

## FLORIDA EMSC and PEDReady SAFE PEDIATRIC TRANSPORT



### Background:

- Of the 23,714 vehicle occupants killed in 2016 crashes, 826 (3%) were children. Based on *known* restraint use, 289 (38%) of 826 child fatalities, were unrestrained.
- Approximately 10% of EMS transports are for children.
- NHTSA issues Federal Motor Vehicle Safety Standards (FMVSS). Standard No. 213 specifies requirements for child restraint systems used in motor vehicles and aircraft, but exempts ambulances at the current time. This final rule was established in 1999 but has not been updated.
- Currently, there are no standards or regulations for restraining children in the back of a moving ambulance.
- According to NHTSA’s Office of EMS infographic *When Ambulances Crash (2015)* (<https://goo.gl/images/hTJ5uQ>):
  - 4,500 ambulance crashes per year
  - 34% of crashes resulted in injuries with 33 deaths
- Florida’s 2017 Annual EMS Agency Survey estimates that 22% of EMS agencies do not currently have a policy or protocol in place for safe EMS transport of children.
- Often a parent or caregiver’s natural response is to cuddle or hold their child during transport.
- In Florida and nationally, many children are still permitted to be transported in a caregiver’s arms or lap putting them at risk for injury.

### Need and Guidance:

There is a need for education, training and research concerning safe transport of children. In March 2017, NASEMSO’s Safe Transport of Children Ad Hoc Committee released a document *Safe Transport of Children by EMS: Interim Guidance*. The guidance is focused on establishing evidence-based standards for safely transporting children by ground ambulance. Many devices and products are on the market to assist with safe EMS transport; however, these products are not required to be crash-tested for safety efficacy. NASEMSO is working to research and develop crash test standards for manufacturers. Until such research can be completed and standards developed, it is vital for all EMS agencies to understand the importance of safely transporting children and to view this guidance. The 2018 Florida EMS State Plan includes an objective regarding safe pediatric transport in EMS vehicles.

## Pediatric EMS Transport Safety Resources

The Florida EMSC and PEDReady programs have assembled the following list of resources and references to assist with education and policy development.

### Guidelines

- The Do's and Don'ts of Transporting Children in an Ambulance, EMS Child Transport Safety Fact Sheet. NHTSA/HRSA Maternal and Child Health Bureau.  
<https://one.nhtsa.gov/people/injury/ems/Archive/new%20Folder/childam.html>
  - A one page summary of the 1999 NHTSA Dos and Don'ts
- Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances DOT HS 811 677. National Highway Traffic Safety Administration, September 2012. <https://www.nhtsa.gov/staticfiles/nti/pdf/811677.pdf>
  - The full text 2012 NHTSA Working Group recommendations
- National Association of EMS State Officials. Safe Transport of Children by EMS: Interim Guidance. 3/8/2017. <https://www.nasemso.org/Committees/STC/documents/Safe-Transport-of-Children-by-EMS-InterimGuidance-08Mar2017-FINAL.pdf>.
  - Full text 2017 NASEMSO recommendations

### Federal Resources

- Dunn, L., Holliday, A., Vegaga, M. Motor Vehicle occupant protection facts – Children, youth, young adults. Fact Book. Report No. DOT HS 812 251. National Highway Traffic Safety Administration. March 2016.  
<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812251-youthfactsbook2016.pdf>
  - General highway traffic safety review and pediatric statistics
- Congressional Fire Services Institute, [www.cfsi.org](http://www.cfsi.org) Congressional Fire Services Institute 2018 Legislative Outlook <https://www.cfsi.org/wp-content/uploads/2018/03/2018-Legislative-Outlook.pdf>

### Journal Articles and Newsletters

- O'Neil, J. et al. Ambulance Transport of Noncritical Children: Emergency Medical Service Providers' Knowledge, Opinions and Practice. [Abstract]. *Clinical Pediatrics* Jan 9, 2014.  
<http://journals.sagepub.com/doi/pdf/10.1177/0009922813517168>
  - Information regarding EMS clinician knowledge and performance of pediatric safe transport.
- EMS Safety Foundation. Safe Emergency Transport of Neonatal Patients (SETONP) Project Phase I White Paper: Neonatal Transport Systems Safety.  
<http://www.emssafetyfoundation.org/prelimSETONP.pdf>. October 2015.
  - Information regarding safety needs for transportation of neonates and other children with special needs.

- Brice, J., et al EMS provider and patient safety during response and transport: Proceedings of an Ambulance Safety Conference. *Prehospital Emergency Care, Special Section: Safety in EMS*, January/March 2012, 16 (1):3 – 19.
  - Consensus group/expert congress regarding EMS Safety
  
- Curtis S. How MedStar reduced ambulance collisions. EMS1.com. <https://www.ems1.com/ems-products/Ambulance-Safety/articles/229761048-How-MedStar-reduced-ambulance-collisions/> Published 4/13/2017.
  - A best practice article addressing how one large EMS system established a new level of safety awareness and practice
  
- Friese, G., How to reduce ambulance collision death and injury, EMS1.com. Paramedic Chief Digital Edition. <https://www.ems1.com/paramedic-chief/articles/201160048-How-to-reduce-ambulance-collision-death-and-injury/> Published 3/6/2017.
  - Summary of relevant issues and approaches to improve general safety in ambulances
  
- Johnson, T., Lindholm, D., Dowd, D. Child and Provider Restraints in Ambulances: Knowledge, Opinions, and Behaviors of Emergency Medical Services Providers. *Acad Emerg Med*, August 2006, (13)8: 886-892.
  - Survey of EMS providers regarding their pediatric transport safety knowledge and practices, including on lap and in arms transport
  
- Fischer, P., Perina, D., Delbridge, T., Fallat, M., Salomone, J., Dodd, J., Bulger, E., & Gestring, M. (2018): Spinal Motion Restriction in the Trauma Patient – A Joint Position Statement, *Prehospital Emergency Care*, DOI: 10.1080/10903127.2018.1481476. <https://emsfellowship.com/wp-content/uploads/2018/08/Spinal-Motion-Restriction-in-the-Trauma-Patient-A-Joint-Position-Statement.pdf>

### Conference Proceedings

- Levick, N. EMS Safety and Innovation: The Cutting Edge and You. Presentation handout at the EMS Safety Summit; August 28, 2015; Denver, CO. <http://www.emssafetyfoundation.org/2015DenverEMSSummitHO.pdf>
  - General presentation describing current medical transport safety issues along with projects in progress and future proposals
  
- Levick, N. Emergency Medical Services: A Unique Transportation Safety Challenge. Presented at the Transportation Research Board Annual Meeting 2008; <http://www.objectivesafety.net/LevickTRB08-3010CD.pdf>
  - Overview of history of ambulance safety and proposed areas for study
  
- Bull, M., Webber K., Talty J., Manary, M. Crash Protection for Children in Ambulances Recommendations and Procedures. *Association for the Advancement of Automotive Medicine, 45th Annual Proceedings* 2001. [http://www.carseat.org/Resources/Bull\\_Ambulance.pdf](http://www.carseat.org/Resources/Bull_Ambulance.pdf)
  - Report of early ambulance crash testing and resulting recommendations

## Websites

- NHTSA's National Center for Statistics and Analysis. Traffic Safety Facts: Children <https://crashstats.nhtsa.dot.gov/#/PublicationList/82>
- Pennsylvania EMS for Children. Available products for transporting children in ambulances. June 2016 [www.paemsc.org/safetransport](http://www.paemsc.org/safetransport) Accessed 2/18/2017
- Federal Motor Vehicle Safety Standard No. 213: Highlights of the Regulation for Child Restraint Systems. SafetyBeltSafe USA. [http://www.carseat.org/Legal/91\\_213sum.pdf](http://www.carseat.org/Legal/91_213sum.pdf) Published 3/6/2012. Accessed 3/16/2017
  - A description of the Federal Motor Vehicle Safety Standard for Child Restraint Systems for general purpose vehicles, excluding ambulances
- National Safety Council Position/Policy Statement: Child Passenger Restraints. July 2016. <http://www.nsc.org/NewsDocuments/2016/CPS%20policy.pdf>, Accessed 2/18/2017
  - Background information and consensus policy statement regarding child passenger restraints.
- New Hampshire EMS. Pediatric Transportation Protocol 8.12. 2015. [http://docs.wixstatic.com/ugd/5d510d\\_d75fc9d2befc4df384c22ef28da7d240.pdf](http://docs.wixstatic.com/ugd/5d510d_d75fc9d2befc4df384c22ef28da7d240.pdf) Accessed 2/18/2017
  - Model protocol used in New Hampshire
- New Hampshire EMS. Type of Conventional Child Safety Seat by Ambulance Installation Location. 2015. [http://docs.wixstatic.com/ugd/5d510d\\_bc4addac32a99e71f189ab500ae0fb51.pdf](http://docs.wixstatic.com/ugd/5d510d_bc4addac32a99e71f189ab500ae0fb51.pdf) Accessed 2/18/2017
  - Helpful graphic summarizing what types of CRS can be utilized in an ambulance and where they should be secured.
- New Mexico EMSC. Safe Transport of Children in EMS Vehicles Part 1 and 2. <https://hcssl.unm.edu/EM/PED/emsc/training/SafeTransport/Part1/Intro.html>
  - CEU learning modules about safe transport of children and neonates
- North Dakota EMS for Children. Five "Situations" for Transporting Children in Ambulances. Undated. <https://www.health.nd.gov/media/1326/pediatric-restraint-chart.pdf> Accessed 2/12/2018
  - Excellent flowchart format infographic for transport safety decisions from 2012 NHTSA Working Group Best Practices document
- Car Safety for Infants Born Prematurely or with Low Birth Weight. National Center for the Safe Transportation of Children with Special Healthcare Needs. 1/21/2015. <https://www.preventinjury.org/getattachment/cb32b38a-e5ce-4d38-8120-a074223d0f34/Low-Birth-Weight-and-Premature-Infants;.aspx> Accessed 2/18/2017

- Education for parents of premature neonates regarding transportation safety measures
- Idaho EMS for Children. Safe Transportation poster, brochure, DO's and Don'ts.  
<http://healthandwelfare.idaho.gov/Medical/EmergencyMedicalServicesHome/EMSforChildren/tabid/1603/Default.aspx>
- International Association of Flight and Critical Care Paramedics. Comprehensive list of EMS health and safety, Air Medical, Government, EMS Journals and other pertinent agencies.  
<https://www.iafccp.org/page/Resources>

**Other:**

**Podcasts**

- Roberts, M, Kelley, B, Green, J. The Future of Child Transport (Pediatric Restraints and New Consensus Standards) June 20, 2018. <https://www.emsworld.com/quantum>

**Infographic**

- When Ambulances Crash, EMS Provider and Patient Safety, ems.gov.  
<https://www.ems.gov/pdf/NHTSAOEMSAmbulanceInfographic.pdf>