

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## Effectiveness of Machine Perfusion Used in Liver Transplantation: A Meta-analysis of Randomized Controlled Trials (RCTs)

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**Review question / Objective:** The objective of this study was to assess the clinical outcomes of machine perfusion for liver transplantation, using the selected study method RCTs

**Condition being studied:** The prognosis of different perfusion methods on patients was analyzed.

**Eligibility criteria:** low-quality and non-randomised controlled trials; The participants were not patients who had received liver transplantation; No studies of these outcomes were studied. Conference report literature, animal experiment research, case review research, review articles, etc.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 November 2022 and was last updated on 04 November 2022 (registration number INPLASY2022110018).

### INTRODUCTION

**Review question / Objective:** The objective of this study was to assess the clinical outcomes of machine perfusion for liver transplantation, using the selected study method RCTs

**Condition being studied:** The prognosis of different perfusion methods on patients was analyzed.

### METHODS

**Participant or population:** 737 patients.

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**Intervention:** Clinical outcomes of different mechanical perfusion methods.

**Comparator:** Different perfusion methods.

**Study designs to be included:** Meta Analysis.

**Eligibility criteria:** low-quality and non-randomised controlled trials; The participants were not patients who had received liver transplantation; No studies of these outcomes were studied. Conference report literature, animal experiment research, case review research, review articles, etc.

**Information sources:** PubMed, Web of Science, EMBASE and ect.

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

**Quality assessment / Risk of bias analysis:** The Cochrane Handbook assesses the risk of bias of included articlesCochrane.

**Strategy of data synthesis:** eterogeneity between studies was assessed using the I2 and X2 tests. If  $P > 0.1$  or  $I^2 \leq 50\%$ , we did not consider the results of the included studies to show significant heterogeneity; Data were pooled using a fixed-effect model.  $P > 50\%$  may be considered substantially heterogeneous; Sources of heterogeneity were analysed and data were combed using a random-effects model.

**Subgroup analysis:** They are grouped according to different perfusion methods.

**Sensitivity analysis:** The stata software performs sensitivity analysis to reflect the sensitivity of an article by removing the change in the effect size of that article.

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

**Keywords:** Machine perfusion; Liver transplantation; Cold storage; Postoperative complications; Meta-analysis; Randomized controlled trials.

**Contributions of each author:**

Author 1 - Xiangfeng Yang.

Author 2 - Yunlong Li.

Author 3 - Yuanzhe Li.

Author 4 - Qing Guo.

Author 5 - Xiangyu zhong.