

ACUPUNCTURE AND HERPES ZOSTER

About herpes zoster

Herpes zoster (shingles) is caused by reactivation of the varicella-zoster virus that has lain dormant in the dorsal root ganglion after primary infection (as chickenpox). It affects the sensory ganglia and their areas of innervation, and is characterised by pain in the distribution of the affected nerve, and crops of clustered vesicles over the area. Pain may occur days before rash onset, or no rash may appear (zoster sine herpette), making the diagnosis difficult.

The annual incidence of herpes zoster varies with age, being very rare in children, occurring in 2-3 cases per 1,000 people in early adult life and in up to 10 per 1000 in those aged 80 years and over.(Dworkin 2001) The severity of the symptoms also increases with age.(Jolleys 1989) Some people suffer from post herpetic neuralgia after shingles, due to nerve damage.(Opstelten 2002) Acupuncture treatment of this is covered in another Factsheet (see Chronic Pain).

Conventional treatment involves giving an antiviral drug such as aciclovir, as soon as possible, to limit the damage caused by the herpes zoster virus. Corticosteroids may be used to reduce inflammation, and medication may be given to help with the pain, such as topical lidocaine.

References

Dworkin RH, Schmader KE. The epidemiology and natural history of herpes zoster and postherpetic neuralgia. In:Watson CPN, Gershon AA, eds. Herpes zoster and postherpetic neuralgia. 2nd Rev Edn. Vol. 11. Amsterdam: Elsevier; 2001; 39. 64.

Jolleys JV. Treatment of shingles and post-herpetic neuralgia. *BMJ* 1989; 298: 1537-8.

Opstelten W et al. Herpes zoster and postherpetic neuralgia: incidence and risk factors using a general practice research database. *Fam Pract* 2002;19:471. 475.

How acupuncture can help

Evidence from a systematic review of studies assessing the treatment of herpes zoster with acupuncture suggests that acupuncture therapy is effective for the condition.(Yu 2007) In a randomised controlled trial, electroacupuncture in combination with surround needling was found to be effective in facilitating crust formation and pain relief in patients with herpes zoster, and the effect was superior to that of medication.(Li 2009) Another randomised controlled trial found that acupuncture (surround needling) had a positive effect on cure rate in patients with herpes zoster, and that adding moxibustion to acupuncture improved the cure rate, and reduced the time to crust formation and the incidence of residual neuralgia.(Zhang 2007) (see Table below). There is very little research on acupuncture and shingles outside of China. Most of the trials to date are of low quality and the conclusions of the systematic review should be viewed in that light.

In general, acupuncture is believed to stimulate the nervous system and cause the release of neurochemical messenger molecules. The resulting biochemical changes influence the body's homeostatic mechanisms, thus promoting physical and emotional

well-being. Stimulation of certain acupuncture points has been shown to affect areas of the brain that are known to reduce sensitivity to pain and stress (Hui 2010)

Acupuncture may help to relieve symptoms in people with herpes zoster by:

- stimulating nerves located in muscles and other tissues, which leads to release of endorphins and other neurohumoral factors, and changes the processing of pain in the brain and spinal cord (Pomeranz, 1987; Han 2004; Zhao 2008; Cheng 2009);
- reducing inflammation, by promoting release of vascular and immunomodulatory factors (Zijlstra 2003; Kavoussi 2007);
- enhancing natural killer cell activities and modulating the number and ratio of immune cell types (Kawakita 2008);
- increasing local microcirculation (Komori 2009), which aids dispersal of swelling.

However, we have yet to see physiological data specific to herpes zoster, and/or measured on patients with this condition.

About traditional acupuncture

Acupuncture is a tried and tested system of traditional medicine, which has been used in China and other eastern cultures for thousands of years to restore, promote and maintain good health. Its benefits are now widely acknowledged all over the world and in the past decade traditional acupuncture has begun to feature more prominently in mainstream healthcare in the UK. In conjunction with needling, the practitioner may use techniques such as moxibustion, cupping, massage or electro-acupuncture. They may also suggest dietary or lifestyle changes.

Traditional acupuncture takes a holistic approach to health and regards illness as a sign that the body is out of balance. The exact pattern and degree of imbalance is unique to each individual. The traditional acupuncturist's skill lies in identifying the precise nature of the underlying disharmony and selecting the most effective treatment. The choice of acupuncture points will be specific to each patient's needs. Traditional acupuncture can also be used as a preventive measure to strengthen the constitution and promote general well-being.

An increasing weight of evidence from Western scientific research (see overleaf) is demonstrating the effectiveness of acupuncture for treating a wide variety of conditions. From a biomedical viewpoint, acupuncture is believed to stimulate the nervous system, influencing the production of the body's communication substances - hormones and neurotransmitters. The resulting biochemical changes activate the body's self-regulating homeostatic systems, stimulating its natural healing abilities and promoting physical and emotional well-being.

About the British Acupuncture Council

With over 3000 members, the British Acupuncture Council (BAcC) is the UK's largest professional body for traditional acupuncturists. Membership of the BAcC guarantees excellence in training, safe practice and professional conduct. To find a qualified traditional acupuncturist, contact the BAcC on 020 8735 0400 or visit www.acupuncture.org.uk

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The evidence

Research	Conclusion
Systematic reviews	
Yu XM et al. Systematic assessment of acupuncture for treatment of herpes zoster in domestic clinical studies. <i>Zhongguo zhen jiu</i> 2007; 27: 536-40.	A systematic review that assessed the effectiveness of acupuncture for treatment of herpes zoster. A total of 43 papers were included and data were pooled from 10 of them. The total odds ratio [OR] was 4.27 (95% CI 2.90 to 6.29) for clinical cure rate (10 studies), and the total OR was -7.64 (95% CI -8.12 to -7.15) for time to complete pain relief (4 studies). The therapeutic effect in the treatment group was superior to that of the western medicine ($p < 0.01$). <u>The researchers concluded that acupuncture therapy for herpes zoster is effective, but more high-quality studies are required to prove this view point.</u>
Randomised controlled trials	
Li et al. Observation on the therapeutic effect of electroacupuncture of Jiaji (EX-B 2) plus regional encircled needling for herpes zoster. <i>Zhen Ci Yan Jiu</i> 2009; 34: 125-7.	A randomised controlled trial that observed the clinical therapeutic effect of electroacupuncture (EA) plus focus-encircled needling for promoting the crust formation of herpes zoster and analgesia in 80 patients. They were allocated to acupuncture or medication group (valaciclovir and vitamin B ₁ 10 days). The pain severity was evaluated by using a visual analogous scale (VAS). Also, the time when the cutaneous scabbing area was equal or over 50% was recorded. After the treatment, 30 (75.0%) patients in the acupuncture group and 15 (37.5%) in the medication group were cured, 7 (17.5%) and 12 (30.0%) improved, 3 (7.5%) and 13 (32.5%) failed, with the total effective rates being 92.5% and 67.5%, respectively ($p < 0.01$). VAS scores of both groups reduced significantly ($p < 0.01$), and more so with EA. Crust formation time was also significantly lower with EA than medication ($p < 0.01$). <u>The researchers concluded that electroacupuncture in combination with focus-encircled needling is effective in facilitating crust formation and pain relief in patients with herpes zoster, and the effect is superior to that of medication.</u>
ZHANG M ET AL. OBSERVATION ON THERAPEUTIC EFFECT OF SURROUND NEEDLING PLUS SURROUND MOXIBUSTION ON HERPES ZOSTER. ZHONGGUO ZHEN JIU [CHINESE] 2007; 27: 123-5.	A randomised controlled trial that compared acupuncture (surround needling) plus moxibustion with a control group (surround needling only) in 72 patients with herpes zoster. All patients in the acupuncture plus moxa group were cured within 3 days with an effective rate of 97.4%, which was better than 85.3% in the control group ($p < 0.05$). Time to crust formation and the incidence of residual neuralgia were reduced with the combination therapy. <u>The researchers concluded that surround needling plus moxibustion has obvious therapeutic effects in herpes zoster.</u>
Research on mechanisms for acupuncture	
Hui KK et al. Acupuncture, the limbic system, and the anticorrelated networks of the brain. <i>Auton Neurosci</i> 2010; 157: 81-90.	A paper that discusses research showing that acupuncture mobilises the functionally anti-correlated networks of the brain to mediate its actions, and that the effect is dependent on the psychophysical response. The research used functional magnetic resonance imaging studies of healthy subjects to show that acupuncture stimulation evokes deactivation of a limbic-paralimbic-neocortical network, which encompasses the limbic system, as well as activation of somatosensory brain regions. It has also been shown that the effect of acupuncture on the brain is integrated at

	multiple levels, down to the brainstem and cerebellum.
Cheng KJ. Neuroanatomical basis of acupuncture treatment for some common illnesses. <i>Acupunct Med</i> 2009;27: 61-4.	A review that looked at acupuncture treatment for some common conditions. It is found that, in many cases, the acupuncture points traditionally used have a neuroanatomical significance from the viewpoint of biomedicine. From this, the reviewers hypothesize that plausible mechanisms of action include intramuscular stimulation for treating muscular pain and nerve stimulation for treating neuropathies.
Komori M et al. Microcirculatory responses to acupuncture stimulation and phototherapy. <i>Anesth Analg</i> 2009; 108: 635-40.	Experimental study on rabbits in which acupuncture stimulation was directly observed to increase diameter and blood flow velocity of peripheral arterioles, enhancing local microcirculation.
Kawakita K et al. Do Japanese style acupuncture and moxibustion reduce symptoms of the common cold? <i>eCAM</i> 2008; 5: 481. 9.	A review of research into the effects of Japanese style acupuncture and moxibustion on the symptoms of the common cold. It reports that research has shown acupuncture to reduce common cold symptoms, and that acupuncture stimulation enhances natural killer cell activities and modulates the number and ratio of immune cell types.
Zhao ZQ. Neural mechanism underlying acupuncture analgesia. <i>Prog Neurobiol</i> 2008; 85: 355-75.	Review article that discusses the various peripheral and central nervous system components of acupuncture anaesthesia in detail.
Kavoussi B, Ross BE. The neuroimmune basis of anti-inflammatory acupuncture. <i>Integr Cancer Ther</i> 2007; 6: 251-7.	Review article that suggests the anti-inflammatory actions of traditional and electro-acupuncture are mediated by efferent vagus nerve activation and inflammatory macrophage deactivation.
Han JS. Acupuncture and endorphins. <i>Neurosci Lett</i> 2004; 361: 258-61.	A literature review of studies relating to the release of endorphins by acupuncture.
Zijlstra FJ et al. Anti-inflammatory actions of acupuncture. <i>Mediators Inflamm</i> 2003; 12: 59-69.	An article that suggests a hypothesis for anti-inflammatory action of acupuncture: Insertion of acupuncture needles initially stimulates production of beta-endorphins, CGRP and substance P, leading to further stimulation of cytokines and NO. While high levels of CGRP have been shown to be pro-inflammatory, CGRP in low concentrations exerts potent anti-inflammatory actions. Therefore, a frequently applied 'low-dose' treatment of acupuncture could provoke a sustained release of CGRP with anti-inflammatory activity, without stimulation of pro-inflammatory cells.
Pomeranz B. Scientific basis of acupuncture. In: Stux G, Pomeranz B, eds. <i>Acupuncture Textbook and Atlas</i> . Heidelberg: Springer-Verlag; 1987: 1-18.	Needle activation of A delta and C afferent nerve fibres in muscle sends signals to the spinal cord, where dynorphin and enkephalins are released. Afferent pathways continue to the midbrain, triggering excitatory and inhibitory mediators in spinal cord. Ensuing release of serotonin and norepinephrine onto the spinal cord leads to pain transmission being inhibited both pre- and postsynaptically in the spinothalamic tract. Finally, these signals reach the hypothalamus and pituitary, triggering release of adrenocorticotrophic hormones and beta-endorphin.

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