

# INPLASY

## Efficacy and safety of thoraco-laparoscopy combined with Ivor Lewis procedure versus McKeown procedure in the treatment of esophageal carcinoma: An updated systematic review and meta-analysis

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### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - The review has not yet started.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202470057

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 July 2024 and was last updated on 13 July 2024.

### INTRODUCTION

**Review question / Objective** Due to the improvement of the quality of life, acceleration of life rhythm and the increase of irregular diets, from 1990 to 2019, the number of patients with esophageal cancer in our country increased by 96%, the number of death increased by 45%,so it's necessary to systematically evaluate the efficacy and safety of thoraco-laparoscopy combined with Ivor Lewis surgery versus thoraco-laparoscopy combined with McKeown surgery in the treatment of esophageal carcinoma.

**P:**Patients with a diagnosis of esophageal cancer (meeting the diagnostic criteria for esophageal cancer and having gastroscopy and histopathological examination) concurrently undergoing Ivor Lewis procedure or McKeown's procedure

**I:**Thoracic laparoscopy combined with Ivor Lewis procedure

**C:**Thoraco-laparoscopy combined with McKeown surgery

**O:**Operative time, intraoperative blood loss, number of lymph node dissections, postoperative extubation time, postoperative hospital stay, in-hospital or 30-day postoperative mortality, 6-month recurrence rate, 1-, 3-, and 5-year overall survival (OS), and postoperative complications.  
**S:**Cohort studies or randomized controlled trials.

**Condition being studied** Due to the improvement of the quality of life, acceleration of life rhythm and the increase of irregular diets, from 1990 to 2019, the number of patients with esophageal cancer in our country increased by 96%, the number of death increased by 45%,so it's necessary to systematically evaluate the efficacy and safety of thoraco-laparoscopy combined with Ivor Lewis surgery versus thoraco-laparoscopy combined with McKeown surgery in the treatment of esophageal carcinoma.

### METHODS

**Search strategy** PubMed, EMBase, The Cochrane Library, Web of Science, Wanfang database, VIP

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database and CNKI were searched by computer for the relevant literature comparing the efficacy and safety of Ivor Lewis surgery and McKeown surgery in the treatment of esophageal carcinoma from inception to June 2024.

**Participant or population** Diagnosed with esophageal cancer (in line with esophage Diagnostic criteria for tube cancer and gastroscopy and histopathological examination). Patients with Ivor Lewis' procedure or McKeown's procedure.

**Intervention** Transthoracic laparoscopy combined with McKeown surgery.

**Comparator** Thoraco-laparoscopy combined with McKeown surgery.

**Study designs to be included** Cohort studies or randomized controlled trials.

#### Eligibility criteria

Inclusion criteria:

1. The type of study must be a cohort study or a randomized controlled trial;
2. The study subjects must be patients diagnosed with esophageal cancer (meeting the diagnostic criteria for esophageal cancer and examined by gastroscopy and pathologic histology) and undergoing Ivor Lewis or McKeown surgery;

Exclusion Criteria:

1. other surgical modalities for esophageal cancer, such as Sweet procedure, were studied;
2. Systematic evaluation or Meta-analysis;
- 3, Non-Chinese and English literature;
- 4, Inability to extract useful data or access to full text.

**Information sources** PubMed, EMBase, The Cochrane Library, Web of Science, Wanfang database, VIP database and CNKI were searched by computer for the relevant literature comparing the efficacy and safety of Ivor Lewis surgery and McKeown surgery in the treatment of esophageal carcinoma from inception to June 2024.

**Main outcome(s)** Operative time, intraoperative blood loss, number of lymph node dissections, postoperative extubation time, postoperative hospital stay, in-hospital or 30-day postoperative mortality, 6-month recurrence rate, 1-, 3-, and 5-year overall survival (OS), and postoperative complications.

**Data management** EndNote.

**Quality assessment / Risk of bias analysis** The Newcastle-Ottawa Scale(NOS) was used to evaluate the quality of cohort studies, and the Cochrane risk of bias tool was used to evaluate the methodological quality of randomized controlled studies.

**Strategy of data synthesis** Heterogeneity was present and random effects were chosen to merge the data; no heterogeneity was present and fixed effects were chosen to merge.

**Subgroup analysis** Subgroups of patients were studied according to their age, marital status, and economic circumstances.

**Sensitivity analysis** After deleting any of them, the combined results of the rest of the literature were not significantly different from what they would have been without deletion, which means that the sensitivity analysis was passed.

**Country(ies) involved** China.

**Keywords** Esophageal carcinoma; minimally invasive esophagectomy; Ivor Lewis surgery; McKeown surgery; systematic review/meta-analysis.

#### Contributions of each author

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