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Use of Safe Transport of Children in Emergency Ground Ambulances Principles among State EMS Agencies

Scope: (7500 character limit)

Although there are limited data sets regarding ambulance crashes involving children, estimates suggest that children are the patients in 620,000 ambulance transports a year, and of those transports, approximately 1,000 are involved in an ambulance crash. Ambulances have been designed to transport adult patients on a stretcher (cot) with adult-sized restraints and studies have shown that children are often transported on the lap of an adult or in another unsafe manner. Children riding in ambulances may be patients or passengers accompanying a parent or caregiver; they may be receiving transportation from the scene of a crash, a medical emergency, or involved in an interfacility transport (i.e., hospital to hospital). Safe ambulance transport of children presents unique challenges to emergency medical services (EMS) personnel, and until recently, no national consensus recommendations existed for use by 14,500 EMS transport agencies in the US.

A 1998 study outlined the variation of child transport guidelines among states, verifying that a lack of clear guidelines and consistent training results varied practices among EMS personnel. Additionally, findings from a study published in January 2014 supports education and training of EMS personnel to improve the safe ambulance transport of children.

In September 2012, the National Highway Traffic Safety Administration (NHTSA) released the “Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances” document. The third objective of this document was to “provide consistent national recommendations that will be embraced by local, State and national emergency medical services organizations, enabling them to reduce the frequency of emergency transport of ill, injured or uninjured children who may be transported in an unsafe or inappropriate manner”. A year and a half after its release, we do not know how, or if, EMS organizations have implemented the recommendations outlined in this document.

Practices recommended in the NHTSA document can significantly decrease the likelihood of injury to all occupants of the ground ambulance in the event of a crash.

Many factors may contribute to the lack of properly restrained children in ambulances, to include lack of mandates, exemptions in state law for emergency ambulance restraint use, and lack of education of EMS personnel. The outcome for this synthesis would present information on the status of state EMS Office mandates, or lack of mandates, and education of EMS personnel and would identify additional promising practices, which may help reduce the injury in the event of an ambulance crash.

As noted in the NHTSA document, safety for transporting a child in an ambulance starts with general operational policy and procedures that enhance ambulance safety for all occupants, regardless of age. However because the document did not specify how to implement the recommendations, it is unknown how (or if) EMS professionals and their organizations have implemented operational policies and procedures that address these factors. To continue efforts to effectively address safety of children being transported in ambulances, it is important to assess if the recommendations are being implemented in a consistent manner in states. It will also be beneficial to determine if any promising practices exist for the education and training of EMS personnel on this topic.

As safety of both EMS personnel and the patients they transport continues to remain on the forefront of the EMS culture, analyzing states' promising practices is both timely and necessary. This issue has become even more important with the recent release of the American College of Emergency Physicians (ACEP) *Strategy for a National EMS Culture of Safety* document. The ACEP document states that a "key goal of creating and implementing a culture of safety in EMS is to create improvements in patient safety.... Children are at increased risk of adverse events in the prehospital setting." Access to current and reliable information from state EMS offices will enhance the understanding and benefits of both NHTSA and ACEP recommendations.

Information for this synthesis will be sought through an extensive review of current state requirements relating to the safe transport of children in ambulances as published in *Summary of Vehicle Occupant Protection and Motorcycle Laws, Eleventh Edition* to determine which have exempted patient compartments of ambulances from all restraint requirements. State EMS office contacts will be determined through the National Association of State EMS Officials (NASEMSO). Additionally, HRSA's EMS for Children State Partnership Program in the US Department of Health & Human Services is a potential resource. State EMS Offices would be surveyed to determine which have:

- (1) implemented a mandate regarding safe transport of children, and
- (2) implemented policies, educational programs, or other interventions to improve conditions.

Based on survey results, additional interviews with state EMS office staff will provide detailed information about effective practices.

The public has grown to accept and uphold the need for children to be appropriately

restrained when traveling in passenger vehicles, they would expect no less in an ambulance. Since ambulances are crash prone, it is even more important that children be properly restrained. Ultimately, every child's life has value, they are vulnerable users, and results of this study will contribute to lowering the costs of death and disability to society by promoting promising practices in states in utilizing safe transport of children in emergency ground ambulances principles. As stated in the ACEP Culture of Safety document, "Although more study is needed to quantify the dollars involved, it follows that there are corresponding costs to patients, EMS and the healthcare system, and society as a whole—and considerable savings to be realized from improved patient safety in EMS."

Information Sources: (1500 character limit)

- DOT HS 811677. Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances. September 2012.
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- O'Neil J, Steele GK, Weinstein E, Collins R, Talty J, Bull MJ. (2014 Jan 9). Ambulance Transport of Noncritical Children: Emergency Medical Service Providers' Knowledge, Opinions, and Practice. *Clinical Pediatrics*; Epub ahead of print.

Notes: (1500 character limit)