

Cardiac arrest

338 **CARDIO-PULMONARY-RESUSCITATION QUALITY IN OUT-OF-HOSPITAL CARDIAC ARREST – EFFECT OF REAL-TIME FEEDBACK**

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Background Out-of-Hospital Cardiac Arrest (OHCA) is a major health problem with low survival. Cardio-Pulmonary-Resuscitation (CPR) quality is associated with survival, and includes chest compression depth (CCD), rate (CCR), and fraction (CCF) within international guideline recommendations¹. In 2020 overall survival in Denmark reached 16% placing Denmark as one of the leading countries for OHCA survival. The aim of this study was to examine the effect on CPR quality with the introduction of real-time CPR feedback in a high OHCA survival area, as well as the effect of adding post-event clinical debriefings.

Method This cohort study collected non-traumatic OHCA data from ambulances within the Capital Region of Denmark using ZOLL X-series defibrillator. Three variables; CCD, CCR and CCF were collected on three consecutive phases: Phase one (no feedback) from October 2018 to May 2019; Phase two (real-time feedback) from May 2019 to February 2020 and phase three (real-time + post-event debriefings) from February 2020 to December 2020. Data were compared against guidelines at each phase.

Results We included 1545 patients. Preliminary results revealed guideline compliant CCD in 21.8% of the compressions (no feedback) compared to 30.9% (real-time feedback) and 33.0% (real-time + post-event feedback). For CCR the results were 60.2%/ 74.6%/ 75.1% respectively. Combination of guideline compliant CCD and CCR simultaneously was 13.6%/ 23.3%/ 25.8% respectively. CCF was 76.8%/ 80.9%/ 81.3% respectively.

Conclusion Real-time feedback and post-event clinical debriefings have the potential to improve EMS CPR quality in a high survival OHCA area.

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Pain and trauma

340 **PREHOSPITAL ADMINISTRATION OF WHOLE BLOOD FOR CIVILIAN TRAUMATIC RESUSCITATION**

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Background Hemorrhagic shock is the leading cause of survivable death in trauma patients. Recent guidelines recommend initiation of whole blood transfusion within 30 minutes of injury.¹ Little is known about this emerging practice in the civilian prehospital environment.

Aim To describe the process of care for patients who received prehospital low-titer O-positive whole blood (LTOWB).

Method This cohort study evaluated injured patients who received prehospital LTOWB in a US city of over 750,000 persons. Criteria for transfusion were systolic blood pressure (SBP)≤70, SBP<90 and heart rate >110, or witnessed traumatic arrest.²

Results Over 22-months, 57 patients received 74 units of LTOWB. 83% were male, and median age was 34 [IQR 26–46]. The mechanism of injury was 42% from guns, 23% from stabbings, and 35% blunt trauma. Median injury severity score was 26 [IQR 17–41]. Transfusion criteria were SBP≤70 in 35%, SBP<90 and heart rate>110 in 37%, witnessed traumatic arrest in 9%, and none in 19%. Time to blood initiation from the 911 call was 24 minutes [IQR 21–31]. 42% received at least 6 units of additional blood products in the first 4 hours after hospital arrival. Of those not meeting criteria, 73% received additional blood products in the first 4 hours. 98% received surgical intervention in the first 24 hours. Survival to discharge was 65%. Limitations include lack of a comparison group.

Conclusion Patients receiving LTOWB were severely injured. The prehospital system succeeded in starting LTOWB within 30 minutes.

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343 **SENDING CITIZEN RESPONDERS TO PRIVATE APARTMENTS IS SAFE AND NECESSARY**

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Background Alerting citizen responders to Out-of-Hospital-Cardiac Arrest (OHCA) increases the rate of bystander-CPR and improves neurological outcome. There is an ongoing discussion, whether to send lay responders to cardiac arrest calls in patients' residences. The smartphone-based dispatch systems for citizen responders in Berlin (KATRETTTER) includes activation of citizen responders to all OHCA with only a few exceptions. This study aims to analyze demographics and