

# INPLASY PROTOCOL

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**Review Stage at time of this submission:** Formal screening of search results against eligibility criteria.

**Conflicts of interest:**  
None declared.

## Clinical Effect of Electroacupuncture Combined with Bladder Function Training on Neurogenic Bladder after Spinal Cord Injury: A Meta-analysis

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**Review question / Objective:** To systematically evaluate the clinical effect and safety of electroacupuncture combined with bladder function training in the treatment of neurogenic bladder after spinal cord injury.

**Condition being studied:** Neurogenic bladder (NB) after spinal cord injury (SCI) is one of the most common complications of spinal cord injury, which can easily lead to urinary retention, recurrent urinary tract infection, and even the risk of hydronephrosis and renal failure in severe cases. At present, the international rehabilitation treatment for NB after SCI is mainly based on intermittent clean catheterization, behavioral therapy, drug therapy, pelvic floor bioelectrical feedback or surgical treatment. However, due to the complexity of the mechanism of spinal cord injury, it is difficult to achieve the ideal effect. In recent years, electroacupuncture combined with bladder function training in the field of rehabilitation therapy has been reported, and it is effective. At present, there is a lack of reliable evidence-based medical evidence and standardized and unified treatment plan. Therefore, this paper systematically searched the randomized controlled studies of electroacupuncture combined with bladder function training in the treatment of NB after SCI. Meta-analysis was used to clarify the clinical efficacy and safety so as to provide a theoretical basis for clinical evidence-based medicine.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 October 2022 and was last updated on 26 October 2022 (registration number INPLASY2022100107).

### INTRODUCTION

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and safety of electroacupuncture combined with bladder function training in the treatment of neurogenic bladder after spinal cord injury.

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## METHODS

**Search strategy:** Randomized controlled trials (RCTs) comparing the proposed combined treatment scheme with electroacupuncture/bladder function training alone (control group) were included by literature retrieval in Pubmed, Cochrane, Embase, CNKI, WF Data etc. Eligible articles were screened and subject to data analysis by using Stata15.0 software.

**Participant or population:** A patient with neurogenic bladder after spinal cord injury was diagnosed.

**Intervention:** Electroacupuncture combined with bladder function training.

**Comparator:** Electroacupuncture alone or bladder function training.

**Study designs to be included:** Clinical randomized controlled study.

**Eligibility criteria:** Inclusion criteria ① Clinical randomized controlled study (RCT); ② Patients diagnosed with post-SCI NB (no specific classification, no gender) are stable and can cooperate with treatment; ③ The control group was given EA alone or bladder function training, combined with conventional treatment such as intermittent catheterization, drinking water plan, etc. On the basis of the control group, the observation group was given common EA and bladder function training (EA instrument type, acupoint selection and stimulation parameters, stimulation duration and course of treatment were not limited). ④ Outcome indicators included at least one of the following evaluation indicators: urodynamics, urination diary, clinical response rate, adverse events, etc. ⑤ Languages are set as Chinese and English. Exclusion criteria ① Basic research and animal experiments; ② Conference, research progress, dissertation; ③ Medical review and case report; ④ Total samples  $\leq 30$  cases. ⑤ RCT trials with other related treatment modalities may affect the efficacy of the study. ⑥ Incomplete treatment plan and outcome indicators.

**Information sources:** Electronic databases such as PubMed, EMBASE, Cochrane, CNKI, WF Data and VIP Data were searched by computer.

**Main outcome(s):** Clinical response rate, maximum bladder capacity, residual urine volume, maximum urine flow rate, bladder urination pressure, incidence of adverse events.

**Quality assessment / Risk of bias analysis:** The Cochrane Assessment of Risk Bias tool.

**Strategy of data synthesis:** Stata15.0 software was used for statistical analysis, Dichotomous variables were expressed as relative risk (RR) and 95% confidence

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interval (CI), and continuous data were expressed as mean difference (MD) and 95%CI. Heterogeneity was assessed using Cochrane I<sup>2</sup> statistics when  $P < 0.10$  or  $I^2 > 50\%$  indicates statistical heterogeneity. In the case of significant.

**Subgroup analysis:** If heterogeneity is high in the study, further subgroup analysis is needed to find the source of the high heterogeneity.

**Sensitivity analysis:** If the analysis results showed high heterogeneity, the random effect model was selected for sensitivity analysis.

**Language restriction:** Yes, The languages are Chinese and English.

**Country(ies) involved:** China.

**Keywords:** Electroacupuncture; Bladder function training; Spinal cord injury; Neurogenic bladder; Meta-analysis.

**Contributions of each author:**

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