

Safe Ambulance Transportation For Children Education Material



The Need for Pediatric Restraint

In a world without true uniform national standards, it seems hard to believe that in the 21st Century there are many countries that have no legislation regarding infant and child transportation while in an ambulance.

Research in America estimates that ground Emergency Services respond to approximately **30 million** emergency calls each year. Around **6.2 million** patient transport ambulance trips occur annually, of which nearly **800,000** of those patients are children. Insurance companies report that approximately **10,000** ambulance crashes result in injury or death each year. Researchers suggest that up to **1,000** ambulance crashes involve pediatric patients each year.



This is a problem as there are not any national standards for restraining children in the back of a moving ambulance, however we do have interim guidance.



Interim Guidance

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 EMS State Officials (NASEMSO) 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.

Therefore they have made the following interim guidance:



Interim Guidance

Evidence-based standards for safely transporting children in ambulances should be developed and published by nationally recognized standards development organizations, such as the Society of Automotive Engineers (SAE);

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

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:**

1. Methods, training (initial and continual), and **equipment to secure children during transport in a way that reduces both forward motion and possible ejection.** The primary focus should be to secure the torso, and provide support for the head, neck, and spine of the child, as indicated by the patient's condition;

Interim Guidance



2. Considerations for the **varied situations** that a child who needs transport to a hospital or other point of care may present to the EMS professional.

These include, but may not be limited to a child who is:

uninjured/not ill,

ill/injured, but requiring no intensive interventions or monitoring,

requiring intensive interventions or monitoring,

requiring spinal immobilization or supine transport, and

multiple patients;

3. **Prohibits children from being transported unrestrained**, e.g. held in arms or lap;

4. Provision for **securing 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;

5. **Only use child restraint devices in the position for which they are designed and tested;**
and

Interim Guidance



B) EMS agencies should have appropriately-sized child restraint system(s) readily available on all ambulances that may transport children. Additionally, personnel should be initially and recurrently evaluated and trained on the correct use of those restraint systems;

1. **The device(s) should cover, at minimum, a weight range of between five (5) and 99 pounds (2.3 - 45 kg), ideally supporting the safest transport possible for all persons of any age or size;**
2. Only the manufacturer's recommendations for the **weight/size of the patient should be considered when selecting the appropriate device** for the specific child being transported; and



Interim Guidance

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:

1. Encourage and support EMS transport agencies to implement cost effective solutions to mitigate risk while transporting children in ambulances; and
2. 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; and

NASEMSO does not recommend or endorse any particular product

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

The Solution



Universal Cot Restraint for Children with full clinical access during trauma



The Solution

Quantum EMS recognized that thousands of children per year were being transported in the the back of ambulances with inadequate restraining and saw the need for devices that combine the functionality of several restraint devices into one neat package.

The ACR offer the broadest weight range of any dedicated pediatric restraint in the world, from newborn's to 99lbs. The ACR 4 (4lbs-99lbs) have been fully crash tested under acceleration and deceleration and are universal devices capable of being fitted and secured to any brand of ambulance cot quickly, they can also be machine washed for effective infection control.





ACR

Ambulance Child Restraint



The ACR - Features and Benefits

- Allows for the safe, effective, restraint of all children from 4lbs to 99lbs.
- Open channel design allows complete patient access from the airway to the waist without un-restraining the child.
- The restraint tightens into the mattress of the stretcher not into the child preventing any additional injury to the patient.
- Compact packaging, the ACR fits into its own 10 x 10 custom bag taking up less room in the back of an ambulance.
- The ACR replaces the need to carry multiple devices to accomplish the task of restraining all size patients
- The ACR has been fully crash tested under the strictest of standards
- Color coded for easy size identification
- Machine washable
- Proven track record

How to use the ACR



Click image to play video

Supporting Child Immobilization Products



Immobilization products such as the Quantum EMS Vacuum Mattress and Combined Pediatric back board can be utilized on a cot for effective child restraint transport and immobilization, in conjunction with the ACR.

Key Considerations

- Easy to use and implement, to ensure that a device is not just a check in the box.
- Don't discriminate on size of child. Allow for the safe, effective, restraint of all children, as per suggested guidelines.
- Use a Child restraint with a Proven track record. Although there is no US standard at the moment, that does not mean that a restraint can not have some crash testing such as or BS CEN 1789.
- Utilize a device allowing for complete clinical access from the airway to the waist without un-restraining the child.
- Utilize a device that does not tighten into the child, but rather tighten into the cot mattress preventing any additional injury to the patient.

Key Considerations

- Can be easily be cleaned either by being machine washable or cleaned using a recognised practice.
- Use one device for all applications, to accomplish the task of restraining all size patients, as opposed to multiple devices.
- Color-coded for easy size identification and implementation. Speed of implementation is key.
- Use a device that can be utilized across a number of equipment and vehicles types, to ensure the best clinical outcome.
- Ask your Peers, see what they are using and how easy they find their existing solution/Child Restraint.

Summary and More Information

- Child Ambulance Transport is Key issue, that can not be ignored.
- Act now, don't wait - know your liability.
- Implementing something, is potentially cheaper than a law suit.
- Utilize NASEMSO Interim Guidelines for your EMS service.

Quantum EMS LLC

Telephone: 516.321.9494

Email: info@quantum-ems.com

Website: quantum-ems.com