

# INPLASY PROTOCOL

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**Support:** 20377725D.

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

**Conflicts of interest:**  
None declared.

## INTRODUCTION

**Review question / Objective:** The aim of this study was to evaluate the effect of driving pressure (DP)guided ventilation strategy on the patients with mechanical ventilation in the hospital. RCTs were included to study.

## The effect of driving pressure-guided ventilation strategy on the patients with mechanical ventilation: A Meta-Analysis of Randomized Controlled Trial

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**Review question / Objective:** The aim of this study was to evaluate the effect of driving pressure (DP)guided ventilation strategy on the patients with mechanical ventilation in the hospital. RCTs were included to study.

**Eligibility criteria:** Studies were included based on the following criteria: 1. Study type: Randomized controlled trials (RCTs); 2. Patient population: Patients with MV aged  $\geq 18$  years; 3. Intervention group: driving pressure guided ventilation strategy; 4. Control group: lung protective ventilation (LPV) strategy.

**Information sources:** The articles published in PubMed, the Cochrane Library, the China National Knowledge Information (CNKI), Wei Pu, Wan fang database and Web of science from inception to September 2021 were retrieved.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 April 2022 and was last updated on 19 April 2022 (registration number INPLASY202240113).

**Condition being studied:** The researchers are experienced.

## METHODS

**Search strategy:** A basic search was performed using the following Subject terms and Synonyms: (“driving pressure”) AND (“Respiration, Artificial” [with related

synonyms: Respirations, Artificial; Artificial Respiration; Artificial Respirations; Mechanical Ventilations; Ventilations, Mechanical; Ventilation, Mechanical; Mechanical Ventilation]).

**Participant or population:** Patients with mechanical ventilation - Seven studies (n=1405 patients) were included.

**Intervention:** Intervention group: driving pressure guided ventilation strategy.

**Comparator:** Control group: lung protective ventilation (LPV) strategy.

**Study designs to be included:** RCTs.

**Eligibility criteria:** Studies were included based on the following criteria: 1. Study type: Randomized controlled trials (RCTs); 2. Patient population: Patients with MV aged  $\geq 18$  years; 3. Intervention group: driving pressure guided ventilation strategy; 4. Control group: lung protective ventilation (LPV) strategy.

**Information sources:** The articles published in PubMed, the Cochrane Library, the China National Knowledge Information (CNKI), Wei Pu, Wan fang database and Web of science from inception to September 2021 were retrieved.

**Main outcome(s):** The primary outcome was mortality.

**Additional outcome(s):** Secondary outcomes included OI, driving pressure, respiratory compliance, complications, platform pressure, duration of MV and the length of hospital stay.

**Quality assessment / Risk of bias analysis:** For the assessment of methodologic quality and risk of bias, we evaluated each included study according to the Cochrane risk-of-bias instrument.

**Strategy of data synthesis:** RevMan5. 4 software was used for all statistical analyses. We used the Q test and the  $I^2$  statistic to assess statistical heterogeneity<sup>13</sup>. If the outcome of

heterogeneity was low, as defined by an  $I^2 < 50\%$  or/and  $P > 0.1$ , we used the fixed-effects models to synthesize results. If heterogeneity was high, as indicated by an  $I^2$  statistic greater than 50% and  $P \leq 0.1$ , we used the random-effects models to synthesize results. We performed the analyses using the fixed-effects models and random-effects for dichotomous and continuous data, respectively.

**Subgroup analysis:** No subgroup analysis.

**Sensitivity analysis:** No sensitivity analysis.

**Language:** No language restriction was applied for article selection.

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

**Keywords:** driving pressure; mechanical ventilation; ventilator-induced lung injury (VILI); meta-analysis.

**Contributions of each author:**

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Author 3 - Qi Zhang.

Author 4 - Na Llu.

Author 5 - Xiaoyan Tan.

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