

POSTER 225

Can Correct Closed-, Chest Compressions Be Performed During Prehospital Transport?*Stone CK, Thomas S*

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Purpose: The purpose of this study was to determine if proper closed-chest compressions could be performed in a moving ambulance.

Methods: A Laerdal CPR training manikin with an attached skill meter that evaluates each chest compression for the proper depth and hand placement was used. Ten EMT-Basic certified prehospital providers were placed into five teams. Each team performed a total of four sessions of five minutes of continuous closed-chest compressions on the manikin with switching done if needed. Two sessions were done with each team both in the control environment with the manikin placed on the ground, and in the experimental environment with the manikin placed on a stretcher in the patient position in the back of a moving ambulance. The ambulance was run without lights and siren and all traffic rules were obeyed. The percentage of correct closed-chest compressions was recorded for each session and the means values were compared using the student's *t*-test with an alpha set at 0.01 to determine statistical significance.

Results: Ten complete sessions of compressions were done in both environments. The mean percentage of correct compressions were:

	Control	Ambulance	<i>p</i> -value
% Correct	77.6±15.6	45.6±18.3	.0005

Conclusion: The environment of a moving ambulance appears to significantly alter the ability to perform correct closed-chest compressions.

POSTER 248

Single Versus Double Air Medical Scene Trauma Patient Transports: Double Trouble or Single Satisfaction*Tortella BJ, Lavery RF, Corriere C, Mann K*

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Objective: Many Helicopter Emergency Medical Services (HEMS) have the capability to transport either one (SINGLES) or two (DOUBLES) patients from the scene of injury. The purpose of this study was to investigate if the additional patient in the DOUBLES flight impacts adversely on patient care secondary to the decreased provider-to-patient ratio.

Design, Settings, Participants: A retrospective record and trauma registry review comparing 124 randomly selected scene trauma SINGLES frequency-matched to 100 DOUBLES (January 1989-June 1992). Patients were flown by a Level-1 Trauma Center-based HEMS, staffed by a nurse and paramedic. Data collected included injury severity score (ISS), Glasgow coma score (GCS), revised trauma score (RTS), mechanism of injury, scene time, and HEMS procedures performed.

Measurements and Main Results: DOUBLES accounted for 8.5% of on-scene trauma. There were no differences in GCS ($p = .270$), RTS ($p = .340$), and ISS ($p = .603$) when pooling DOUBLES vs SINGLES. However, when comparing each of the DOUBLES pair to the SINGLES, the least injured DOUBLES were significantly likely to have higher GCS (13.9, $p < .0001$) and lower ISS (12.2, $p = .021$). RTSs were equivalent ($p = .067$). While more procedures were performed during DOUBLES, no procedures were performed in the majority of SINGLES missions (58%) and a substantial minority of DOUBLES missions (41%). Scene time was significantly longer for DOUBLES than for SINGLES (20 vs 14 minutes, $p < .0001$).

Conclusions: DOUBLES missions are infrequent and only one of the DOUBLES patients is as severely injured as a SINGLES patient. Despite the decreased ratio of HEMS crew-to-patients in DOUBLES, patient care is not jeopardized as two-member teams can care adequately for DOUBLES patients.