

## Acupuncture — no sham

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See related research article by Xu and colleagues on page 473 and at [www.cmaj.ca/lookup/doi/10.1503/cmaj.121108](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.121108)

“**F**or patients with Bell palsy treated with prednisone, the addition of strong-stimulation acupuncture, which can elicit a higher intensity of *de qi*, significantly improved the therapeutic effect.” So write Xu and colleagues<sup>1</sup> in their paper describing a randomized controlled trial of acupuncture. Readers could be forgiven for overlooking this trial because we have seen a steady flow of acupuncture trials in this and other journals, many showing some benefit compared with placebo, sham acupuncture or usual practice. However, this trial is different for 3 reasons: everyone received real acupuncture, but with varied technique; the primary outcome was objective physical recovery; and the outcome assessment was completely blinded.

Acupuncture has been shown to improve outcomes for conditions such as migraine, arthritis and stroke, but there are doubts as to whether the effects are specific to acupuncture or more general. First, acupuncture is not simply the act of needling; it is practised in the context of one-on-one sessions with a therapist, repeated many times over days or weeks, and patients usually hope that acupuncture will help them. This provides a powerful placebo effect that is hard to disentangle from any effect of acupuncture itself. Attempting to isolate the effect of needling has led to a search for appropriate control procedures such as nonpenetrating needles, superficial needling or needles inserted at nonacupuncture points. This approach is problematic because patients are often able to judge that they are receiving the control rather than the real therapy, so the nonspecific effects related to patients' hopes and expectations remain intimately associated with the intervention. To the pragmatist, this matters little. Whether it is the needles that work or the setting in which they are used is unimportant — it is enough that acupuncture gets results. However, such thinking does not help policy-makers decide whether the benefit is specific to needling therapies or related to the frequency of visits. If the former is true, then we should train more people to provide acupuncture. If the latter is true, then we should find affordable ways to give patients more time and attention. Pragmatic trials do not provide insight into the mechanisms by which acupuncture may relieve pain. If we understood better how acupuncture provided benefit, perhaps we could improve upon it.

Rather than look for a better placebo, Xu and colleagues address the conundrum by implementing a better form of acupuncture — the sensation of heat or *de qi* induced by manipulating the needles. All patients received acupuncture using the same needles, inserted to the same depth at the same anatomic locations or acupoints. What differed between the study groups was the degree to which the needles were manipulated. The comparison was between 2 techniques. Because

everyone received some kind of acupuncture, it is less likely that expectations formed a large part of the therapeutic effect.

Second, the outcomes of treatment in acupuncture trials are usually subjective; that is, outcomes are judged by patients themselves. This is almost inevitable for outcomes such as pain or general well-being. Although subjective outcomes are often the most important to patients, they are also more susceptible to suggestion than objective measures, such as weight or muscle strength, that can be measured by an observer or a machine. In a happy meeting of patient-centredness and objectivity, the main outcome measure in this trial was recovery of facial nerve function as judged by 3 neurologists who viewed video images of the patients attempting standard facial expressions. Facial expression matters to patients, and this is an unusually objective test of the effectiveness of acupuncture that seems hard to explain away as the result of positive thinking or placebo effect.

Third, participants in acupuncture trials usually know which treatment they have had. This lack of blinding leaves considerable scope for pain scores to be more indicative of satisfaction with the treatment than of real health benefit. A recent review of clinical trials showed that treatment effects tend to be more favourable to the intervention group when based on unblinded measurement than when based on blinded measurements, and this bias is more marked for outcomes requiring judgment than for outcomes using equipment to make a measurement.<sup>2</sup> The trial in this issue<sup>1</sup> leaves much less room for doubt. In addition to using an objective measure of facial nerve function, the neurologists remained unaware as to whether the videos were recorded before or after treatment and which treatment the patient had received.

Under the circumstances, it is difficult to see how the differences seen could not be due to real differences in facial nerve recovery. It appears that there is something in the acupuncture technique used that helped damaged nerves heal more frequently. The recovery rate after 6 months was 71% in the comparison group and 90% in the intervention group. This sort of improvement seems worth pursuing. Perhaps it is time that acupuncture became more mainstream, both with more research into its mechanisms and as a treatment to which more patients should have access.

For references, see Appendix 1, available at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.130319/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.130319/-/DC1)

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