

## APPLICATION OF MECHANICAL CHEST COMPRESSIONS IN THE PREHOSPITAL: FAVORABLE NEUROLOGICAL OUTCOME AT HOSPITAL DISCHARGE

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**Introduction:** The quality of Cardiopulmonary Resuscitation (CPR), especially the chest compression, is vital to the success of the Return of Spontaneous Circulation (ROSC) and for good neurological outcomes at hospital discharge, in victims who have suffered Out-Of-Hospital Cardiac Arrest (OHCA). **Objectives:** The aim of this study is to determine the effectiveness of mechanical chest compressions on the neurological outcomes of victims with OHCA. **Methods:** A Systematic Review of Literature (SRL) on studies evaluated the assessing of effectiveness in the using of mechanical devices on chest compressions on cardiac arrest patients with OHCA. After a research (in PUBMED, EBSCO and Google Scholar) in studies published between January 2009 and 31 October 2014, were found studies and subjected to analysis, taking into account the previously established inclusion criteria. The quality of the studies included was assessed by two reviewers using the critical evaluation scale of a study describing a prospective, Randomized Controlled Clinical Trial (RCT) by Carneiro (2008). The meta-analysis was performed by using the Mantel-Haenszel method, using the effect of random models. **Results:** From three RCTs that involving 7208 participants, were selected 3027 of the group of the mechanical devices and 4181 of the control group. The analysis of the combined trials, shows no significant differences on the good neurological outcome at hospital discharged. The mechanical compressions in PH provide advantage with clinical relevance in comparison to manual compressions (RR=0.90; CI 95%=0.68-1.19; p=0.47). **Conclusions:** The mechanical CPR in Prehospital shows benefit, with clinical relevance, in a favorable way the neurological outcome at hospital discharge. **Keywords:** Cardiac arrest. Prehospital. Resuscitation.