



## Safe Transport of Children by EMS: Interim Guidance

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Establishing guidelines for safely transporting children in ambulances has been an endeavor undertaken by various individuals and organizations in recent years. Despite these efforts, this multi-faceted problem has not been easy to solve. While there have been resources developed, such as the *Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances* (NHTSA 2012), there remains unanswered questions, primarily due to the lack of ambulance crash testing research geared to children.

The National Association of EMS State Officials (NASEMSO) is committed to the goal of establishing evidence-based standards for safely transporting children by ambulance. Such standards would ensure a safer environment for the patients who rely on the EMS provider to act on their behalf. Developing standards will require large investments of both time and financial support. If research were started today, it would require at least three years and hundreds of thousands of dollars to complete.

While NASEMSO works to bring these standards into reality, it recognizes the gap between that goal and the reality of the decisions that EMS providers face today on this issue. The purpose of this document is to reduce that gap as much and as soon as possible, until evidence can be collected, analyzed, and used to develop standards specifically for children. Ultimately, pediatric restraint devices should be tested by the manufacturer to meet a new, yet-to-be published standard.

The new standard should include a pass/fail injury criteria comparable to that identified in FMVSS-213, which applies to child restraints in passenger vehicles. All testing should utilize the ambulance specific crash pulses described in SAE [J3044](#), SAE [J2956](#), and SAE [J2917](#) respectively. Litters used in testing should meet the SAE [J3027](#) Integrity, Retention and Patient Restraint Specifications. Manufacturers should indicate to prospective purchasers whether their device(s) have met these requirements for the weight range indicated for the device.

It is the position of NASEMSO that:

- 1) Evidence-based standards for safely transporting children in ambulances should continue to be developed by nationally recognized standards development organizations, such as the Society for Automotive Engineers (SAE);
- 2) Safe ambulance transport should be considered as a standard of care for the EMS industry equivalent to maintaining an open airway, adequate ventilation and the maintenance of cardiovascular circulation; and
- 3) There are immediate actions that can be taken to improve pediatric safety in ambulances including, but not limited to:
  - a. All EMS agencies that transport children should develop specific policies and procedures that address, at minimum the following elements:
    - i. Methods, training (initial and continual), and equipment to secure children during transport in a way that reduces forward motion and reduces possible ejection. Primary focus should be to secure the torso, and provide

- support for the head, neck, and spine of the child, if indicated by the patient's condition;<sup>1</sup>
  - ii. Considerations for the varied situations, which a child, that needs transport to a hospital or other point of care, may present to the EMS professional. These include, but may not be limited to, uninjured/not ill, ill/injured but no intensive interventions or monitoring required, requires intensive interventions or monitoring, requires spinal immobilization or supine transport, and multiple patients;<sup>2</sup>
  - iii. Prohibits children from being transported unrestrained, e.g. held in arms, in other seats or positions without size appropriate equipment;<sup>3</sup>
  - iv. Provision for the securement of all equipment during a transport where a child is an occupant of the vehicle, with mounting systems tested in accordance with the requirements of SAE J3043;
  - v. Only use child restraint devices in the position for which they are designed and tested; and
- b. EMS agencies should have appropriately sized child restraint system(s) immediately available on all ambulances that transport children. Additionally, personnel should be evaluated and trained on their correct use continually:
    - i. The device(s) should cover, at minimum, a weight range of between 5 and 99 pounds (2.3 - 45 kg), ideally supporting the safest transport possible for all persons of any age or size;
    - ii. Only the manufacturer's own recommendations for the weight/size of the patient should be considered when selecting the appropriate device for the specific child being transported; and
  - c. State EMS Officials should act to put interim steps in place while evidence based standards are developed and implemented; including, but not limited to:
    - i. Encourage and support EMS transport agencies to implement cost effective solutions to mitigate risk while transporting children in ambulances.
    - ii. Work with other State EMS officials to create uniform approaches and policy language, including, but not limited to a network of information relating to ambulance crash related injuries.
- 4) NASEMSO does not recommend or endorse any particular product on the market.

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<sup>1</sup>*Working Group Best-Practice Recommendations for the Safe Transport of Children in Emergency Ground Ambulances*, page 12.

<sup>2</sup> Ibid, pages 12-15.

<sup>3</sup> *The Do's and Don'ts of Transporting Children in an Ambulance* (December 1999).