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INPLASY

Acupuncture vs Sham Acupuncture for Chronic Sciatica From Herniated Disk：systematic review and meta-analysis

INPLASY202610018

doi: 10.37766/inplasy2026.1.0018

Received: 5 January 2026

Published: 5 January 2026

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202610018

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 January 2026 and was last updated on 5 January 2026.

INTRODUCTION

Review question / Objective Population (P): Adults (≥18 years) diagnosed with chronic sciatica from herniated disk (CSFHD) per NASS guidelines, with unilateral radiating leg pain, positive imaging for lumbar disc herniation, and meeting relevant clinical/diagnostic criteria.
Intervention (I): Conventional manual acupuncture (MA) at acupoints.
Comparison (C): Sham acupuncture (SA), including blunt needles without skin penetration or insertion at non-acupoints.
Outcomes (O): Primary outcomes: Visual Analog Scale (VAS) scores for leg/low back pain, Oswestry Disability Index (ODI) scores, and adverse effects (AEs) at 1, 2, 3, 4 weeks of treatment and 16-week follow-up.
Study Design (S): Randomized controlled trials (RCTs).

Condition being studied The team consists of 2 medical professors and 3 medical doctors,with strong scientific research ability,and I can complete this work full time.The study has been completed but not yet published.

METHODS

Participant or population Patient with Chronic Sciatica From Herniated Disk.

Intervention Conventional manual acupuncture (MA) at acupoints.

Comparator Sham acupuncture (SA), defined as two standardized forms: ① Blunt acupuncture needles without skin penetration (simulating the operational procedure of real acupuncture without actual acupoint stimulation); ② Needle insertion at non-acupoint locations (avoiding traditional acupoints and meridians related to sciatica treatment, with insertion depth and duration consistent with the acupuncture group). The sham acupuncture intervention was designed to control for the placebo effect by mimicking the external

procedures of conventional acupuncture while eliminating specific acupoint stimulation.

Study designs to be included Randomized controlled trials (RCTs).

Eligibility criteria Adults aged ≥18 years diagnosed with CSFHD in accordance with the Evidence-Based Clinical Guidelines for Lumbar Disc Herniation with Radiculopathy from the North American Spine Society (NASS). The diagnosis required meeting both: ① unilateral radiating pain along the lateral aspect of the lower extremity; ② imaging findings consistent with lumbar disc herniation; plus any one of ③ positive straight-leg raise test, ④ decreased muscle strength in the affected lower extremity nerve's innervated area, ⑤ sensory disturbance in the affected lower extremity nerve's innervated area, or ⑥ diminished/absent knee jerk reflex and Achilles tendon reflex. All participants voluntarily joined the trial and signed informed consent forms.

Information sources PubMed, EBSCOhost, The Cochrane Library, Web of Science, Wanfang Data, VIP Chinese Science and Technology Periodical Database, and China National Knowledge Infrastructure.

Main outcome(s) 1.Pain relief: Visual Analog Scale (VAS) scores for leg pain (VAS-LP) and low back pain (VAS-WP) measured at 1, 2, 3, 4 weeks of treatment and 16-week follow-up. The VAS is a validated 0–100 scale (0 = no pain, 100 = worst possible pain) to quantify pain intensity.
2.Functional improvement: Oswestry Disability Index (ODI) scores assessed at 4 weeks of treatment and 16-week follow-up. The ODI is a widely used tool to evaluate functional disability related to lumbar disorders, with scores ranging from 0% (no disability) to 100% (severe disability).
3.Safety: Incidence of adverse effects (AEs) during treatment and follow-up, including pinhole bleeding, bruising, pain during acupuncture, post-acupuncture discomfort, and numbness. AEs were defined as any adverse reaction associated with the intervention, with severity classified as mild (transient, resolving spontaneously without special treatment).

Quality assessment / Risk of bias analysis The methodological quality of randomized controlled trials (RCTs) was independently assessed using the Cochrane Risk of Bias Tool.

Strategy of data synthesis Data synthesis was performed using Review Manager (RevMan) 5.4 software (The Nordic Cochrane Centre, Copenhagen, Denmark) following the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions (Version 6.2).
First, heterogeneity among included randomized controlled trials (RCTs) was assessed using the Q-test and I^2 statistic. A fixed-effects model was employed for data pooling when heterogeneity was low to moderate ($I^2 < 50\%$ and $P > 0.1$), indicating consistent results across studies. A random-effects model was adopted when significant heterogeneity existed ($I^2 \geq 50\%$ or $P \leq 0.1$) to account for between-study variability.
For outcome measures, statistical metrics were selected based on data characteristics: ① Risk Ratio (RR) with 95% Confidence Intervals (CIs) was used to analyze dichotomous data (incidence of adverse effects [AEs]); ② Mean Difference (MD) with 95% CIs was applied to continuous data with the same measurement scale (Visual Analog Scale [VAS] scores for leg and low back pain); ③ Standardized Mean Difference (SMD) with 95% CIs was used for continuous data with inconsistent measurement scales (Oswestry Disability Index [ODI] scores).
Sensitivity analysis was not pre-specified due to the limited number of included studies (n=5), but heterogeneity sources were explored through descriptive analysis of study characteristics (e.g., acupuncture protocols, patient age, follow-up duration) when high heterogeneity ($I^2 \geq 50\%$) was detected. All statistical tests were two-tailed, with $P < 0.05$ considered statistically significant.

Subgroup analysis Subgroup analysis by treatment duration: the four time points of 1, 2, 3, and 4 weeks were investigated.

Sensitivity analysis Sensitivity analysis was performed in the revman software to reflect the sensitivity of the articles by the change in effect size after the removal of one of the articles.

Country(ies) involved China.

Keywords Acupuncture;Sciatica;Intervertebral Disc Displacement.

Contributions of each author
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Author 3 - bing Peng.

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