

Acupuncture Alleviates Spasticity For Stroke Patients

Published by [HealthCMI](#) on April 20 2017

Researchers find acupuncture effective for the treatment of post-stroke upper limb spasticity. A combination of scalp and body style acupuncture reduces muscle tension and spasticity of the upper limbs for stroke patients. In a protocolized study from Tianjin University of Traditional Chinese Medicine, researchers determined that integrated application of both scalp and body style acupuncture point prescriptions produces significant positive treatment outcomes among post-stroke patients with upper limb spasticity. After completion of acupuncture therapy, Ashworth scores (spasticity measurements in patients with central nervous system lesions) significantly improved.

Tianjin University of Traditional Chinese Medicine researchers (Wang et al.) compared the efficacy of two approaches to patient care. They determined that upper limb spasticity



acupuncture treatments are more effective when conventional body style acupuncture is combined with scalp acupuncture. Clinical results demonstrate that using only body style acupuncture is not as effective as the combination of scalp and body style acupuncture. Ashworth scores improved for all acupuncture patients; however, patients receiving both scalp and body style acupuncture demonstrated significantly greater improvements on the Ashworth scale.

The researchers discussed their rational for inclusion of scalp

acupuncture in their investigation. Modern research demonstrates that scalp acupuncture stimulates brain blood circulation, eliminates early phase ischemic microvascular spasms, increases brain glucose supply, enhances brain metabolism, and protects central nervous system neurons (Wang, Zhou, Zhang). Based on their clinical experience in scalp acupuncture and post-stroke elbow spasm paralysis, the researchers of this study selected Binao (LI14, Upper Arm), Quchi (LI11, Pool at the Crook), Waiguan (TB5, Outer Pass), Wangu (SI4, Wrist Bone), and Tianjing (TB10, Heavenly Well) as the target primary acupoints for body style acupuncture. According to Traditional Chinese Medicine (TCM) principles, these acupoints dredge the meridians and eliminate spasms when stimulated. The body style acupoint selection

is representative of local acupoint stimulation and the scalp acupuncture is representative of distal acupoint stimulation with micro-acupuncture.

A total of 76 patients with post-stroke upper limb spasticity were treated and evaluated in the study. They were divided into the treatment group and the control group, with 38 patients in each group. Both patient groups underwent identical rehabilitation training and were administered medications dependent upon individual clinical requirements. The treatment group underwent scalp and body style acupuncture. The control group underwent only body style acupuncture. Scalp acupuncture for the treatment group was administered on the following lines, on the afflicted side:

- Baihui to anterior vertex (vertex middle line)
- Baihui extending along the anterior oblique line at 60° for 1.5 inches (vertex top oblique line 1)
- Chengling to Zhengying (vertex lateral line 2)
- Chengling extending along the anterior oblique line at 60° for 1.5 inches (vertex oblique line 2)

The body style acupoints for the treatment group were the following:

- Binao (LI14)
- Tianjing (TB10)
- Quchi (LI11)
- Waiguan (TB5)
- Wangu (SI4)

For scalp acupuncture, treatment began with the patient resting in the lateral position on his or her healthy side. Upon disinfection, a 0.30 mm x 40 mm filiform acupuncture needle was inserted horizontally along each selected line, from the posterior to the anterior or the top to the bottom, to a maximum length of 1.5 inches. Thereafter, the needle was manipulated with the rotation technique (180°, 100 rotations/minute) and the lift/thrust technique (2 cm movement). Each needle was manipulated for 30 seconds. As the needles were manipulated, patients were requested to move the afflicted limb. Following the active needle and movement procedure, a needle retention time of 30 minutes was observed.

For body style acupuncture, treatment began with the patient resting in the lateral position on his or her healthy side. Upon disinfection, two 0.30 mm x 40 mm filiform acupuncture needles were inserted perpendicularly into each selected acupoint and manipulated with rotation, lifting, and thrusting techniques until a deqi sensation was achieved. Subsequently, the acupuncture needles were inserted in a slanted orientation along the tendons (at 30°), one upward and one downward. Binao and Quchi were pierced 1 to 1.5 inches, while the remaining acupoints were pierced 0.5 inches. The needles were then manipulated with rotation (180°, 100 rotations/minute) and lift/thrust (1–2 cm movement, 60 times/minute) techniques, until a heavy sensation or numbness was reported by patients. Each needle was manipulated for 30 seconds.

Following the procedure, a needle retention time of 30 minutes was observed. The primary acupoints selected for the control group were the following, on the afflicted side:

- Jianyu (LI15)
- Quchi (LI11)
- Shousanli (LI10)
- Waiguan (TB5)
- Hegu (LI4)

Treatment began with the patient resting in the lateral position on his or her healthy side. Upon disinfection, a 0.30 mm x 40 mm filiform acupuncture needle was inserted into each acupoint until a deqi sensation arrived. Rotation, lifting, thrusting, mild reinforcement, and reducing techniques were used to stimulate the needles for 30 seconds. Following the manual acupuncture stimulation procedures, a needle retention time of 30 minutes was observed. The acupuncture sessions for both groups were conducted once daily for 6 consecutive days, followed by 1 break day. In total, 4 treatment session cycles were conducted.

For both groups, pharmaceutical medications were administered to each patient in varying prescriptions based on their physical examination and laboratory test results. Medications to improve blood circulation, regulate blood glucose levels, blood pressure, and blood lipid content were given. No anticonvulsants were administered.

The research demonstrates that acupuncture is effective for the treatment of muscle tension and spasticity of the upper limbs for stroke patients. The study design is limited by the lack of a control group receiving only medications and the slight difference in acupuncture points in the body style selection between the control group and the treatment group. Regardless of study design limitations, the clinical results indicate that acupuncture is beneficial and produces significant positive patient outcomes. In addition, the research findings are consistent with other studies.

For example, Guangdong Chinese Medicine School researchers achieved a total effective rate of 90%. The researchers conclude that acupuncture significantly improves patient motor functioning and overall quality of life after a stroke. In addition to the 90% total effective rate, of that number, 46.67% of patients had very significant motor improvements. Brunnstrom Approach categorizations significantly improved for both upper and lower limb functioning. In addition, the Barthel Activities of Daily Living (ADL) index significantly improved. In related research, Heilongjiang Traditional Chinese Medicine Second Affiliated Hospital researchers focused on the recovery of hand function after motor impairment due to a stroke. An 85% total effective rate was achieved using Fugl-Meyer Assessment, Barthel Activities of Daily Living, Chinese Stroke Scale, and other assessments.

Luminaries in the field of scalp acupuncture, including Dr. Ming-Qing Zhu, note that timing is crucial for stroke patients receiving scalp acupuncture. Immediate access to acupuncture therapy is paramount. There is a 24–72 hour window after a stroke wherein excellent results are

achievable. Next, a 1–2 week window following a stroke may produce moderate to excellent results. The three week window is also a time frame wherein remarkable improvements may be achieved. Following this time frame, significant clinical improvements are possible but are more difficult to achieve.

References

Wang XJ, Xiu J, Liu Q, Lin CF, Wang LC & Guo JK. (2013). Observations on the Efficacy of Combined Scalp and Body Acupuncture in Treating Post-stroke Upper Limb Spasticity. *Shanghai J Acu-mox.* 32(8).

Wang LP, Zhou W, Zhang SY. Clinical study on acupuncture effect for spastic paralysis following cerebrovascular disease[J]. *J Acupunct Tuina Sci*, 2010, 8(6): 353-356.

Xue M. (2007). *The Science of Acupuncture-Moxibustion*. Beijing: China Traditional Chinese Medicine Publisher. 142-149.

Zhang, G. F., Huang, Y. & Zeng, T. J. (2014). Therapeutic Effect of Activating Brain and Regaining Consciousness Needling Combined with Bo's Abdomen Acupuncture on Stroke Sequelae: Analysis of 30 Cases. *Journal of Clinical Acupuncture and Moxibustion.* 30 (4).

Feng, F. Z. (2013). Activating Brain and Regaining Consciousness (Xing Nao Kai Qiao) Needling Technique for the Early Treatment of Acute Phase Stroke: 120 Cases. *Chinese Medicine Modern Distance Education of China.* 17 (4): 59-61.

Wang, D. Y., Wang, F. F., Li, X. Y. & Zhao, X. (2014). Effect of Cluster Needling of Scalp Acupuncture Combined with Hand Penetration Acupuncture on the Recovery of Hand Function after Stroke. *Journal of Clinical Acupuncture and Moxibustion.* 11.

Lu. B. W. & Chen. H. B. (1996). *Normal Human Anatomy [M]*. Ha Er Bin: Heilongjiang Scientific Education Publisher, 222.