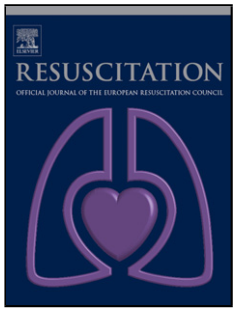

Title: The Association between Tidal Volume and Neurological Outcome following In-Hospital Cardiac Arrest

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Abstract:

Aims: Prior investigation has found that mechanical ventilation with lower tidal volumes (Vt) following out-of-hospital cardiac arrest is associated with better neurologic outcomes. The relationship between Vt and neurologic outcome following in-hospital cardiac arrest (IHCA) has not previously been explored. In the present study, we investigate the association between Vt and neurologic outcome following IHCA. *Methods:* This was an observational study using a prospectively collected database of IHCA patients at a tertiary care hospital in the United States. The relationship between time-weighted average Vt per predicted body weight (PBW) over the first 6- and 48-hours after cardiac arrest and neurologic outcome were assessed using propensity-score adjusted logistic regression. *Measurements and Main Results:* Of 185 IHCA patients who received invasive mechanical ventilation within 6-hours of return of spontaneous circulation (ROSC), the average Vt over the first 6-hours was 7.7±2.0ml/kg and 68 (36.8%) patients received an average Vt >8.0ml/kg. Of 121 patients who received mechanical ventilation for at least 48-hours post-ROSC, the average Vt was 7.6±1.5ml/kg and 46 (38.0%) patients received an average Vt >8.0ml/kg. There was no relationship between Vt/PBW over the first 6- or 48-hours