

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## Efficacy of exercise therapy in the treatment of chronic nonspecific neck pain: a meta-analysis

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**Review question / Objective:** To systematically review the effects of exercise therapy on chronic nonspecific neck pain (CNSNP).

**Condition being studied:** The prevalence of CNSNP in the global population is as high as about 3.5% (3551.1/100 000). With the high popularity of electronic devices, the prevalence of CNSNP even tends to be younger. CNSNP is prone to recurrent attacks, often with symptoms such as neck pain and muscle fatigue, which increases the miner rate, medical costs, and social burden. At present, the first choice and basic non-surgical treatment methods for CNSNP include traction therapy, physical therapy, drug therapy and traditional medicine, among which exercise therapy is a common physical therapy.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 December 2022 and was last updated on 01 December 2022 (registration number INPLASY2022120005).

### INTRODUCTION

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as about 3.5% (3551.1/100 000). With the high popularity of electronic devices, the prevalence of CNSNP even tends to be younger. CNSNP is prone to recurrent attacks, often with symptoms such as neck pain and muscle fatigue, which increases the miner rate, medical costs, and social burden. At present, the first choice and basic non-surgical treatment methods for

CNSNP include traction therapy, physical therapy, drug therapy and traditional medicine, among which exercise therapy is a common physical therapy.

## METHODS

**Participant or population:** CNSNP.

**Intervention:** Exercise therapy alone or combined comparator.

**Comparator:** Placebo, sham or other conventional rehabilitation treatment.

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

**Eligibility criteria:** P: patients with CNSNP; I/C: The control group was treated with blank control, placebo control or other conventional rehabilitation treatments, including acupuncture, spinal manipulation, education and home exercise. On the basis of the control group, the experimental group was given exercise therapy, including exercise therapy, muscle strength training, aerobic exercise, stretching training, muscle energy technology, stability training/motion control, virtual reality training, comprehensive exercise training, tai chi and yoga.

**Information sources:** The PubMed, EMbase, The Cochrane Library, Scopus, CNKI and WanFang Data databases were electronically searched to collect randomized controlled trials (RCTs) on exercise for patients with CNSNP from inception to May 31, 2022.

**Main outcome(s):** Pain, muscle strength, muscle endurance, degree of cervical dysfunction, range of motion of cervical joints, psychological status, proprioception and quality of life.

**Quality assessment / Risk of bias analysis:** The Cochrane Handbook of Bias risk assessment tools for RCT.

**Strategy of data synthesis:** RevMan 5.3 software was used for Meta-analysis. The outcome measures in this study were

continuous variables, and the mean difference (MD) or standard mean difference (SMD) and its 95%CI were used as the effect size indicators. For data transformations, calculations were performed using the calculator in ReMan 5.3.

**Subgroup analysis:** If use  $I^2$  determine heterogeneity size,  $I^2 < 50\%$ , by using the fixed effects model for Meta analysis; If  $I^2 > 50\%$  or higher, use Meta analysis of random effects model, and use the subgroup analysis and to explore the sources of heterogeneity.

**Sensitivity analysis:** If use  $I^2$  determine heterogeneity size,  $I^2 < 50\%$ , by using the fixed effects model for Meta analysis; If  $I^2 > 50\%$  or higher, use Meta analysis of random effects model, and use the sensitivity analysis to explore the sources of heterogeneity.

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

**Keywords:** exercise therapy; chronic nonspecific neck pain.

**Contributions of each author:**

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