

## **NHTSA Recommendations for the Safe Transport of Pediatric Patients**

The National Highway Traffic Safety Administration (NHTSA), Department of Transportation, is the federal agency responsible for establishing and monitoring safety criteria for child restraints and vehicles. Federal Motor Vehicle Safety Standard 213 (FMVSS 213) sets child restraints performance standards during dynamic sled tests using child dummies of various sizes. Car seat manufacturers must self-certify that their products comply with performance criteria established by applicable Federal Motor Vehicle Safety Standards.

Currently, there are no Federal Motor Vehicle Safety Standards to define performance criteria for child restraint use in ambulance patient compartments. Although research regarding crash dynamics in ambulances is limited, “fundamental principles of occupant restraint can still be used to develop useful and effective procedures” in ambulances.

In 2009, NHTSA initiated its “Solutions for Safely Transporting Children in Emergency Vehicles” project, a partnership between the NHTSA Occupant Protection Division and NHTSA’s Office of Emergency Medical Services. The objectives of this project were to develop a set of recommendations for the EMS community on how to safely and appropriately transport children in a ground ambulance from the scene of a crash or other emergency. Components of this two-year project include a literature review, the development of draft recommendations, and the convening of a national meeting to discuss and finalize the recommendations. The over arching goal was to provide a set of consistent recommendations that would be embraced by local, State and national EMS and stakeholder organizations. These recommendations were the basis for the development of a course for EMS providers entitled “Improving Occupant Protection for Non-Critical Pediatric Patients in Ambulances”.

NHTSA currently recommends that non-critical pediatric patients be properly restrained in either a size appropriate, conventional safety seat on the cot or on the attendant’s seat or in an integrated child restraint located in the attendant’s seat. Use of a convertible child safety seat on a locked, front facing attendant’s seat is the same configuration as that in a normal passenger car.

Recommendations for the use of conventional “convertible” child restraints on ambulance cots is based on the findings of research conducted and policies developed by the Automotive Safety Program at Riley Hospital for Children in Indianapolis, Indiana in collaboration with the University of Michigan Transportation Research Institute (UMTRI). Recommendations based on crash testing were published by Bull et. al (2001) entitled: “Crash Protection for Children in Ambulances”, 45th Annual Proceedings, AAAM, Sept. 2001.

According to the Automotive Safety Program’s test results, convertible child safety seats can be used on an ambulance cot and crash test results are compliant with FMVSS 213. The fact that convertible child restraints have two separate belt paths makes them compatible with ambulance cot use as they can be tightly secured to the cot with the upper torso cot strap and lower leg cot strap.