



# School Bus Transportation of Children With Special Health Care Needs

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School systems are responsible for ensuring that children with special needs are safely transported on all forms of federally approved transportation provided by the school system. A plan to provide the most current and proper support to children with special transportation needs should be developed by the Individualized Education Program team, including the parent, school transportation director, and school nurse, in conjunction with physician orders and recommendations. With this statement, we provide current guidance for the protection of child passengers with specific health care needs. Guidance that applies to general school transportation should be followed, inclusive of staff training, provision of nurses or aides if needed, and establishment of a written emergency evacuation plan as well as a comprehensive infection control program. Researchers provide the basis for recommendations concerning occupant securement for children in wheelchairs and children with other special needs who are transported on a school bus. Pediatricians can help their patients by being aware of guidance for restraint systems for children with special needs and by remaining informed of new resources. Pediatricians can also play an important role at the state and local level in the development of school bus specifications.

## abstract

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Dr O'Neil wrote and revised the draft with the help of chair-elect Dr Hoffman; and all authors approved the final manuscript as submitted.

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## INTRODUCTION

Many preschool and school-aged children with special health care needs are transported in school buses. These children have the same need for safe transportation as all children. According to the US Department of Education, approximately 13.1% of all students have some disability.<sup>1</sup> The authors of a detailed review of the issues associated with school bus transportation of students seated in wheelchairs using data from the US Department of Transportation, US Department of Education, and a survey from *School Bus Fleet* magazine estimated that approximately 300 000 students travel seated in wheelchairs on school buses in the United States daily.<sup>2</sup> In addition, innumerable children ride in child safety restraint systems (CSRSs), which include conventional car seats, safety vests and/or harnesses, school bus-only devices, and 5-point harnesses

integrated into bus seating. In 2007, the American Academy of Pediatrics (AAP) published the policy statement “School Transportation Safety,” in which they recommended that all guidelines for safe transportation of all passengers be applied during all school and school-related trips, regardless of the hours of operation.<sup>3</sup>

Established in the Individuals with Disabilities Education Act (IDEA) is the right for children with qualifying disabilities from birth to 21 years of age to a “free and appropriate public education.”<sup>4</sup> As needed, these students are entitled to school-provided transportation as a “related service” to access school and health services (for example, audiology and occupational therapy). For qualifying families of children ages 0 to 3 years, early intervention needs are addressed in an Individualized Family Service Plan (IFSP) (IDEA 2004, Part C). Older children ages 3 through 21 years with qualifying special needs receive special education that is guided by an Individualized Education Program (IEP). Whether the child should receive transportation as a related service is determined by the team that develops the child’s IFSP and/or IEP.<sup>4</sup> Most children with special needs who are entitled to transportation should consider an Individual Transportation Plan as part of the IFSP and/or IEP document that specifies whether a seat belt, CSRS, or wheelchair is recommended.

Any time a child’s special need affects transportation, representatives of school transportation services and other school staff with appropriate knowledge and expertise should be included in the meeting to help develop the transportation plan. The safe transportation of students seated in CSRSs or wheelchairs on school buses requires planning, selection, and procedures developed in collaboration with the parent by a team of transportation professionals, including occupational and physical

therapists, school nurses, and certified child passenger safety technicians with the specialized training to ensure the appropriate device is selected, installed, and used properly. Transportation staff who work with children with special needs can effectively conduct their daily responsibilities when provided with appropriate, documented training from the team of professionals. The strategies described in this policy can also be used in disaster situations. Pediatricians should work collaboratively with educators, school personnel, and emergency management teams to effectively meet children’s needs in the context of disasters.

Special transportation considerations are required for children with many different conditions. Children with respiratory problems, tracheostomies, thermoregulatory difficulty, seizures, and feeding tubes all require special thought and planning for transportation. Additionally, children with neuromuscular problems in which sitting posture is affected and children with developmental, behavioral, and cognitive problems require special resources to ensure safety during transportation. Children with intellectual disability, autism, or emotional problems may exhibit behaviors that are impulsive, hyperactive, aggressive, or noncompliant. If a child on the school bus has a behavior problem that will affect passenger safety, a school psychologist and other qualified personnel should attempt behavioral interventions. If these interventions are insufficient, a CSRS may be recommended to ensure the safety of all passengers on the school bus. The IEP team should specify which equipment is required, depending on the child’s individual needs.

In addition to IDEA, other federal laws protect the educational rights of children with special needs.

Transportation is specifically addressed in the Americans with Disabilities Act (Public Law 110–325, as amended in 2008),<sup>5</sup> which protects the civil rights of Americans with disabilities. In it are requirements established for federal agencies, such as local educational agencies, to address the needs of students who have disabilities, including students with conditions that do not qualify under IDEA. In addition, the Head Start Act, which was established to serve low-income preschoolers through the program Early Head Start, has been expanded to include infants, toddlers, and preschoolers and requires that a minimum 10% of program enrollment be available to children with special needs.<sup>6</sup> It is required by federal law that children in Head Start who receive transportation services be properly restrained in an appropriate occupant restraint because these children are too small to be protected by the compartmentalization approach used in a regular school bus (Head Start Transportation Regulation, 45 CFR 1310, Subpart B). Guidance on the proper use of child safety restraints on school buses is also provided by the National Highway Traffic Safety Administration.<sup>7</sup>

Occupant protection on school buses has been based on the concept of compartmentalization. Compartmentalization is provided by seats that are closely spaced with high energy-absorbing seat backs. In certain crash scenarios, optimal protection is not offered by compartmentalization, which is not consistent with current technology and messages for children and families regarding the use of car safety seats and seat belts in all vehicles.<sup>3</sup> The AAP further recommends that all newly manufactured school buses be equipped with lap/shoulder restraint systems in which car safety seats and harness systems can also

be accommodated. The AAP also recommends that all school buses used for school and all school-related activities be in compliance with all applicable federal regulations.<sup>3</sup>

School buses that transport children with special needs, including both small and full-size buses, are regulated through several federal standards. In Federal Motor Vehicle Safety Standard (FMVSS) 222, School Bus Passenger Seating and Crash Protection, adopted January 1976 and last amended April 2009, safety requirements for school bus interiors are established.<sup>8</sup> These regulations mainly apply to school bus features intended to protect able-bodied children. However, added in a 1992 amendment to FMVSS 222 were the basic requirements for wheelchair tiedowns and occupant restraint systems (WTORSS), including a requirement that there must be at least 4 adjustable securement anchorages (2 at the front and 2 at the rear) to secure the wheelchair facing forward and separate torso and pelvis restraints for the occupant. Also added were strength-testing procedures of all securement devices (meeting the seat belt standards of FMVSS 209).<sup>9</sup> Other FMVSSs that pertain to the transportation of children with special needs include FMVSS 403 and 404 in which platform lift performance standards and installation requirements are specified.<sup>10,11</sup> FMVSS 213, in which all safety restraints for use by children are regulated, also applies to CSRSs used on school buses.<sup>12</sup> Per FMVSS 225, it is required that 2 seating positions be equipped with Lower Anchors and Tethers for Children for the installation of CSRSs on buses weighing 10 000 lb or less.<sup>13</sup>

In addition to federal regulations, the school bus industry has established voluntary guidelines via the National School Transportation Specifications and Procedures (NSTSP), which include some guidance on the safe transportation of students with

special needs.<sup>14</sup> The purpose of the NSTSP is to help establish national best practices and provide guidelines for state rules and procedures for school transportation. The document is in alignment with all FMVSSs relevant to the transportation of pupils and provides additional procedures and specifications. Wheelchair-related guidelines in the NSTSP specify that buses for wheelchair-seated students be “specially equipped” with a power lift or ramp, if preferable, depending on the student’s medical condition, and outline specific loading and securement procedures. The use of CSRSs is also discussed, with emphasis on following manufacturers’ instructions and providing necessary training to on-bus personnel. Stated in the NSTSP is the guideline that a child’s IFSP and/or IEP team should determine when it is appropriate to transfer a child from a wheelchair to a CSRS for transport.

#### **WHEELCHAIRS USED IN VEHICLE TRANSPORT**

Using a CSRS on a bench seat provides the best protection in a crash and should be selected for every child who can be transferred out of a wheelchair for travel.<sup>15</sup> However, for children who must remain in a wheelchair for travel, using a system that meets the voluntary industry standards of the American National Standards Institute and Rehabilitation Engineering Society of North America greatly enhances safety. A certified transit-ready wheelchair system is one that meets these voluntary design and performance requirements for use as a seat by its occupant when traveling in a motor vehicle.<sup>16</sup> These standards are designated as WC 18, 19, and 20. WC 18 (formerly SAE International J2249) is a voluntary standard for the securement of wheelchairs and occupant restraints

for wheelchair-seated children and adults in the forward-facing orientation. The standard applies to the system or device that both secures the wheelchair (tiedowns) and the system of belts that restrains the wheelchair-seated occupant used in motor vehicles, including school buses.<sup>16</sup> Collectively, these systems and devices are called WTORSS. Addressed in the WC 18 standard is the securement of the wheelchair to the vehicle floor, typically accompanied by a 4-point, strap-type system that includes 2 straps at the rear of the wheelchair to bear most of the crash load, and 2 straps at the front to provide stability. Heavier wheelchairs, specifically when the wheelchair and occupant’s combined weight exceeds 250 lb, require 1 or 2 additional securement straps at the rear of the wheelchair.<sup>16</sup>

Although a wheelchair’s built-in postural support device helps the occupant maintain an upright position, in most cases, these supports are not crash-tested and cannot be used for occupant restraint. Unless a postural support harness is clearly marked as being crash tested successfully, it should not be used in place of the vehicle’s lap and shoulder belt system. An occupant restraint system that has been tested at force conditions of 30 mph and 20 *g* for upper torso restraint provides necessary safety for each wheelchair-seated occupant. This may be accomplished in 1 of 3 ways:

1. The most common method is to use bus-mounted lap and shoulder belts that cross the hips and shoulder of the occupant and anchor to the wall and floor of the school bus;
2. Newer wheelchairs that meet voluntary standards may include some transit-ready belts that replace all or some of the bus-mounted occupant restraint system. To provide comparable occupant protection, these

wheelchair-based occupant restraints should comply with current industry standards and provide the same degree of protection that the vehicle seat belt system provides; and

3. Some wheelchairs made for children weighing from 25 to 50 pounds have the option to be equipped with a crashworthy 5-point harness system that is anchored to the wheelchair frame.

WC 19 is a voluntary industry standard for designing, testing, and labeling a wheelchair used as a seat in a motor vehicle certified as “transit-ready.”<sup>17</sup> WC 20 is a standard for specialized seating devices for use in motor vehicles.<sup>18</sup> Established in WC 20 is the design and performance criteria for a wheelchair seating system that is added to a WC 19 frame. WC 20 allows for independent testing of a seating system using a surrogate wheelchair base, which is important because an individual’s seating and position needs may require a pairing of a specialized seating system and wheelchair frame that have not been crash tested together as a unit.

Whenever possible, a wheelchair used for school bus transportation should be certified as such. A transit option wheelchair system should meet the WTORS criteria of WC 18 and be used with a complete WC 19 wheelchair or with a wheelchair frame that satisfies WC 19 paired with a specialized aftermarket seating system that meets WC 20. Rehabilitation therapists can help identify products that are certified by the wheelchair manufacturer to meet this standard.

The safe transportation of students seated in CSRSs or wheelchairs on school buses requires planning, selection, and procedures developed by a team of transportation professionals, including occupational and physical therapists and a child

passenger safety technician with the specialized training to apply the safety principles of these devices. There is no certification or standard for training of bus operators or attendants who transport students who ride in wheelchairs, although training is regularly offered by manufacturers of WTORSs and lifts. In addition, there is generally no monitoring of procedures to enforce compliance with proper installation and use of WTORSs in practice. For the proper installation of CSRSs, specially trained child passenger safety technicians are available in most communities. An 8-hour national training course for transportation personnel has been developed by the National Highway Traffic Safety Administration and is frequently offered at national conferences or can be taught locally. Training standards for bus operators and attendants would improve the quality of transportation safety among children with special health care needs and should be developed in each state.

## RECOMMENDATIONS

These recommendations are provided for the primary care provider within the medical home. This information is intended to assist the family in understanding important issues for the safe transportation of a child with special health care needs for appropriate securement on a school bus. The responsibility for these specific recommendations may vary among school districts and should be discussed at the time of IEP and transportation planning.

1. Any child who can assist with transfer or be reasonably moved from a wheelchair, stroller, or special seating device to a seat belt or CSRS complying with FMVSS 213 should be transferred for transportation. If a child is transferred to a CSRS,

the CSRS should face forward unless the child is younger than 2 years.<sup>19</sup> Children weighing less than 80 lb (36.3 kg) and who can safely transfer or who need the additional support of a harness should ride in a properly used CSRS, which may be integrated or added to bus seating. School-aged children who are able to ride properly in a seat belt should use a lap-shoulder belt that was manufactured specifically for the vehicle. The unoccupied wheelchair should also be secured adequately in the vehicle to prevent it from becoming a dangerous projectile in the event of a sudden stop or crash;

2. Passenger seats that have a seat belt or that are used to attach a CSRS must have a reinforced frame meeting the requirements of FMVSS 208 (Occupant Crash Protection),<sup>20</sup> FMVSS 209 (Seat Belt Assemblies),<sup>9</sup> and FMVSS 210 (Seatbelt Assembly Anchorages).<sup>21</sup> The manufacturer of the school bus should be consulted regarding the noted requirements when ordering or retrofitting an existing school bus;
3. If possible, all children weighing less than 80 lb (36.3 kg) should be secured in an appropriate CSRS meeting the requirements of FMVSS 213<sup>12</sup>;
4. CSRSs must be secured to the bus seat in a manner prescribed and approved by the manufacturer of the safety device. The CSRS should not be secured on a school bus seat adjacent to an emergency exit or in a seating position that blocks the evacuation route for other passengers;
5. CSRSs for which weight, length, and harness requirements are specified by the seat’s manufacturer for rear facing should be used to transport



children who are younger than 2 years or whose weight and length meet the seat's requirements. CSRSs for these children should be attached, whenever possible, to the school bus seat in a rear-facing position. School districts should check with the school bus manufacturer to verify that a rear-facing CSRS may be used<sup>3</sup>;

6. Three-wheeled, cart-, or stroller-type wheelchair devices should not be permitted for occupied transport in a school bus unless the results of impact tests reveal that the device can be secured under impact loading conditions as specified in the voluntary standards of WC 19;
7. Occupied wheelchairs aboard buses should be secured with 4 tiedown devices that are attached to the floor. If the combined weight of the chair and occupant exceeds 250 lb (113.4 kg), additional tiedowns may be required.<sup>16</sup> The wheelchair occupant must be restrained with a separate device;
8. An occupant restraint system that meets the FMVSS for upper torso restraint (shoulder harness) and lower torso restraint (lap belt over pelvis) should be provided for each wheelchair-seated occupant;
9. Lap boards and metal or plastic trays attached to the wheelchair or to adaptive equipment should be removed before loading and should be secured separately for transport. If necessary for the health or well-being of the child, a foam tray may be substituted during travel; and
10. Any medical equipment needed to support the child during school bus transport needs to be secured to prevent it from becoming a potentially lethal projectile during a crash, sudden braking, or a sudden stop. Any

liquid oxygen transported in a school bus should be securely mounted and fastened to prevent damage and exposure to intense heat. An appropriate sign indicating that oxygen is in use should be placed in the school bus.

#### **ADDITIONAL CONSIDERATIONS FOR PASSENGER TRANSPORTATION**

The following considerations should be incorporated into the school system plan for the transportation requirements of children with special needs:

1. A school nurse or an aide with appropriate medical training or a specially trained individual to accompany the patient is necessary to provide onboard assistance and support to children with certain special conditions, such as tracheostomies, who may require suctioning or emergency care during school bus transport. School systems should provide a school nurse or trained aide when medically necessary to help ensure health-related problems occurring while children with special needs are on the school bus are properly managed;
2. Children with special health care needs may need rescue medications for acute exacerbations of their medical condition. These medications and a school nurse or trained individual to administer them should be available at all times on board the vehicle. The child's primary care provider should know the local and state regulations and the local school limitations and resources for administering rescue medications and how to help with the development of emergency action plans. Although the school nurse is

responsible for the development of the student's individualized health care plan, including transportation plans, assistance from the student's primary care provider in the form of signed health care provider's orders should be included in the child's IEP or the family's IFSP. If provision of trained personnel or administration of rescue medicines is not possible during transport, the vehicle route should be designed to provide rapid access to emergency medical personnel. The family, school nurse, school administration, and prescribing provider should establish criteria for contacting emergency medical services. Guidance should be provided for onboard personnel to render support while waiting for emergency medical personnel to arrive. In the action plan, there should be provisions for rapid access of emergency medical services such as cell phone or radio use;

3. School transportation staff, in conjunction with the school nurse, should participate in the development of the transportation portion of the IEP or IFSP for children who have special transportation requirements. On-bus personnel should be apprised of aspects of a child's medical condition and potential medical emergencies that are relevant to the child's safety while on the bus. The Family Educational Rights and Privacy Act authorizes such information to be shared with school officials as well as the bus driver, aides, and substitutes<sup>22</sup>;
4. School bus transportation staff should participate in training programs annually and have resource materials available on the subject of transportation of children with special needs to ensure that they can provide

the most current and proper services to children with special transportation requirements;

5. The caregiver (family, guardian, or foster parent) of a child with special needs must be invited to meetings regarding the child's IEP and/or IFSP. Caregivers, primary care providers, and school personnel should be informed of the importance of incorporating and maintaining appropriate and safe transportation specifications as part of these documents. It is also important to know that a caregiver and/or the transportation department representative can reconvene the IEP and/or IFSP team should important changes to the documentation become necessary for the child's continued safety;
6. The caregiver of a child with special needs, in conjunction with the school nurse and the designated bus driver for the child's bus route, should share information addressing the specific medical, developmental, and behavioral needs of the child before and during the school year, which should be reflected in the student's transportation plan, while maintaining adherence to specifications of the child's IEP and/or IFSP. An emergency medical information card or care plan should be available for the bus drivers for each student with special health care needs being transported. Substitute bus drivers also need to be aware of this information. Transportation personnel must adhere to the school district's policy regarding confidentiality of student information;
7. In addition to safe transportation on the school bus, the transportation plan should include safe procedures for embarking to and disembarking

from the school bus. Standard policy for school bus drivers should include procedures to ensure no child is left on the bus;

8. Preparation for emergency evacuation should include the particular procedures required to evacuate each child with special needs. A written plan that outlines procedures for emergency evacuation of each child should be maintained. The plans (IEP and/or IFSP) should include detailed information on contacting the parent or caregiver in case of an emergency. At a minimum, 1 evacuation drill should be conducted for each school year to enable the transportation staff to practice evacuating the children under their care. Local emergency response personnel should be invited to participate in evacuation drills;
9. In the event of a medical emergency on the bus during transport, the driver should pull to the side of the road as quickly and safely as possible. The driver should then call 911 and summon emergency personnel. If a school nurse or trained aide is on the bus, he or she will provide supportive care until emergency assistance arrives. If there is no other school staff support on the bus, the driver may provide supportive care until emergency assistance arrives; and
10. Children who are supported by technology may be at increased risk of acquiring infectious diseases. All caregivers should cleanse their hands thoroughly before and after providing direct care for students, including toileting and tracheostomy or gastrostomy care. Standard (universal) precautions should be used when caring for all children when exposed to blood or blood-containing body fluids. Schools should

follow the legal requirements of their states or the Occupational Safety and Health Administration with respect to all immunizations, including hepatitis B immunization. Children and adults who are in the recommended categories should receive yearly influenza immunization. Transportation staff should be provided with training and supplies that prepare them to conduct universal precaution practices and procedures.<sup>23</sup>

The AAP encourages states to address and support the transportation requirements of children with special needs. Pediatricians can help their patients and their families through awareness of general principles and guidance for restraint systems for children with special needs and remaining informed of new resources as they become available.<sup>24</sup> Periodically updated information on specific restraint systems for children with special needs can be obtained through the AAP at [www.healthychildren.org](http://www.healthychildren.org). Resources are also available through the National Center for the Safe Transportation of Children With Special Health Care Needs at <http://www.preventinjury.org/Special-Needs-Transportation>. For pediatricians involved in early intervention, including Head Start, a joint publication from the AAP, American Public Health Association, and the Maternal Child Health Bureau titled *Caring For Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs, Third Edition*, is helpful for developing written policies for safe transportation.<sup>25</sup>

Pediatricians can play important roles at the state and local levels as advocates for children through collaboration with their community leaders and services in the evaluation

and development of school bus specifications responsive to the safe transportation requirements of children with special needs.

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## ABBREVIATIONS

AAAP: American Academy of Pediatrics  
CSRS: child safety restraint system  
FMVSS: Federal Motor Vehicle Safety Standard  
IDEA: Individuals with Disabilities Education Act  
IEP: Individualized Education Program  
IFSP: Individualized Family Service Plan  
NSTSP: National School Transportation Specifications and Procedures  
WTORS: wheelchair tiedown and occupant restraint system

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