

# INPLASY PROTOCOL

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**Review Stage at time of this submission:** Data analysis.

**Conflicts of interest:**  
None declared.

## Effect of Robot Training on Walking Ability, Balance Ability and Motor Function in Stroke Patients: A Meta-analysis

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**Review question / Objective:** 1. Whether robot training is beneficial to the improvement of walking ability of stroke patients; 2. Whether robot training is beneficial to the improvement of balance ability in stroke patients; 3. Whether robot training is beneficial to the improvement of motor function of stroke patients.

**Condition being studied:** At present, a large number of studies have shown that stroke patients have abnormal walking function, balance function and motor function, which seriously affects the life of patients. Therefore, this study aims to prove whether robot training can improve walking function, balance ability and motor function in patients with stroke.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 April 2021 and was last updated on 16 April 2021 (registration number INPLASY202140085).

### INTRODUCTION

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training is beneficial to the improvement of motor function of stroke patients.

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Therefore, this study aims to prove whether robot training can improve walking function, balance ability and motor function in patients with stroke.

## METHODS

**Participant or population:** Stroke patient.

**Intervention:** In the study, we select the articles with the intervention by robot training.

**Comparator:** The control group received health education or routine care, etc.

**Study designs to be included:** RCT.

**Eligibility criteria:** Literatures with repeated publication and poor quality evaluation; non-Chinese and English literature; Chinese journals are not CSCD or CSSCI; Non-randomized controlled trials; The full literature cannot be obtained.

**Information sources:** The CNKI, Wan Fang Data, Sinomed, Web of Science, PubMed, The Cochrane Library and Embase databases were searched to retrieve the randomized controlled trials on the effect of robot training on walking ability, balance ability and motor function in stroke patients.

**Main outcome(s):** It mainly includes walking function, balance function and movement function.

**Quality assessment / Risk of bias analysis:** Two reviewers will independently critically appraise each included study using the Cochrane Risk of Bias tool for randomised controlled trials (RCTs) and the Downs and Black checklist for non-RCTs. Disagreements in scoring between the reviewers will be resolved through discussion.

**Strategy of data synthesis:** Data extraction tables will be reviewed for study heterogeneity by two reviewers. Through this, between-study variability in participant characteristics, interventions and study design will be assessed. Where

heterogeneous, a narrative analysis of the results will be presented. For continuous outcomes, where trials used the same outcome instrument to assess an outcome domain, mean difference (MD) and 95% confidence intervals (CI) will be presented. For each meta analysis, statistical heterogeneity will be assessed using the I<sup>2</sup> statistic. Where I<sup>2</sup> is greater or equal to 50%, data will be reported using random-effect models. When less than 50%, data will be reported using fixed-effect models.

**Subgroup analysis:** Planned subgroup analyses will be: (A) frequency. (B) duration. (C) cycle. (D) course of the disease.

**Sensitivity analysis:** The review manager was used for sensitivity analysis of results with high heterogeneity.

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

**Keywords:** Robot; Stroke; Walking ability; Balance ability; Motor function.

### Contributions of each author:

Author 1 - Cong Liu.

Author 2 - Xing Wang.

Author 3 - Jianghua Zhu.