

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## Evaluation of efficiency and safety of Muscular Region's Acupuncture treatments for knee osteoarthritis: A protocol for systematic review and network meta-analysis

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**Review question / Objective:** At present, there are many kinds of Muscular Region's Acupuncture treatments, and their effects are different. There is still a lack of comparative studies between different acupuncture methods. Therefore, this study adopted a network meta-analysis method, with conventional acupuncture as a common control, to compare the efficacy of various Muscular Region's Acupuncture therapies on KOA, in order to screen the best acupuncture treatment plan and provide evidence-based reference for clinical treatment.

**Condition being studied:** As a chronic degenerative disease, knee osteoarthritis (KOA) is mainly characterized by loose ligaments around the knee joint, degeneration of cartilage in the knee joint, and atrophy of surrounding muscles. According to related investigations, the incidence of knee osteoarthritis in China is 8.1%, of which 10.3% are women and 5.7% are men. Therefore, in order to improve the therapeutic effect of KOA, we must constantly explore new ways to treat the disease. The purpose of this study is to evaluate the effectiveness and safety of acupuncture with needle knife, blade needle, long-round needle, fire needle, micro-needle knife with conventional acupuncture intervention in KOA.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 July 2021 and was last updated on 11 July 2021 (registration number INPLASY202170031).

### INTRODUCTION

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are different. There is still a lack of comparative studies between different acupuncture methods. Therefore, this study adopted a network meta-analysis method, with conventional acupuncture as

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## METHODS

**Participant or population:** A patient diagnosed with KOA, in line with the diagnostic criteria for knee osteoarthritis of the American Academy of Rheumatology (1986, 1995, 2001), the diagnostic criteria for knee palsy (KOA) guidelines issued by the Orthopedics Branch of the Chinese Academy of Chinese Medicine, etc. Accepted KOA diagnostic criteria. There will also be no restrictions based on gender, race, and the course of the disease.

**Intervention:** The treatment group was acupuncture with needle knife, blade needle, long-round needle, fire needle, micro-needle knife.

**Comparator:** The control group is a conventional acupuncture method or a comparison between the above 5 different, muscular region's acupuncture therapies.

**Study designs to be included:** The type of literature research is RCTs.

**Eligibility criteria:** We will include all randomized controlled trials that study the treatment of KOA in the Muscular Region's Acupuncture. If the following conditions are included, they will be excluded. 1. The treatment group was combined with other treatment methods except for the 5 kinds of meridian acupuncture (needle-knife, blade needles, long-round needles, fire needles, micro-needle knives). 2. The data was obviously abnormal and the data could not be extracted. 3. Research and report of repeated substantive content signed by the same unit or period and the same author, choose one of them as the target do.

**Information sources:** A computer search for clinical RCTs of muscular region's acupuncture therapy for KOA. The Chinese database is searched by CNKI, Wangfang, VIP and SinoMed. The foreign language database is based on PubMed, Web of science and Cochrane library. The search method is expanded subject headings (MeSH), and the search time limit is from the establishment of the database to July 9, 2021. In addition, reference documents are traced to supplement relevant documents to minimize omissions. The search will identify all randomized controlled trials to evaluate the effectiveness and safety of muscular region's acupuncture in the treatment of KOA.

**Main outcome(s):** At least one or more of the following outcome indicators are included: effective rate (Effective rate = [(recovery + obvious effect + effective)/total number of cases] × 100%), knee joint index score (The Western Ontario and McMaster Universities, WOMAC), Visual Analog Score (VAS) and Lysholm knee function score, and the trial data of the outcome indicators are reliable.

**Quality assessment / Risk of bias analysis:** The bias risk assessment tool will be evaluated based on the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions, which is mainly carried out from 7 aspects: random sequence generation, allocation concealment, participants and personnel blinded, intentional analysis, completeness

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of the result data, selective reporting and other source bias; while the quality of the literature is evaluated using the quality evaluation tool Jadad scoring scale, independent of 2 researchers with GCP certificates. The evaluation will be conducted and checked by the third member. If there is a disagreement, the third member and the author in charge will intervene and make a judgment.

**Strategy of data synthesis:** Import the documents extracted from the database into NoteExpress software for document management. First, eliminate duplicate documents, then quickly scan the titles and abstracts of the remaining documents to screen out those who do not meet the standards, and finally download the full text of the documents that may meet the requirements, read further, and filter out qualified literature. Two trained and qualified medical workers with clinical experience in orthopedics and acupuncture conduct literature retrieval, inclusion and exclusion, and the preliminary screening literature is obtained after verification, and then two researchers independently conduct data on the preliminary screening literature after extraction, it will be checked by the third researcher. If there is a disagreement, the third member and the author in charge will intervene and make a judgment. If there are missing data in the literature, email or phone the author of the article to obtain the data and supplement it.

**Subgroup analysis:** Subgroup analysis can try to classify and compare the sources of different intervention objects to determine whether the patient chooses the following as the analysis elements in the subgroup analysis because the treatment effect is significant under what circumstances.

**Sensitivity analysis:** If there is heterogeneity (P 50%), use random effect model, and through subgroup analysis and sensitivity analysis to explore the source of heterogeneity, subgroup analysis based on the grouping includes treatment course, control group intervention measures, patient grouping plan, etc.. If the source of heterogeneity or heterogeneity cannot be

determined when the sex is too big, only do a descriptive analysis.

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

**Keywords:** Knee Osteoarthritis; Acupuncture; Network Meta-Analysis; Protocol.

**Contributions of each author:**

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Author 3 - Xinju Hou.

Author 4 - Xing Xu.

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