

# INPLASY

## The Effect of Sevoflurane on Postoperative Sleep Quality: a Systematic Review

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### ADMINISTRATIVE INFORMATION

**Support** - No funding.

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202370019

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 July 2023 and was last updated on 06 July 2023.

### INTRODUCTION

**Review question / Objective** The objective of the study was to evaluate the effect of sevoflurane on postoperative sleep quality in patients receiving general anesthesia. The control intervention can be other intravenous anesthetics. The types of studies can be RCT, case-control studies, or cohort studies.

**Condition being studied** Postoperative sleep quality may impact postoperative recovery, which should not be ignored in the perioperative period. Previous studies showed that dexmedetomidine and esketamine can improve postoperative sleep quality. Sevoflurane was widely used in the maintenance of general anesthesia. However, the influence of sevoflurane on postoperative sleep quality was not clear. Therefore, we plan to conduct a systematic review on the effect of sevoflurane on postoperative sleep quality.

### METHODS

**Participant or population** Patients receiving general anesthesia.

**Intervention** The use of sevoflurane during general anesthesia.

**Comparator** Comparator was other anesthetic in the control group (eg. propofol).

**Study designs to be included** RCTs, case-control studies, and cohort studies.

**Eligibility criteria** The inclusion criteria were: (1) sevoflurane was used during anesthesia. (2) Postoperative sleep quality was assessed in the follow-up period. The exclusion criteria were: (1) case report. (2) Review. (3) basic research.

**Information sources** Pubmed, Embase, Web of Science, and ClinicalTrial.gov.

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**Main outcome(s)** The main outcomes were postoperative sleep quality of patients.

**Quality assessment / Risk of bias analysis** In RCTs, the risk of bias was assessed using Cochrane Bias Assessment Tool. In cohort studies, the risk of bias was assessed using Newcastle-Ottawa Scale (NOS).

**Strategy of data synthesis** Meta-analyses were not applicable because the heterogeneity of patients and measurements.

**Subgroup analysis** Studies were assumed to be grouped by ages of patients (such as children and adults).

**Sensitivity analysis** Not applicable, because the heterogeneity of patients and measurements.

**Language restriction** Only English language references were included.

**Country(ies) involved** China (Fudan University Shanghai Cancer Center).

**Keywords** Sevoflurane; postoperative; sleep quality.

**Contributions of each author**

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Author 3 - Jun Zhang.