6). Three of these acupoints are located on the low back and the other two are on the leg. Another 12 acupoints were 'usually' or 'always' used by a quarter to a half of all acupuncturists. Eight of these acupoints are found on the low back, three on the leg and one on the hand.

Sixty percent of respondents thought that *de qi*, or the arrival of qi, was essential for achieving therapeutic success from the perspective of Traditional Chinese Medicine. We queried practitioners about a variety of sensations that they or the patient might feel and asked them to indicate those they felt most likely to occur during successful treatment. Practitioners were most likely to report that they feel a sensation through the needle (90%) and that the patient feels a relatively mild sensation, such as numbness, heaviness, soreness, or distention (84%). Fewer practitioners indicated that the

**Table 5** Reported frequency of use of acupoints on specific meridians by 50 TCM acupuncturists when treating patients for chronic low back pain

Meridian or channel*	Percentage using			
	Never/rarely	Sometimes	Usually	Always
Conception vessel (Ren)	50	36	14	0
Gall Bladder (GB)	8	32	48	12
Governing vessel (Du)	4	30	52	14
Heart (Ht)	80	20	0	0
Kidney (K)	0	26	56	18
Large Intestine (L)	26	42	24	8
Liver (Lv)	32	48	16	4
Lung (Lu)	68	28	4	0
Pericardium (P)	74	26	0	0
San Jiao (SJ)	28	50	22	0
Small Intestine (SI)	20	50	28	2
Spleen (Sp)	36	52	10	2
Stomach (St)	55	41	4	0
Urinary Bladder (UB)	2	8	36	54

\*Standard abbreviations for the meridian are given in parentheses.

**Table 6** Reported frequency of use of specific acupoints by 50 TCM practitioners for treating chronic low back pain

Acupoint	Percentage using		
	Never or rarely	Sometimes	Usually or always
Ashi	2	16	82
Dabai	36	42	22
Du3	22	62	16
Du4	4	70	26
Du26	54	46	0
GB30	0	60	40
GB34	2	56	42
Huatoujiaji	8	38	54
K3	4	56	40
LI4	14	64	22
Linggu	40	44	16
Lu7	52	44	4
Lv3	18	66	16
Shiqizhusia	55	27	18
SI3	8	54	38
Sp6	12	72	16
ST36	24	66	10
UB23	2	24	74
UB25	6	46	48
UB27	14	54	32
UB32	4	50	46
UB40	0	42	58
UB52	8	66	26
UB54	8	58	34
UB58	14	62	24
UB60	2	38	60
UB62	12	52	36
Yanyan	18	56	26
Zongbai	43	45	12

sensation depends on the acupoint (42%) or that the patient feels a strong sensation similar to a jolt or shock (37%).

A majority (70%) of acupuncturists reported that they sometimes used electrostimulation of needles in treating patients with chronic low back pain. The most frequent reasons for using

**Table 7** Frequency of use of selected adjunctive modalities reported by 50 TCM acupuncturists in the treatment of patients with chronic low back pain

Modality	Percentage using		
	Never	On some patients	On all patients
Massage (shiatsu, tuina, etc.)	14	40	46
Liniments/plasters*	20	55	25
Heat lamp such as infrared lamp	34	42	24
Moxibustion	2	80	18
Herbs	12	74	14
Warming needle	46	40	14
Cupping	12	78	10
Plum blossom	78	20	2
Self-Moxa	58	40	2
Gua Sha*	73	27	0
Other**	56	30	14

\*One practitioner failed to provide this information.  
\*\*Included craniosacral balancing (3); intradermal needling or press tacks (4); bleeding; bleeding cupping; diet therapy (3); Qi gong; yoga; exercise (4); breathing or relaxation techniques; epsom salt baths (2); hypnotherapy; magnets.

electrostimulation were that 'the patient needs it' (66%), 'something simpler hasn't worked' (51%), 'the patient requested it' (31%) and 'it frees the practitioner from performing manual stimulation' (17%).

Acupuncturists were queried about the use of 10 specific adjunctive modalities to needling as well as a general inquiry about other therapies (Table 7). All reported using one or more adjuncts on at least some patients (median = 7 adjuncts; range = 1-11). The most commonly used adjuncts were moxibustion, massage, cupping, and herbs. More practitioners used massage on all patients

than any other modality. Plum blossom and gua sha were never used by three quarters of the acupuncturists. Roughly two-thirds of practitioners reported using one or more specific adjuncts for all their chronic low back pain patients (median = 2 adjuncts, range = 1-9).

## DISCUSSION

In order to design a standardized treatment arm for a clinical trial of acupuncture, decisions must be made about the total number of treatments, frequency of treatment, acupoint prescription, amount of time needles are retained, use of other treatment modalities, and style of treatment.<sup>5,6,24</sup> Additional components that could be specified include whether elicitation of *de qi* is necessary, the depth of insertion and techniques of needle manipulation, and the minimum qualifications of the acupuncturists. Finally, because there may be several different TCM diagnoses for the same Western medical diagnosis, a variety of TCM treatments may be indicated. Careful consideration of how to incorporate this variation into the protocol is needed.

The findings of this survey provide guidelines for designing a standardized needle treatment in a trial evaluating TCM acupuncture for chronic low back pain. A potential limitation is that acupuncturists were not asked to review their records prior to completing the survey. For questions involving frequencies (e.g. the typical number of treatments given), information obtained by recall could be inaccurate and whether this would lead to systematic biases or merely increased (or decreased) variability in the data is unknown. Acupuncturists reported that they typically saw such patients for nine treatments and 78% believed that effective treatment would occur with eight or fewer visits. Their view is concordant with the report of Ezzo et al.<sup>25</sup> who, in a recent review of acupuncture for the treatment of chronic pain, found that the total number of treatments was positively related to trial outcome, with virtually no positive studies employing less than six treatments.

Acupuncturists varied substantially in the number of needles they would use to treat chronic low back pain and in the number of acupoints they would needle. Although acupuncturists practicing exclusively TCM reported using a median of 11 acupuncture needles, the appropriate number of needles is believed to depend on such patient specific factors as body size, sensitivity to stimulation, and overall health.<sup>26</sup> Ezzo et al.<sup>25</sup> found no relationship between the number of needles used and trial outcome.

Most practitioners indicated they would use electrostimulation for some patients. Given that it provides stronger stimulation than manual needling and that detailed information on when electrostimulation was considered important was

not obtained in this study, additional consultation with experienced acupuncturists would be important before recommending this be a part of a standardized protocol.

The most common TCM diagnoses for patients with low back pain were Qi (and/or Blood) Stagnation and some form of Kidney Deficiency, both of which were substantially more frequent than other diagnoses. These are two of the three diagnoses commonly described in texts for patients with low back pain.<sup>9,14,19</sup> The third, Wind/Cold/Damp, was infrequently reported. No information was collected about the likelihood of multiple diagnoses in the same patient. We have previously found that the diagnoses of Qi (and Blood) Stagnation and Kidney Deficiency are often concurrent for patients with chronic low back pain.<sup>11,26</sup>

The majority of TCM practitioners did not rate Zang Fu diagnosis or 8-principle diagnosis among the most important factors in selecting a point prescription for patients with chronic low back pain. Since these diagnoses do not appear critical to most acupuncturists for treating low back pain, devising a single treatment for all patients, regardless of diagnosis, seems feasible. Moreover, the treatment could (and should) include acupoints that address both Kidney Deficiency and Stagnation, by including acupoints for 'tonifying' the Kidney as well as for releasing Stagnation. Our survey results indicate that the acupoint prescription should include both acupoints on the low back and more distal locations. Palpation for tender (ashi) points was found to be the most important factor in acupoint selection (and ashi points were the most commonly used of the 29 specific acupoints about which we inquired), so one or more ashi point(s), selected individually for each patient based on palpation, is strongly suggested as part of the prescription.

Most acupuncturists thought that knowledge of the channel diagnosis was essential for selecting acupoints. This finding can be incorporated into a single prescription by selecting acupoints from the channels that were most often needed. Standardized prescriptions for chronic low back pain should definitely include acupoints from the Urinary Bladder channel (including the popular UB23), should probably include points from the Kidney and Du channels, and should possibly include points from the Gall Bladder channel. Interestingly, acupuncturists could not identify any acupoints on the low back that they considered 'rarely' or 'never' appropriate for treating low back pain. Thus, while some acupoints on the low back are used more often than others (Table 6), acupoints on the same channel might be somewhat interchangeable.<sup>11,26</sup> Alternatively, depending on the location of pain, these back points may serve as ashi points.

In clinical practice, acupuncture needling is used in conjunction with other modalities, such as heat, cupping, herbs, and Oriental massage

techniques. In fact, all practitioners reported using one or more of these techniques for at least some patients and most used one or more specific adjuncts for all of their patients. Ideally, some studies evaluating acupuncture for chronic low back pain should examine acupuncture within its natural context and include the use of other modalities, especially massage, heat, liniments, and herbs. However, standardizing the adjunctive modalities that best reflect common practice could be challenging, given that no single modality was consistently used by surveyed acupuncturists for treating patients with chronic low back pain. Pragmatic trials might be more appropriate for evaluating the effects of a treatment that include multiple modalities.

Although we found that TCM was the most commonly practised style of acupuncture (89%), practitioners often use other styles, especially Japanese and trigger point therapy, in the treatment of chronic low back pain. Even TCM practitioners typically used other styles. We do not know if individual treatments by these practitioners involve multiple styles or if the practitioners tend to use only a single style per treatment. While these findings justify the use of a TCM protocol, they also suggest that serious consideration must be given to creating protocols that examine other relatively common forms of acupuncture for low back pain, especially Japanese and trigger point, either alone or in combination with TCM.

Most respondents believed that *de qi* was important for effective treatment and that both the patient and provider would feel a sensation when *de qi* occurred. If providers can detect *de qi*, it is unnecessary for them to obtain patient confirmation of this phenomenon. Such a finding is important in the context of a clinical trial where minimizing provider discussion with participants could be important for maintaining the verisimilitude of a simulated acupuncture control.

Because treatments in a clinical trial should contain clear and appropriate TCM treatment principles, we recommend that several experienced acupuncturists, who are familiar with a variety of treatments and informed by the survey results, develop the candidate standardized acupuncture prescriptions. Once these are formulated, a panel of experts, chosen from multiple geographic areas who have been trained at different TCM institutions, can be asked to rate the expected effectiveness of each prescription. In addition, they can be asked if they believe the prescriptions should be improved in any way. In that way, consensus could be achieved that the protocol was using an effective treatment, even if it was not the best possible treatment for each individual. The panel could also be asked for their views about other details of the treatment where the survey may not have produced clear consensus (e.g. appropriate number of treatments to administer, appropriate number of needles).

The use of systematic methods of developing protocols for acupuncture treatments in clinical trials is still in its infancy. Although prior publications<sup>6,9</sup> have recommended the use of practitioner surveys as part of the protocol development process, this is the first report of such a survey. This study illustrates how the results of practitioner surveys can offer a broad framework for developing acupuncture protocols. Fundamental features of our study that enhance generalizability and should be included in future studies are the use of thorough reviews of the clinical literature to form the basis of the questionnaire, the inclusion of questions about key treatment parameters, and the process of randomly selecting practitioners for inclusion in the survey.

Future studies should extend the results of this survey by including questions on the minimum number of needles, the extent to which electrostimulation is used, the frequency of multiple TCM diagnoses, and the optimal frequency of treatment. Systematic approaches, including surveys, should be used to develop protocols for studies of other styles of acupuncture. For conditions that are commonly treated by acupuncture, we recommend that practitioner surveys become a standard part of the process of developing treatment protocols for clinical trials. Provider surveys may also be useful in developing protocols for other complementary and alternative medicine therapies where individualizing treatment is the norm and a plethora of therapeutic options are available to the practitioner.

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