

Oral Presentations

09.

The Impact of Paramedics on Prehospital Cardiac Arrests in a Rural CommunitySharon E. Mace, MD, FACEP, FAAR,^{1*} William Kriegsman, MphREMT²

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Hypothesis: Do paramedics influence the outcome of out of hospital cardiac arrests in a rural setting?

Methods: Retrospective analysis of cardio-respiratory arrests of ALS-EMS system in rural Southeastern Alaska for 9 years. There were two patient groups treated by EMT-III or paramedics. EMT-III vs. paramedics differ in training/experience but not technical skills. Statistical analyses were done by chi square.

Results: Thirty-seven patients (52%) were treated by paramedics, thirty-four (48%) by EMT-III. Demographics/CPR variables for the groups were not significantly different. Comparing paramedics vs. EMT-III: successful ET placement (87% vs. 62%, $p < 0.02$), successful IV placement (87% vs. 62%, $p < 0.02$), return of spontaneous circulation (ROSC) 46% (17/37 pts.) vs. 18% (6/34 pts.) ($p = 0.01$), ICU admission 38% (14/37) vs. 15% (5/34) ($p = 0.03$), hospital discharge 20% (7/35) vs. 9% (3/34) ($p = NS$). There was no correlation between successful ET placement or IV insertion and outcome.

Conclusions: In a rural setting, a paramedic on scene of a cardiac arrest significantly improved ROSC and ICU admission. This small sample did not show statistical significance, although the presence of a paramedic on scene of a cardiac arrest showed a trend toward survival to hospital discharge (20% vs. 9%). Further study is needed to confirm whether paramedics increase return of spontaneous circulation, ICU admission, and hospital discharge in cardiorespiratory arrest patients in a rural setting and whether this is due to technical skills vs. training/experience.

12.

The Potential Benefits of a Fire Safety Program Within Emergency Medical Services: A Point-of-Contact Intervention

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Purpose: To determine how often house fires occur at addresses visited previously for emergency medical services (EMS) and were these visits missed opportunities for a point-of-contact fire safety intervention.

Method: Retrospective analysis of all Fire Department (FD) responses during 1994. Data studied with descriptive statistics: reason for response, property type, dollar loss estimate, injuries, fatalities, fire cause, smoke detector operation.

Results: The FD responded to 94,378 requests for service at 43,556 addresses. 27,406 addresses generated one response. However, 16,150 addresses had multiple requests, receiving 66,972 responses. For the multiple requests, 1,162 addresses had a fire condition of which 728 addresses requested EMS prior to the fire condition. 215 were one/two-family dwelling addresses receiving 489 responses; mean 2.3 EMS responses prior to the fire condition. 182/215 (85%) of these addresses had complete data, incurring a dollar loss estimate of [US]\$2,017,470, 33 injuries and 0 fatalities. The top five causes for the fire condition were children playing with smoking materials, arson, suspicious, scorched food and undetermined. 87/182 (49%) of the one/two-family dwellings had a smoke detector present. However, only 31/182 (17%) of the dwellings had an operational smoke detector.

Conclusion: Thirty percent (215/728) of addresses that received emergency medical services prior to a fire condition were one/two-family dwellings. On average, these dwellings were visited by EMS personnel 2.3 times prior to the fire condition. An EMS point-of-contact fire safety intervention that included a smoke detector evaluation would apply to 83% of these one/two-family dwellings.