

## Non-penetrating Sham Acupuncture

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Most randomised-controlled trials of acupuncture use penetrating sham acupuncture as control intervention. Sham acupuncture is described as acupuncture at points which are not known as acupuncture points. Because of physiological changes due to skin penetration sham acupuncture should not be defined as placebo control. In 1998 a new placebo needle was introduced by Streitberger (1). This placebo needle allows patient-blinding without penetration of the skin. Since then, this placebo needle and similar devices (2) were used frequently as non-penetrating sham acupuncture in validation studies, experimental studies and randomized controlled trials (3).

This brief review will introduce the Streitberger placebo needle, the Park sham device and a simple blunt needle technique. Since 1999 more than 40 randomized controlled trials (RCT) used one of these non penetrating devices. Significant better improvement in acupuncture compared to control was shown mainly in some pain conditions. However, many studies could not show a statistical significant difference between the two groups. Reasons might include a different power of placebo effects according to the condition treated, minimal effects by touching the skin with the sham needle and the fact that many studies were pilot studies with small sample sizes.

Due to the heterogeneity of these studies a conclusive statement about the clinical effects of acupuncture is not possible yet.

Especially in pain conditions further studies of acupuncture compared to non-penetrating sham acupuncture are necessary to lead to a better understanding of the importance of needle insertion. A critical discussion might allow to detect problems in existing studies and to improve protocols for further studies.

### References

1. Streitberger K, Kleinhenz J. Introducing a placebo needle into acupuncture research. *Lancet*. 1998; 352: 364-5.
2. Park J, White A, Stevinson C, Ernst E, James M. Validating a new non-penetrating sham acupuncture device: two randomised controlled trials. *Acupunct Med*. 2002; 20: 168-74.
3. Ernst E. Acupuncture---a critical analysis. *J Intern Med*. 2006; 259: 125-37.