

# Effect of dexmedetomidine on circulation and prognosis in patients with septic shock: a systematic review and meta-analysis

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**ADMINISTRATIVE INFORMATION****Support** - Self-funded project of Baoding City 2141ZF310.**Review Stage at time of this submission** - Preliminary searches.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202380010**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 August 2023 and was last updated on 06 August 2023.**INTRODUCTION**

**Review question / Objective** Patients with septic shock have a high mortality rate and often need sedation and analgesia. Dexmedetomidine is a commonly used sedative drug, which can affect cardiac function and peripheral vascular resistance, and may affect circulation and prognosis in patients with septic shock. The purpose of this systematic review is to evaluate the related effects of dexmedetomidine.

**Condition being studied** Patients with septic shock often need vasoactive drugs to maintain blood pressure, and sedative and analgesic drugs to relieve pain, which can affect the cardiac function and peripheral vascular resistance of patients. In general, sedative and analgesic drugs in patients with septic shock may lead to circulation deterioration, which may affect the prognosis of patients. Dexmedetomidine is a commonly used sedative drug. We need to pay attention to its effects on circulation and prognosis.

**METHODS**

**Participant or population** Patients with Septic shock.

**Intervention** Dexmedetomidine.

**Comparator** Treated with other sedative agents.

**Study designs to be included** Randomized controlled trial.

**Eligibility criteria** 1、Randomized Controlled Trial  
2、age > 18 years old.

**Information sources** The search will be performed in Pubmed、Embase、The Cochrane library、Ovid MEDLINE、Scopus、ProQuest、CBM、VIP、CNKI、WanFang、DuXiu.

**Main outcome(s)** Duration of mechanical ventilation,length of ICU stay,28-mortality,Hospital length of stay, Hospital mortality

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**Additional outcome(s)** Lactate clearance, blood pressure, Heart rate, Central venous pressure, Cardiac output, Stroke volume, Cardiac index.

**Quality assessment / Risk of bias analysis** Risk of bias for each included study will be evaluated by three independent authors using the Cochrane risk of bias tool Cochrane Tool.

**Strategy of data synthesis** Statistical analysis was performed using Review Manager software version 5.3. Before meta-analysis, it is necessary to conduct a heterogeneity test on the data included in the study, and select an appropriate effect model according to the results of the heterogeneity test and determine whether meta-analysis can be performed. In the presence of heterogeneity, random effects are selected to combine data; in the absence of heterogeneity, fixed effects are selected to combine data.

**Subgroup analysis** If necessary we will undertake a subgroup analysis on the results.

**Sensitivity analysis** After excluding any of the articles, the combined results of the remaining articles are not different from those without deletion, which means that the sensitivity analysis has been passed.

**Country(ies) involved** China.

**Keywords** Shock, Septic; Dexmedetomidine; Prognosis; Meta-analysis.

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