# INPLASY PROTOCOL

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**Conflicts of interest:**
**None declared.**

# Effects of repetitive transcranial magnetic stimulation on Sequelae in Patients with Chronic Stroke: a systematic review and meta-analysis of randomized controlled trials

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**Review question / Objective:** **P:Adult patients with chronic-phase stroke, stroke onset ≥ 6 months. I: The intervention group received transcranial magnetic stimulation alone or with other therapies. C: while the control group received sham transcranial magnetic stimulation (SrTMS) or no transcranial magnetic stimulation. O:Evaluation of sequelae, including motor function, speech and swallowing, cognitive function, sensory function, mental impairment, walking and balance, and ADL function S: Randomized controlled trials.**
**Eligibility criteria:** **Inclusion criteria:(1) >5 patients(2) All included peer-reviewed and published English articles. Exclusion criteria:(1) Articles published, such as reviews, meta-analyses or case reports(2) Crossover design RCTs.**

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 July 2022 and was last updated on 21 July 2022 (registration number INPLASY202270095).

## INTRODUCTION

**Review question / Objective:** **P:Adult patients with chronic-phase stroke, stroke onset ≥ 6 months. I: The intervention group received transcranial magnetic stimulation alone or with other therapies. C: while the control group received sham transcranial magnetic stimulation (SrTMS) or no transcranial magnetic stimulation. O:Evaluation of sequelae, including motor function, speech and swallowing, cognitive function, sensory function, mental**

impairment, walking and balance, and ADL function S: Randomized controlled trials.

**Condition being studied:** Stroke, the second leading cause of death worldwide, is also considered a burden because of its high incidence, leaving up to 50% of survivors with long-term disability. In addition, 20-40% of stroke survivors experience spasticity, cognitive dysfunction, depression, anxiety or apathy. This significantly reduces their quality of life.

## METHODS

**Participant or population:** Adult patients with chronic-phase stroke, stroke onset ≥ 6 months.

**Intervention:** The intervention group received transcranial magnetic stimulation alone or with other therapies.

**Comparator:** While the control group received sham transcranial magnetic stimulation (SrTMS) or no transcranial magnetic stimulation.

**Study designs to be included:** Randomized controlled trials.

**Eligibility criteria:** Inclusion criteria:(1) >5 patients(2) All included peer-reviewed and published English articles. Exclusion criteria:(1) Articles published, such as reviews, meta-analyses or case reports(2) Crossover design RCTs.

**Information sources:** Pubmed, Web of science, Embase.

**Main outcome(s):** Pubmed, Web of science, Embase.

**Quality assessment / Risk of bias analysis:** PEDro scale.

**Strategy of data synthesis:** All statistical analyses were performed using StataMP 14.0 software. Standardized mean differences (SMDs) and their corresponding 95% confidence intervals (CIs) were used to compare the results. the $I^2$ statistic and Cochrane's Q test were used to assess heterogeneity among the included studies. Sensitivity analyses were used to assess the stability of the studies.

**Subgroup analysis:** (1)Effects of rTMS or sham stimulation on recovery of motor function in patients with chronic phase stroke
(2)Effects of rTMS or sham stimulation on the recovery of speech and swallowing function in patients with chronic phase stroke
(3)Effect of rTMS or sham stimulation on cognitive recovery in patients with chronic phase stroke
(4)Effect of rTMS or sham stimulation on the recovery of psychological disorders in patients with chronic phase stroke
(5)Effect of rTMS or sham stimulation on post-stroke pain in patients with chronic phase stroke
(6)Effect of rTMS or sham stimulation on recovery of balance and walking ability in patients with chronic phase stroke
(7)Effect of rTMS or sham stimulation on the ability to perform activities of daily living in patients with chronic phase stroke

**Sensitivity analysis:** Sensitivity analysis of all quantitatively analyzed studies to assess the stability of systematic studies.

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

**Keywords:** repetitive transcranial magnetic stimulation, stroke, meta-analysis, rehabilitation, sequelae, review.

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