

POSTER PRESENTATION

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# 0391. Comparison of the histopathologic effects on the lungs of two external chest compression devices (lucas versus autopulse) in a swine model of ventricular fibrillation

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## Introduction

Given the difficulty of performing efficient CPR compressions, technology has turned to automaticity. LUCAS device has a pneumatically driven piston to compress the heart and uses active decompression suction on the upstroke. AUTOPULSE is a load distributing band compressor, that is mechanically actuated and battery driven. It provides both direct compression and semi-circumferential thoracic compression.

## Objectives

Lung injury may occur during cardiorespiratory resuscitation with external chest compression devices. Aim of this study is to compare 2 different external chest compression devices (LUCAS and AUTOPULSE) regarding differences in lung injury that they may cause.

## Methods

Forty (40) pigs were randomly allocated into 2 groups. Group L (LUCAS), n=20 and Group A (AUTOPULSE), n=20. After anesthesia, ventricular fibrillation was induced. Five minutes post-cardiac arrest without treatment, resuscitation was initiated. After resuscitation, lung biopsy via a mini-thoracotomy was obtained (right lung lower lobe).

## Results

Histopathology findings revealed a heterogeneous interstitial infiltrate and vascular congestion in all samples

studied. There was no statistically significant difference between the two groups. (P>0.05)

## Conclusions

LUCAS and AUTOPULSE devices present no histopathological differences concerning lung injury after cardiorespiratory resuscitation.

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