

# INPLASY PROTOCOL

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

**Conflicts of interest:**  
None declared.

## The curative effect and security of the massage treatment of Post-stroke Intractable hiccup

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**Review question / Objective:** This study focuses on interventional treatment of massage manipulation for patients with intractable hiccups after stroke. Parallel control is used to compare with other western medical methods to determine the effectiveness and safety of massage manipulation for intractable hiccups after stroke. analysis.

**Condition being studied:** With the increase in the incidence of stroke, the population with intractable hiccup symptoms has also expanded. How to effectively alleviate and treat this symptom has become a big problem faced by many cerebrovascular doctors. Massage is one of the important adjuvant therapies of Chinese medicine, and there are no professionals to summarize relevant experience and research.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 March 2021 and was last updated on 19 March 2021 (registration number INPLASY202130069).

### INTRODUCTION

**Review question / Objective:** This study focuses on interventional treatment of massage manipulation for patients with intractable hiccups after stroke. Parallel control is used to compare with other western medical methods to determine the effectiveness and safety of massage

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doctors. Massage is one of the important adjuvant therapies of Chinese medicine, and there are no professionals to summarize relevant experience and research.

## METHODS

**Participant or population:** All patients diagnosed with PSIH were included, and there were no limitations on gender, age, or race.

**Intervention:** The experimental group was restricted to receiving massage therapy, including reflex, finger point, foot massage, whole body massage, and so on. Besides, there was no restriction applied to the frequency, intensity, duration, location, and type of massage therapy.

**Comparator:** As for the control group, using non-massage therapy, including western medicine, traditional Chinese medicine, conventional treatment, placebo, or waiting-list.

**Study designs to be included:** Types of interventions:(1)Experimental interventions: The experimental group was restricted to receiving massage therapy, including reflex, finger point, foot massage, whole body massage, and so on. Besides, there was no restriction applied to the frequency, intensity, duration, location, and type of massage therapy.(2)Control interventions: As for the control group, using non-massage therapy, including western medicine, traditional Chinese medicine.

**Eligibility criteria:** The diagnosis of the subjects not clear will be excluded; studies with massage therapy not selected as the main treatment in the intervention group will be excluded; the unavailable full text will be excluded; duplicated data will be excluded; data cannot be extracted will be excluded.

**Information sources:** The scope of search includes the Chinese biomedical literature database, Chongqing VIP Database for Chinese Technical Periodicals, China National Knowledge Infrastructure,

Wanfang, Web of Science, Cochrane Library, PubMed, EMBASE, and other databases, with the deadline of On April 1, 2021. Besides, the literature on massage intervention will be searched for PSIH.

**Main outcome(s):** (1)The cure rate (number of people curative/total number of people treated); (2)The total effective rate (number of people curative and effective/total number of people treated). We define curative effect as following: curative: after treatment, hiccups cease, and other accompanying symptoms disappears; effective: shorter duration of hiccups or decreased frequency of hiccups or it just recurred occasionally after treatment; invalid: after treatment, there are no observable changes for duration and frequency of hiccups.

**Additional outcome(s):** (1)Complete cessation within a certain time frame post-treatment of hiccups; (2)Change in frequency or intensity of hiccups; (3)Concomitant symptom score (anxiety, insomnia, tension, respiratory symptoms, and anxiety; 0~4 points to indicate no, light, medium, serious, very serious). (4)Adverse events related to interventions.

**Quality assessment / Risk of bias analysis:** If the number of RCTs exceeds 10, funnel plot analysis will be required for publication bias test. In addition, in case of an asymmetric funnel graph, Egger test will be conducted to find out about the causes of publication bias.

**Strategy of data synthesis:** RevMan5.3 software was applied to conduct data analysis. Relative risk was treated as the effect analysis statistic for binary variables. Mean difference was taken as the effect analysis system for continuous variables, and 95% confidence interval was adopted to carry out interval estimation. The heterogeneity between the results using Chi-square test analysis (alpha test level = 0.1), and combining with quantitative judgment I2 heterogeneity is big is small, if  $I^2 \leq 50\%$ ,  $P \geq .1$ , show good homogeneity between the various research, using the fixed effects model, if not that the

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statistical heterogeneity between the results of the study is larger, should further analyze sources of heterogeneity, and use the random effects model. If the level of clinical heterogeneity is significant, sensitivity analysis will be conducted, otherwise only descriptive analysis will be carried out.

**Subgroup analysis:** In case of any significant heterogeneity among the tests involved, consideration will be given to the subgroup analysis of types of stroke, massage mode, the severity of PSIH, the progression of disease, sample size, and other factors.

**Sensitivity analysis:** In order to ensure the stability and reliability of the conclusions drawn from the meta-analysis, sensitivity analysis will be conducted to remove low-quality literature.

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

**Keywords:** Massage, Post-stroke Intractable hiccup, protocol, systematic review.

**Contributions of each author:**

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