

# INPLASY PROTOCOL

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## Application of Enhanced Recovery After Surgery in perioperative nursing care of elderly patients with hip and knee arthroplasty : a systematic review and meta-analysis

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**Review question / Objective:** At present, the aging of the global population is becoming more and more serious, so it is more important to improve the quality of life of the elderly. The elderly are prone to accidental injuries, such as falling out of bed, falling, trauma and so on, due to the decline in the body's responsiveness. The elderly are prone to fracture due to osteoporosis. Orthopedic - related tumors are also common in the elderly. In recent years, the concept of accelerated rehabilitation surgery has been widely used in the field of orthopedics, especially hip diseases and knee diseases. However, there is a lack of evidence-based evidence on the comprehensive effect of accelerated rehabilitation surgery concept on perioperative nursing of elderly orthopaedic patients. **Participants:** Orthopedic surgery patient. **Intervention/Comparison:** To treat orthopedic disease patient with enhanced recovery after surgery / To treat orthopedic disease patient without enhanced recovery after surgery. **Outcome:** Perioperative correlation index, postoperative complication, quality of life index. **Study design:** Randomized controlled trial or cohort study.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 April 2023 and was last updated on 05 April 2023 (registration number INPLASY202340009).

### INTRODUCTION

**Review question / Objective:** At present, the aging of the global population is becoming more and more serious, so it is more important to improve the quality of life of the elderly. The elderly are prone to accidental injuries, such as falling out of

bed, falling, trauma and so on, due to the decline in the body's responsiveness. The elderly are prone to fracture due to osteoporosis. Orthopedic - related tumors are also common in the elderly. In recent years, the concept of accelerated rehabilitation surgery has been widely used in the field of orthopedics, especially hip

diseases and knee diseases. However, there is a lack of evidence-based evidence on the comprehensive effect of accelerated rehabilitation surgery concept on perioperative nursing of elderly orthopaedic patients. Participants: Orthopedic surgery patient. Intervention/ Comparison: To treat orthopedic disease patient with enhanced recovery after surgery / To treat orthopedic disease patient without enhanced recovery after surgery. Outcome: Perioperative correlation index, postoperative complication, quality of life index. Study design: Randomized controlled trial or cohort study.

**Condition being studied:** The elderly are susceptible to orthopedic related diseases, especially hip and knee diseases. In recent years, the concept of accelerated rehabilitation surgery has been widely used in the treatment of hip and knee diseases. Accelerated rehabilitation surgery can effectively shorten the operation time, hospital stay, hospital expenses, reduce patients' pain, quickly restore joint function, reduce postoperative complications, improve patients' self-care ability and quality of life, relieve anxiety and depression and other psychological problems. However, some current studies have the problems of small sample size and mixed statistical methods, so the real effect of intervention remains to be discussed. As for the comprehensive effect of accelerated rehabilitation surgery concept on perioperative nursing of elderly orthopaedic patients, there is a lack of evidence-based evidence.

## METHODS

**Search strategy:** The terms included ("anterior cruciate ligament reconstruction"[MeSH Terms] OR "arthroplasty, replacement"[MeSH Terms] OR "posterior cruciate ligament reconstruction"[MeSH Terms] OR ("anterior cruciate ligament reconstruction"[Title/Abstract] OR "arthroplasty replacement"[Title/Abstract] OR "posterior cruciate ligament reconstruction"[Title/Abstract] OR "ACL"[Title/Abstract] OR

"PCL"[Title/Abstract])) AND (("randomized controlled trial"[Publication Type] OR "controlled clinical trial"[Publication Type] OR ("randomised"[Title/Abstract] OR "placebo"[Title/Abstract] OR "randomly"[Title/Abstract] OR "Trial"[Title/Abstract])) AND ("enhanced recovery after surgery"[MeSH Terms] OR (("fasting"[MeSH Terms] OR "fasting"[All Fields] OR "fast"[All Fields]) AND ("track and field"[MeSH Terms] OR ("track"[All Fields] AND "field"[All Fields]) OR "track and field"[All Fields] OR "track"[All Fields] OR "tracks"[All Fields] OR "tracked"[All Fields] OR "tracking"[All Fields] OR "trackings"[All Fields])) AND ("surgical procedures, operative"[MeSH Terms] OR "general surgery"[MeSH Terms])) OR ("enhanced recovery"[Title/Abstract] OR "ERAS"[Title/Abstract] OR "enhanced recovery after surgery"[Title/Abstract] OR "fast track surgery"[Title/Abstract] OR "fast track care"[Title/Abstract] OR "FTS"[Title/Abstract] OR "fast track rehabilitation"[Title/Abstract] OR "fast track recovery"[Title/Abstract] OR "fast track care"[Title/Abstract] OR "rapid rehabilitation"[Title/Abstract] OR "accelerated rehabilitation"[Title/Abstract] OR "acceleratedcare"[Title/Abstract]))).

**Participant or population:** Orthopedic surgery patient.

**Intervention:** To treat orthopedic disease patient with enhanced recovery after surgery.

**Comparator:** To treat orthopedic disease patient without enhanced recovery after surgery.

**Study designs to be included:** Randomized controlled trial or cohort study.

**Eligibility criteria:** Eligible studies have the following criteria: ① Orthopedic surgery patient; ② Randomized controlled trials or cohort studies; ③ With/without enhanced recovery after surgery by grouping; ④ include information on perioperative correlation index, postoperative complication, quality of life index If the

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following studies were excluded: ① Patients without orthopaedic surgery; ② Animal and cell experiments; ③ Repeat the experiment; ④ Reviews, case reports, evaluations, editorials and letters; ⑤ The reported data are not available or insufficient.

**Information sources:** Electronic databases such as Cochrane, Embase, Ovid Medline, Proquest, PubMed, Scopus, and Web of Science, in addition to Chinese databases such as China National Knowledge Internet (CNKI) and SinoMed.

**Main outcome(s):** Postoperative complication.

**Additional outcome(s):** Perioperative correlation index, quality of life index.

**Data management:** The EndNote software was used to manage records and the Stata software was used to manage data.

**Quality assessment / Risk of bias analysis:** Two different reviewers independently assessed the methodological quality of the original articles using the Newcastle–Ottawa Scale, which is a tool for evaluating the quality of cohort studies and case–control studies. Studies that received a score of six or above were regarded as being of a high quality. Discussion was used to address any differences that were discovered between the investigators.

**Strategy of data synthesis:** Throughout the process of the metaanalysis, the statistical program Stata was used. Statistical significance was shown by an effect of the quantity that was less than 1.00 and a P value that was less than 0.05. The Q test was used in order to conduct an analysis on the heterogeneity of the main studies. If there was found to be considerable heterogeneity, the random effect model, which is widely acknowledged to be the more conservative option, was selected. If nothing else, a model with a fixed impact was used.

**Subgroup analysis:** Subgroup studies were conducted according to different types of surgery or different follow-up time.

**Sensitivity analysis:** The fact that the aggregate findings of the remaining articles are not different from those obtained without removing any of the papers demonstrates that the sensitivity analysis has been successfully completed.

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

**Keywords:** "arthroplasty, replacement", "enhanced recovery after surgery", "surgical procedures, operative".

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