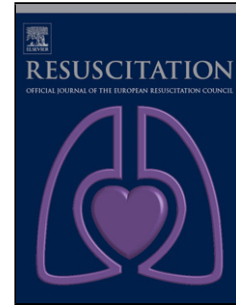


Accepted Manuscript

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PII: S0300-9572(18)30828-1
DOI: <https://doi.org/10.1016/j.resuscitation.2018.08.031>
Reference: RESUS 7738

To appear in: *Resuscitation*

Received date: 10-6-2018
Revised date: 5-8-2018
Accepted date: 28-8-2018

Please cite this article as: Ruemmler R, Ziebart A, Moellmann C, Garcia-Bardon A, Kamuf J, Kuropka F, Duenges B, Hartmann EK, Ultra-Low Tidal Volume Ventilation – A Novel and Effective Ventilation Strategy During Experimental Cardiopulmonary Resuscitation, *Resuscitation* (2018), <https://doi.org/10.1016/j.resuscitation.2018.08.031>

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Ultra-Low Tidal Volume Ventilation – A Novel and Effective Ventilation Strategy During Experimental Cardiopulmonary Resuscitation

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Word count : 2.621 words

Abstract : 248 words

ABSTRACT

Background: The effects of different ventilation strategies during CPR on patient outcomes and lung physiology are still poorly understood. This study compares positive pressure ventilation (IPPV) to passive oxygenation (CPAP) and a novel ultra-low tidal volume ventilation (ULTVV) regimen in an experimental ventricular fibrillation animal model.

Study design: Prospective randomized controlled trial

Animals: 30 male German landrace pigs (16-20 weeks)

Methods: Ventricular fibrillation was induced in anesthetized and instrumented pigs and the animals were randomized into three groups. Mechanical CPR was initiated and ventilation was either provided by means of standard IPPV (RR:10/min, V_t : 8-9ml/kg, F_iO_2 : 1,0, PEEP: 5mbar), CPAP (O_2 -Flow: 10l/min, PEEP: 5mbar) or ULTVV (RR:50/min, V_t : 2-3ml/kg, F_iO_2 :

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