

POSTER 521

Prehospital Survivors of Falls: Height and Orthopedic Injuries Fail to Improve Triage or Predict Outcome

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Hypothesis: Injuries sustained from vertical trauma are predominantly orthopedic and have been associated directly with the height of the fall. For prehospital survivors of falls, their physiologic stability and non-orthopedic injuries may be independent of the actual vertical fall distance.

Methods: The records of 226 consecutive, adult trauma patients sustaining falls from a height >6 feet and admitted to a Level-1 Trauma Center during 1990 were reviewed. Pearson Correlation Coefficients (R) were used to determine if the height correlated with injury and outcome.

Results: 217 victims fell a mean 22.1±11.0 feet. Ninety-four percent of the patients were male, with a mean age of 36.1 years, mean Injury Severity Score (ISS) of 14, and a mean admission Glasgow Coma Score (GCS) of 14. Fracture distribution included 13% lower extremity (LEX), 22% upper extremity, and 25% spinal column with 7% associated cord injuries (CLCD). Mean values were: Systolic Blood Pressure (SBP) of 147±23 mmHg, Base Deficit (BD) of -2.4 mg/L, Length of Stay (LOS) 11.7 days, and a mortality rate (MORT) of 3.1%. No significant correlation between fall distance and SBP (R = -.120), BD (R = -.014), GCS (R = -.114), LOS (R = .088) and MORT (R = .017) was found. Only height and ISS (R = .275), LEX (R = .305) were significant ($p < .05$)

Conclusions: In survivors of falls, non-fracture injuries, physiologic presentation, and outcome (LOS, MORT) are not associated with the height of fall. In transport and resuscitation decisions, trauma triage for fall victims must account for other than height and obvious fracture injuries.

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Factors Influencing the Decision of Rural Ambulance Services to Advance to the EMT-D Level

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Purpose: The benefits of early defibrillation (ED) on survival from cardiac arrest and the efficacy of EMT-Defibrillation programs have been identified clearly in the medical literature for more than a decade. Nevertheless, early defibrillation remains unavailable for many patients who suffer cardiac arrest in the prehospital setting. The purpose of this study was to identify factors that influence the decision of rural ambulance services to advance to the EMT-Defibrillator (EMT-D) level by investigating attitudes toward early defibrillation among ambulance service administrators and providers in Iowa, a microcosm of rural EMS in the United States.

Methods: A 55-question telephone survey was designed, pre-tested, refined, and conducted among 650 randomly selected respondents from 19 April through 20 June 1988. Qualified respondents were categorized into four study cells: directors of basic (non-EMT-D) services, directors of advanced level (EMT-D) services, EMT-As, and EMT-Ds. Sample sizes in each category were sufficient to ensure at least a 90% confidence level.

Results: Awareness of the importance of early defibrillation within the Chain of Survival is high, and personal interest in advancing to the EMT-D level among both administrators and providers is strong. The three primary obstacles to early defibrillation program implementation are costs, insufficient funding, and perceptions about the time required for initial and refresher training. Other factors that had been hypothesized as potential deterrents to early defibrillation program implementation, such as concerns about personal liability, concerns about defibrillator safety, and the inability to identify a physician medical director, proved to be "non-factors."

Conclusion: While the availability of early defibrillation is likely to become increasingly widespread, the pace of progress has lagged due to limited financial resources, time, and human resources. Measures that reduce program costs, reduce training time, increase funding, and expand the personnel base capable of providing early defibrillation are likely to help improve survival from cardiac arrest in Iowa and perhaps other rural settings. Further study is recommended.