

Acupuncture

RA OA FM LBP

What is acupuncture?

Acupuncture is a traditional Chinese medicine technique where fine needles are inserted at points of the body to aid the recovery of health and improve well-being. Acupuncture can also be used to deactivate 'trigger points' that are thought to be causing pain. Needles can be left in position for up to 20 minutes (often less for trigger-point acupuncture), and in some cases a small electrical current is added (electro-acupuncture). Treatment is typically given weekly, although this can vary. When symptoms begin to ease, the time between treatments may be increased until a course of about six to 12 sessions is completed.

How might it work?

A central feature of traditional acupuncture is the control of an underlying life-energy called 'qi' (pronounced 'chi') that mainly moves through the body along 12 channels known as meridians. Acupuncturists claim to make a diagnosis based on acupuncture theory and then balance the qi by inserting needles at appropriate points along the meridians.

Acupuncture can also be understood in terms of what happens in the nervous system. Acupuncture points may relate to particular features such as nerve junctions and connective tissue. Stimulating an acupuncture point affects physiology (e.g. nerve conduction) and biochemistry (e.g. endorphins, the body's natural painkillers), which may help relieve pain.

Where do I get it from?

Use of acupuncture on the NHS is limited, although some physiotherapists and physicians are able to provide it (see www.aacp.org.uk and www.medical-acupuncture.co.uk for information). Most people pay for private treatment with professional acupuncturists.¹

The British Acupuncture Council has around 3,000 members and lists professional acupuncturists in local areas on their website (www.acupuncture.org.uk).

What is the evidence that it works?

Acupuncture is one of the most researched complementary therapies available in the UK. Five systematic reviews were identified, as well as a number of individual RCTs, across each condition.

Rheumatoid arthritis

Systematic review – A systematic review was identified that summarised the results of eight trials involving a total of 606 participants.² In the trials, the number of treatment sessions varied from 1–60 sessions, and the number of participants ranged from 20–240.

- Four trials compared the effectiveness of manual or electro-acupuncture with sham acupuncture. They all failed to show the benefits of acupuncture on pain.
- Three trials tested acupuncture combined with moxibustion (a traditional Chinese medicine technique that involves burning a small, aromatic herb to help healing) against conventional medication. These trials also failed to show that acupuncture and moxibustion was better than medication in terms of pain reduction and joint swelling.
- Only one trial, which compared manual acupuncture with medication, reported results in favour of acupuncture.

Overall, the review concluded that trials in acupuncture failed to show specific effects of acupuncture for pain control in patients with rheumatoid arthritis.

Another review published in the same year, also of eight trials (six of which were featured in the previous review) had similar conclusions.³

Trial 1 ‡ – One additional trial was identified in which 22 participants were randomised to receive auricular electro-acupuncture (acupuncture with electrically stimulated needles attached to the ear) and 22 to receive autogenic training (postural training/exercises/meditation) once a week for six weeks.⁴

- Both groups reported a decrease in pain and disability over the course of treatment, which remained three months after treatment had finished.
- There was also some evidence that the improvement in symptoms was greater in the electro-acupuncture group than in among those who received autogenic training.

Osteoarthritis

Cochrane review – A Cochrane review was identified that included 16 trials with 3,498 participants.⁵ Twelve trials only included participants with osteoarthritis of the knee; three only osteoarthritis of the hip; and one involved both knee and hip osteoarthritis.

- Compared to sham treatment, acupuncture was associated with significant, although small, improvements in pain and function after eight weeks and in the longer term (26 weeks).
- Benefits of acupuncture were also observed when comparing the treatment to waiting list (usual care) control treatment.

In addition, eight trials were identified that weren't included in the above review:

Trial 1 – In this large trial involving 560 people aged 50 or older with knee osteoarthritis, participants were randomised to one of the following groups:

- a traditional Chinese acupuncture using transcutaneous electrical nerve stimulation (TENS) treatment group
- a sham acupuncture group, where minimal electrical stimulation was provided with shallow needles in points considered not to have any therapeutic effect
- a waiting list control group.⁶

The first two groups received ‘treatments’ twice weekly for 6 weeks.

- At the end of treatment, and at the three-month follow-up, those in groups one and two reported an improvement in pain and function compared to the waiting list controls.
- However, there were no differences between the real (TENS) and the sham acupuncture groups.

Trials 2–8 ‡ – The seven other trials were all relatively small, ranging from 20–68 participants. Two were of low quality (Lu et al. and Itoh et al.). Generally speaking, all showed positive effects: acupuncture was found to result in an improvement in pain and function compared to usual care and sham acupuncture. However, the trials didn’t consistently demonstrate that these effects continued in the longer term.^{7–13}

Fibromyalgia

Systematic review – This review included seven trials with a total of 385 participants.¹⁴ The length of treatment ranged from 2–15 weeks, with an average of nine treatment sessions. Electro-acupuncture was performed in two trials and manual acupuncture in five trials.

- The review’s authors concluded that there was strong evidence for pain reduction at the end of acupuncture treatment, but no evidence for improved fatigue, sleep disturbance or function.
- There was no evidence of an improvement in pain or function in the longer-term follow-up.
- The pain-reducing effect of acupuncture was only found in poor-quality trials, so the authors concluded that acupuncture can’t be recommended for the treatment of fibromyalgia.

Trial 1 – One additional trial, of reasonable quality, was identified.¹⁵ The 58 female participants were randomised to receive acupuncture plus antidepressants and exercise, or antidepressants and exercise alone. Those who received acupuncture had two 20-minute sessions a week for 10 weeks. At the end of the treatment, the acupuncture group reported a greater improvement in pain and number of tender points than the control group.

Low back pain

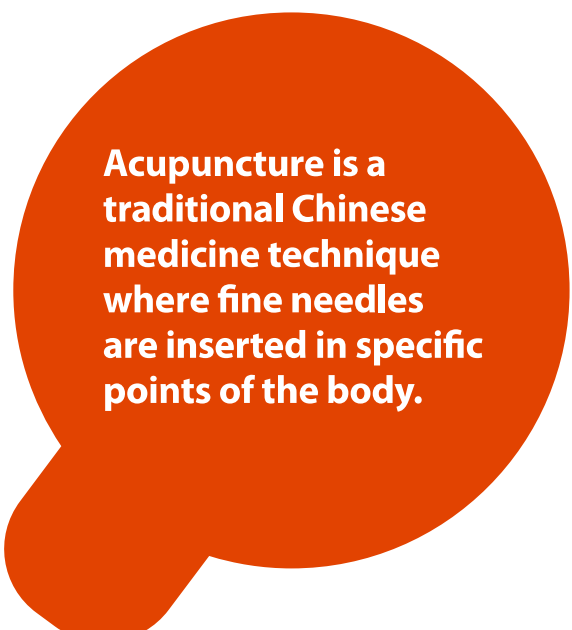
Systematic review 1 – The review summarised the results of 35 trials that were published before 2003. In 24 trials (1,718 people), the majority of the participants had chronic low back pain.¹⁶ The review’s authors came to the following conclusions:

- Compared to no treatment or sham acupuncture, acupuncture was more effective for pain relief and functional improvement both immediately after treatment and in the short term.
- The authors concluded that although acupuncture may be a useful add-on to other therapies (such as exercise, mudpacks or infrared heat therapy), it wasn’t necessarily better than conventional or other alternative treatments.
- While most participants had chronic low back pain, it’s not possible to tell the difference between effects in those with chronic and those with short-term (acute) symptoms.

Systematic review 2 – A second review summarised the results of 23 trials, including five on chronic low back pain, that were published after 2003.¹⁷ The authors of this review concluded that acupuncture was no more beneficial than sham acupuncture but – similar to the previous review – that it was more beneficial than no treatment, and also a useful add-on to conventional care.

Two further trials not included in the above reviews also tested the effectiveness of acupuncture in the treatment of low back pain.

Trial 1 – In the first trial, 638 participants were randomised to four groups: acupuncture (specific to low back pain), acupuncture (not specific to low back pain), sham acupuncture (using toothpick needles) or usual care.¹⁸ Ten courses of treatments were provided over seven weeks.



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- There was significant improvement in function and symptoms in all the acupuncture groups compared to the usual care group; however, improvements among the three acupuncture groups were not significantly different from one another.
- The results were similar when participants were followed up after a year.

Trial 2 ‡ – In the second trial, 84 men were randomly assigned to receive the following treatment for five weeks: 30 mg per day baclofen, a muscle relaxant medication; acupuncture; a combination of acupuncture and medication; or no pain-reduction treatment (control group).¹⁹

- After five minutes of treatment, there was significant reduction in pain in the acupuncture and combination group compared to the control group.
- The acupuncture group also had significantly greater improvement in pain compared to the medication group, and this effect remained until the 10-week follow-up.
- The improvement was greater among those who received the combined therapy of acupuncture and medication.

Is it safe?

Because the therapy involves needles being inserted through the skin, there are a number of potential safety concerns with acupuncture. Bleeding is a common minor side-effect, and rare occurrences of nausea, dizziness, fainting and vomiting have been reported. A large trial in the UK of over 34,000 acupuncture treatments reported 43 minor side-effects of the types listed above, a rate of 1.3 for every 1,000 treatments (0.13%).²⁰ Other trials have reported bleeding or haematoma (bleeding under the skin) in 3–6% of consultations.^{21,22} For this reason, people with blood-clotting disorders need to be particularly cautious. Pain at the site of needling is also not uncommon: several trials have reported an occurrence in 1–2% of consultations.^{21–23}

More serious side-effects from acupuncture, such as injuries to internal organs or major infections, seem to be very rare. Cases have been reported in the medical literature where such injuries or infections have resulted in death²⁴, although this is rarer still. In a large trial of 229,230 participants who received over 10 treatment sessions on average, around 2 in 100,000 patients reported a major infection.²² Approximately 1 in 100,000 suffered a pneumothorax (an abnormal collection of air outside the lungs), although many of the participants wouldn't have received acupuncture needling to the chest wall so this is probably both an underestimate of the risk associated with acupuncture to the chest or upper back and an overestimate of the risk associated with acupuncture generally.

Conclusion

Acupuncture is a treatment that involves the insertion and manipulation of needles in various locations in the body. It's one of the most studied complementary therapies in the area of musculoskeletal disease, with over 70 trials, many of them high quality, made up of over 12,000 participants. Serious side-effects are rare and even minor effects are fairly uncommon.

The evidence suggests that acupuncture isn't effective in rheumatoid arthritis, but there's consistent evidence that it's effective in easing some of the symptoms of osteoarthritis, low back pain and, to a slightly lesser extent, fibromyalgia. In addition, it's worth noting that, as a result of the weight of evidence accumulating on acupuncture for low back pain, the current guidelines from the National Institute for Health and Clinical Excellence (NICE) now recommend acupuncture for the treatment of persistent non-specific low back pain.²⁵ Interestingly, however, NICE consider that there's not enough consistent evidence of clinical or cost effectiveness to allow a firm recommendation on the use of acupuncture for the treatment of osteoarthritis²⁶, although these guidelines, reported in 2008, are currently being updated.

Classification

Condition	Effectiveness	Safety	Based on the number of trials (participants)
RA	1	Green	9 (650)
OA	5	Green	24 (4,317)
FM	4	Green	8 (443)
LBP	5	Green	31 (7,061)