

# INPLASY

## Clips Closure versus Endo-loop Ligation in Laparoscopic Appendectomy – A Systematic Review and Meta-analysis of Comparative Studies

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### ADMINISTRATIVE INFORMATION

**Support** - Department of Surgery, Pamela Youde Nethersole Eastern Hospital, Hospital Authority, Hong Kong.

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2023600061

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 June 2023 and was last updated on 19 June 2023.

### INTRODUCTION

**Review question / Objective** Currently, there is no gold-standard method to achieve appendiceal stump closure(ASC) during laparoscopic appendectomy . The ideal method should be safe, easily available, and have a short learning curve. Out of all those ASC methods, the use of hem-o-Lok demonstrates its feasibility in replacing the traditionally used endoloop. This review aims to investigate the latest evidence in answering this question.

**Condition being studied** The topic of interest is of significance on the ground that acute appendicitis remains one of the most encountered surgical emergencies, while there is yet a consensus achieved on the best way to obliterate the appendiceal stump. This study proposed that the application of Hem-o-lok could shorten the operative time and reduce

the operative cost while providing a comparable length of postoperative hospital stay and complication profile. This review included all the available articles on the topic of interest, which would facilitate the formulation of a surgical approach in appendiceal stump closure via laparoscopy.

### METHODS

**Participant or population** All patients aged above 18 who were recruited in previously study published in english language.

**Intervention** Hem-o-lok for appendiceal stump closure.

**Comparator** Endo-loop ligation for appendiceal stump closure.

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**Study designs to be included** Systematic review and meta-analysis of comparative studies.

**Eligibility criteria** Inclusion: Studies that met the following criteria were included: 1) uncomplicated acute appendicitis(excluding perforation and intra-abdominal abscess); 2) full article published in English; and 3)randomized controlled trials (RCTs) and observational comparative studies. Exclusion: Exclusion CriteriaStudies were excluded if they had the following: 1) studies that focused solely on the pediatricpopulation (subjects' age < 18); 2) noncomparative studies; 3) open converted cases involved;4) single port laparoscopic appendicectomy involved; and 5) interval appendicectomy cases.Exclusion CriteriaStudies were excluded if they had the following: 1) studies that focused solely on the pediatricpopulation (subjects' age < 18); 2) noncomparative studies; 3) open converted cases involved;4) single port laparoscopic appendicectomy involved; and 5) interval appendicectomy cases.Exclusion CriteriaStudies were excluded if they had the following: 1) studies that focused solely on the pediatricpopulation (subjects' age < 18); 2) noncomparative studies; 3) open converted cases involved;4) single port laparoscopic appendicectomy involved; and 5) interval appendicectomy cases.

**Information sources** Electronic databases.

**Main outcome(s)** 1) The operative time between the two approaches and; 2) The safety profile of operation.

**Quality assessment / Risk of bias analysis** Cochrane risk of bias tool and Newcastle-Ottawa scale.

**Strategy of data synthesis** Data were assessed by Review Manager (RevMan) [Computer program]. Version 5.4. The Cochrane Collaboration, 2020., was used to evaluate the study results and construct forest plots and funnel plots. The random effect model of the Mantel-Haenzel method was adopted.

**Subgroup analysis** Safety profile and postoperative hospital stay.

**Sensitivity analysis** Result between RCTs and observations studies.

**Country(ies) involved** Hong Kong, China.

**Keywords** Appendicitis, Clip, and Endoloop.

### Contributions of each author

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