

## Evidence summary: Chinese medicine for post-stroke shoulder complications

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This summary of key findings from *Volume 12: Post-stroke shoulder complications*<sup>1</sup> of the Evidence-based Clinical Chinese Medicine monograph series outlines:

- what post-stroke shoulder complications are
- current treatments
- findings from classical Chinese medicine literature and modern Chinese medicine clinical studies.

### What are post-stroke shoulder complications?

Post-stroke shoulder complications are physical conditions caused by muscular changes after a stroke that can affect recovery and quality of life. The most common complications are pain, subluxation (when a shoulder partially or fully dislocates) and shoulder–hand syndrome (when pain extends beyond a shoulder into the arm).<sup>2</sup>

### Current treatments

Shoulder joints of weak arms should be properly positioned, stabilised and supported by slings or strapped to prevent subluxation and further injury. Physiotherapy to improve the range of movement can start when the patient is medically stable.<sup>3</sup> Pain medicine may also be prescribed.<sup>4</sup>

Chinese medicine treatment options include Chinese herbal medicine, acupuncture, massage, and dietary and lifestyle advice (e.g. appropriate exercise). Chinese medicine practitioners treat according to the patient's symptoms, relevant clinical textbooks and guidelines, research and clinical experience.

### Classical Chinese medicine literature

The *Encyclopedia of Traditional Chinese Medicine (Zhong Hua Yi Dian)* is a large and important collection of Chinese medicine books. It includes 1,170 citations describing stroke and changes in arm muscle function. Treatments included more than 570 different Chinese herbal medicine formulas involving 415 herbs, and 160 descriptions of acupuncture involving 96 acupuncture points.

### Modern Chinese medicine clinical studies

To write the *Post-stroke shoulder complications*<sup>1</sup> monograph, nine biomedical databases (five English-language and four Chinese-language) were searched in May 2015. This search found 261 relevant studies of Chinese medicine for post-stroke shoulder complications, including 210 randomised controlled trials, five non-randomised controlled clinical trials and 46 non-controlled studies. An additional search of the International Clinical Trials Registry Platform in November 2022 found no new relevant registered randomised controlled trials.

#### Chinese herbal medicine

Of the 70 randomised controlled trials of Chinese herbal medicine, two trials tested topical Chinese herbal medicine for shoulder subluxation. Topical treatment combined with rehabilitation improved muscle function and ability to perform daily activities, and reduced pain more than rehabilitation alone.

In 12 trials that tested topical Chinese herbal medicine combined with rehabilitation for shoulder pain, muscle function and ability to perform daily activities improved, and pain reduced more than with rehabilitation alone.

In another trial, oral Chinese herbal medicine plus rehabilitation improved ability to perform daily activities and reduced pain more than conventional medicine plus rehabilitation.

Fifty-one trials tested Chinese herbal medicine for shoulder–hand syndrome: 34 administered herbs topically, 17 orally, and four orally and topically. Topical Chinese herbal medicine combined with rehabilitation improved ability to perform activities of daily living and muscle function, and reduced pain. Oral Chinese herbal medicine combined with rehabilitation or rehabilitation plus medicine improved muscle function and ability to perform daily activities. Oral Chinese herbal medicine with rehabilitation reduced pain. Chinese herbal medicine used orally and topically combined with rehabilitation improved muscle function and reduced pain more effectively than conventional medicines.

Few trials reported on safety. Less than 10 adverse events were reported.

### Acupuncture and related therapies

Acupuncture therapies were evaluated in 101 randomised controlled trials. In 15 trials that tested acupuncture therapies for shoulder subluxation, acupuncture plus rehabilitation did not improve muscle function more than rehabilitation alone. However, electroacupuncture plus rehabilitation improved muscle function and reduced pain more than rehabilitation alone.

Twenty-four trials tested acupuncture therapies for shoulder pain. When combined with rehabilitation, acupuncture and electroacupuncture improved muscle function and reduced pain. Acupuncture plus rehabilitation also improved ability to perform daily activities, and acupuncture plus moxibustion and rehabilitation reduced pain, more than rehabilitation alone. Moxibustion plus rehabilitation also reduced pain.

Sixty-two trials tested acupuncture therapies for shoulder–hand syndrome. When combined with rehabilitation, acupuncture, electroacupuncture, floating acupuncture (acupuncture inserted shallowly at non-acupuncture points), acupuncture plus scalp acupuncture, and acupuncture plus moxibustion, all improved muscle function and reduced pain more than rehabilitation alone. Trials of acupuncture, electroacupuncture, and acupuncture plus moxibustion combined with rehabilitation also improved ability to perform daily activities more than rehabilitation alone.

Of the 11 trials that assessed safety, two reported a small number of cases of bleeding under the skin after acupuncture.

### Other Chinese medicine therapies

Nine randomised controlled trials tested *tuina* (Chinese massage) and two tested cupping therapy for post-stroke shoulder complications.

Five trials tested *tuina* or cupping therapy combined with rehabilitation for shoulder pain. *Tuina* plus rehabilitation reduced pain more than rehabilitation alone.

Four trials tested *tuina* or cupping therapy plus rehabilitation for shoulder–hand syndrome. *Tuina* plus rehabilitation improved muscle function as effectively as rehabilitation alone.

None of these trials reported on safety.

## Key messages

- Chinese medicine treatments have been used throughout history to treat arm muscle problems following stroke.
- Treatments have evolved over time.
- Chinese herbal medicine combined with rehabilitation may improve arm muscle function and ability to perform daily activities, and may reduce pain.
- Acupuncture therapies combined with rehabilitation may improve arm muscle function and ability to perform daily activities, and may reduce pain.
- Chinese herbal medicine, acupuncture therapies, *tuina* and cupping therapy seem safe, but more research is needed.

## For more information

For more about Chinese medicine for post-stroke shoulder complications in *Evidence-based Clinical Chinese Medicine Volume 12: Post-stroke shoulder complications*,<sup>1</sup> visit <https://doi.org/10.1142/11481>

For more about Chinese medicine research at the China–Australia International Centre for Chinese Medicine, visit [www.rmit.edu.au/research/centres-collaborations/multi-partner-collaborations/cairccm](http://www.rmit.edu.au/research/centres-collaborations/multi-partner-collaborations/cairccm)

### References

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3. Vasudevan JM, Browne BJ. (2014) Hemiplegic shoulder pain: an approach to diagnosis and management. *Phys Med Rehabil Clin N Am* **25**(2): 411–37.
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### Disclaimer

This evidence summary is not intended as a guide for self-medication or medical advice – patients should seek professional advice from qualified Chinese medicine practitioners.