

Occupant Protection for Children
Test Your Knowledge:
Transporting Kids in Ambulances

Lifesavers
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Presentation Components

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Current programs for training EMS providers

AAP Policies and Training Resources

- *Guidelines for Air and Ground Transport of Neonatal and Pediatric Patients, 4th Ed.*
- *Pediatric Education for Prehospital Professionals (PEPP)*

NHTSA / EMS Training Curriculum

- Improving Occupant Protection for Non-Critical Pediatric Patients in Ambulances

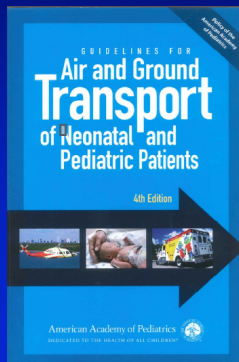
Current guidelines for pediatric transport

NHTSA / EMS

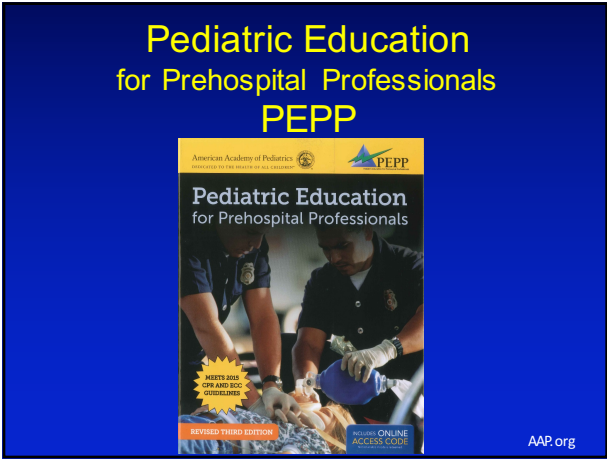
- Working Group Best Practices Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances

Case Studies

Neonatal Transport



AAP.org



- ### PEPP Learning Objectives
- Discuss transport considerations for pediatric encounters in an ambulance
 - List the considerations used to determine the mode of transport for children in an ambulance
 - Identify issues related to choice of destination when making pediatric transport decisions
 - Discuss advantages and disadvantages of transporting caregivers in the ambulance
 - Identify and discuss current guidelines for child restraint systems in ambulances
 - Outline issues involved in transporting multiple children

Prehospital Professionals Education

TIP : All EMS systems do not have clear policies that define pediatric transport practices. National guidelines about safe transport of children in ambulances have recently been released.

BLIP: Avoid transporting a child who is not a patient in an ambulance

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Prehospital Professionals Education

TIP: Except in the case of mild illness or injury, transport a sick child secured on a stretcher in a supine or semi-Fowler's position. This provides the safest and most effective position for ongoing assessment, monitoring, and treatment.

BLIP: It is never acceptable to secure the child in the patient's arms.

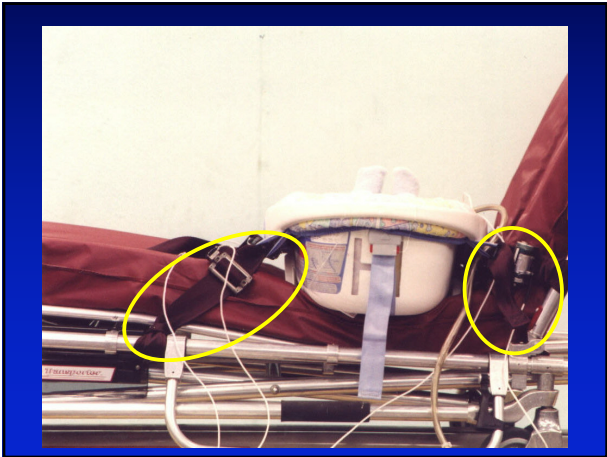
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Prehospital Professionals Education

- Determine how to transport depending on what assessment, monitoring, and treatment is necessary
- Child stable and weighs less than 40 pounds with no interventions anticipated may be transported in Child Restraint System (CRS) that meets FMVSS 213
- Child stable and weighs more than 40 pounds may be secured in available ambulance specific CRS
- Must follow precise guidelines for selection and securement of CRS

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Safe Guard Transport by IMMI

- Cot-mounted restraint for patients over 1 year of age from 22 to 100 lbs
- Color-coded installation system for ease of use
- Restraint weighs 22 pounds
- 5-point harness system with one-handed adjustment for harness height and tightness

www.imminet.com
1-317-896-9531



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Ambulance-specific child restraint accommodating children 10-40 pounds

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Prehospital Professional Education

TIP: Convertible child restraint devices are acceptable seats for use on the cot or rear-facing or forward-facing EMS provider seat.

BLIP: Never secure car seats to a bench seat in the ambulance. There is no way to safely secure a car seat to a bench seat.

CONTROVERSY: "Rear-facing only" or "infant only" child restraint seats cannot be secured properly to fit the ambulance cot or rear-facing EMS provider seat because they have only one belt pathway to secure the divide and are not engineered to be restrained on a rear-facing seat.

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Additional Considerations

- Some integrated seats permanently mounted in rear facing captain chair and some ambulance specific CRS designed for use on ambulance cot may be tested to meet injury criteria of FMVSS 213 - www.SerenitySafetyProducts.com
- Testing has not been performed for use of CRS with limits to 80 pounds on ambulance cot
- Use of CRS that has been involved in a crash must not show any signs of damage and must meet NHTSA criteria for use after in a crash

Integrated System by Serenity Safety Products



- Infant-only seat 5-22 pounds
- Faces rear of ambulance
- Stores in the back compartment of the ambulance seat



- For children 22-85 pounds
- Toddler integrated seat folds down

Recommendations for the Use of a CRS After a Crash

It is safe to reuse a child safety seat that has been involved in a minor crash if:

- The vehicle was able to be driven away from the crash site
- The vehicle door nearest the safety seat was undamaged
- There was no injuries to any of the vehicle occupants
- The airbags if present did not deploy
- There is no visible damage to the safety seat

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Prehospital Professional Education

- All occupants in ambulance must be restrained
- Benefit of light / siren shorter transport time must be weighed against dangers
- Multiple pediatric patients require summoning extra transport units to scene


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EMS Training

Improving Occupant Protection for Non-Critical Pediatric Patients in Ambulances:

A Training Curriculum for EMS Personnel

NHTSA, NCS, Riley Hospital



U.S. Department of Transportation
National Highway Traffic Safety Administration
www.nhtsa.gov

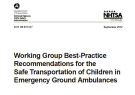
DOT HS 811 677

September 2012

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

<http://search.usa.gov/search?utf8=%E2%9C%93&affiliate=dot-nhtsa&query=ems+ambulance+working+group>

Five Situations were Identified as Most Frequently Faced by EMS Providers & Interfacility Transport Teams



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

Recommendations:

1. For a child who is uninjured/not ill
2. For a child who is ill and/or injured and whose condition *does not require* continuous and/or intensive medical monitoring and/or interventions
3. For a child whose condition *requires* continuous and/or intensive medical monitoring and/or interventions
4. For a child whose condition *requires* spinal immobilization and/or lying flat
5. For a child or children who *require* transport as part of a multiple patient transport (newborn with mother, multiple children, etc.)

Case Study #1

- Twins born prematurely at home at 31 weeks gestation
Apgars 8 and 10 at one and five minutes
- Second ambulance requested but not available due to high EMS volume
- Transport provided in car safety seats
 - One on rear facing jump seat at head of stretcher (infant facing rear)
 - Second secured to squad bench parallel to cot (infant facing side of ambulance)
- Mother transported on ambulance cot
- Air conditioning in rear of ambulance turned off and heat turned on to maximum for transport
- Babies were determined to be hypothermic (34° C) on arrival at hospital but recovered and did well

Case Study #1

Controversy regarding mode of transport was raised by labor and delivery staff

- a. How should babies have been kept warm?
- b. Could the babies have been transported more quickly?
- c. Should the babies have been transported flat because no car seat tolerance studies had been done?

Controversy raised by reviewer

- a. Were car seats secured optimally in ambulance?
- b. Should incubators have been available for transport?

Case Study #1

Outcome of controversy raised

- Health community engaged in extensive discussion following case
- County EMS Council and State Committee on Pediatric Emergency Medicine with local health officials reviewed issues
- 2015 American Heart Association Neonatal Resuscitation Guidelines regarding Temperature Control were reviewed
- Considering requirements that "Obstetrical Kits" currently in use that contain only a receiving blanket be amended to include hats and plastic wrap to mitigate heat loss
- State EMS protocols under revision and expect to require items to promote temperature control and incorporation of the NHTSA / EMS Best Practice Recommendations for Safe Transport of Children in Emergency Ground Ambulances.

Case Study #2

- Mother delivered third baby precipitously at home
- Mother transported to hospital in one ambulance and baby transported in second ambulance
- Mother and baby fine
- Labor and Delivery stated baby should have been transported lying on mother (information presented to transport with illustration from professional organization)
- Discussion escalated to top levels of administration

Consideration for Future

- Anticipate development of progressive guidelines for safe securement of all occupants in the ambulance environment
- National Association of State EMS Officials (NASEMSO) Committee designated to address securement of children

Proposed Goals

Safe Transport of Children Committee

- To recommend the criteria or specifications for proper restraint of children in ambulances. Such criteria will be evidence-based and will consider safety of both patients and providers.
- To have the recommended criteria adopted by one or more accredited standard setting organizations.
- To develop a strategy and resources for educating EMS providers on safely transporting children in ground ambulances based on the recommended criteria or standards.

Questions?

5/5/16
