



Stop Crossing Moms Arms

Safer Pediatric Transport

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Challenges



Guidance of Safe
Transport



Action Steps for
improving



Resources

Ambulance Crashes

4,500 crashes annually

2,633 injured persons/ fatalities

Occur on straight roads during good weather while in emergency use

Most serious / fatal injuries:

Rear compartment

Unrestrained or improperly restrained

At Intersections





Scenario: minor MVC

Respond to a MVC with a pediatric patient in a car seat.

Patients appears to be uninjured, but the caregiver and child are to be transported to be check out by an ED.

What are some factors you may want to consider when thinking about transporting your patients?

- Additional Resources
- Patient seating positions
- Patient Restraints
- Protocol and Policy
- Anxiety



Challenges with Transport

- Multiple patients/ family
- Patient size varies
- Anxiety
- Low Frequency
- Limited Research



SAE J3026
EMS worker
seating and
restraints



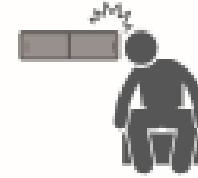
SAE J3027
Patient cot, floor
mount, and restraint
system integrity test



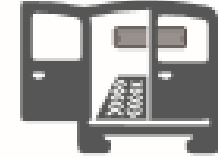
SAE J3043
Ambulance
equipment mount
devices and systems
integrity test



SAE J3058
Storage device
integrity test



SAE J3059
Measurement of
EMS worker head
movement during
a crash event



SAE J3102
Patient cot
subfloor
integrity test



FMVSS 213
Child
restraints in
passenger
vehicles

Existing Standards do not address transporting kids as patients in ambulances

- FMVSS-21 in child restraints in passenger vehicles
- 10 Society of Automotive Engineers (SAE) testing methods for ambulances



Safe Transport of Children by EMS: Interim Guidance

March 8, 2017

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 remain unanswered questions, primarily due to the lack of ambulance crash testing research specific to children.

The National Association of State EMS Officials (NAEMSO) is committed to advocating for the creation of 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 funding to conduct the required crash testing. If research were started today, it would require at least three years and hundreds of thousands of dollars to complete.

While NAEMSO collaborates with other organizations to bring these standards to reality, it recognizes the gap between that goal and the reality of the decisions that EMS providers face today will continue to be an issue of concern. The purpose of this interim guidance 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 developed standard.

NAEMSO recommends that this new standard include a pass/fail injury criteria comparable to that identified in FMVSS-213, which applies to child restraints in passenger vehicles. All testing should use 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 NAEMSO that:

- 1) Evidence-based standards for safely transporting children in ambulances should be developed and published 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 system 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 both forward motion and possible

NAEMSO Safe Transport Committee





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Key Components



Evidence-Based Research



Standards



Policies



Safety as a part of care

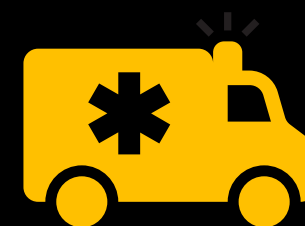
DISCLAIMER:

This document is a resource for EMS services for comparing devices used to secure children in ambulances. There are no criteria for products to be included in this list. A product's inclusion does not imply that it is deemed "safe" or that is recommended by NASEMSO or the Safe Transport of Children Committee.

Organized by *DEVICE NAME*

Manufacturer	Device Name	Product Weight	Child Weight	Immobilization Capable?	Installation Compatibility	Cleanability
Situation 4: Sick / Injured. Condition requires spinal immobilization and/or lying flat.						
First Line Technology	Baby Pod 20 [®] Infant Transport System	20 lb	2–20 lb (0.9–9.07 kg)	No	Cot	Wipe Clean
Quantum EMS	Pediatric Vacuum Mattress 3-Pack	6.5 lb	4–99 lb (1.81–44.90 kg)	Yes	Cot	Wipe Clean
Allied Healthcare	LSP Pediatric Immobilizer	6 lbs	20–75 lb (9.07–34 kg)	Yes	Cot	Wipe Clean
	Model 676 Medkids [®] Baby		2–15 lb			Wipe Clean/Hand Wash

Pediatric Transport Products for Ground Ambulances





Application of
protocols, **equipment**
and **knowledge** for
best possible
situation

What can improve?



State Level

Raise awareness of patient and provider safety

Implement safe transport guidelines

Improve & support driver training requirements

Look at the data!



Agency Level

- ✓ Look at your data!
- ✓ Supporting policies & guidelines



Policies & Guidelines

Training

Equipment Availability

Trained Safe Drivers

Prohibit Unrestrained Transport:
Equipment, Providers, Family and
Patients

Providers

- Have the knowledge and equipment
- Secure (everything)
- Match the transport with the interventions
- Learn from experience
- Be an advocate



**Do the best we can
with current resources
for our patients**





Success

Stress

Resources

NAEMSO Safe Transport Committee Page

<https://naseonso.org/committees/safe-transport-of-children/>

<https://naseonso.org/wp-content/uploads/Safe-Transport-of-Children-by-EMS-InterimGuidance-08Mar2017-FINAL.pdf>

EMS.gov

<https://www.ems.gov/projects/safe-transportation-of-children-in-ground-ambulances.html>

Ground Ambulance Standards and EMS Safety Resource

<https://www.safeambulances.org/>

Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances (NHTSA 2012)