

Transporting Children with Special Healthcare Needs: What the Pediatrician Needs to Know

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Objectives

- Recognize which patients may need a specialized restraint for travel
- Understand the category of restraint that may be selected to meet the needs of a child with a specific medical condition
- Identify where you can access the needed assessment and restraint in your community

Restraint Options

- Conventional restraints
 - Meet federal motor vehicle safety standards
 - Wide variety of manufacturers and models
 - Purchased at local retail stores



Restraint Options

- Specialized or adaptive restraints are designed for children who:
 - Must lie down
 - Can't bend at hips
 - Can't use a traditional harness system
 - Have outgrown conventional CSS and require additional postural support
 - Demonstrate severe behavioral problems



Specialized Child Restraints

- Less variety
- Often, more expensive up to \$2,000+
- Not as readily available
- May be available through hospital loan, purchase, or give-away programs
- May need to be ordered through local durable medical equipment (DME) provider
- Third party payers may cover cost with documentation



Selection Factors

- Size of child
- Medical diagnosis or procedures
- Positioning requirements
- Availability and/or affordability
- Family vehicle and occupants
- Family choices



CONVENTIONAL RESTRAINTS

- ### Conventional Restraints
- Use if possible
 - Less expensive
 - Readily available
 - Easier to use

- ### Conventional Restraints
- Features helpful for children with special healthcare needs:
 - Multiple harness slots and crotch strap positions
 - Accessories, such as preemie inserts, or extra padding
 - Rear-facing weight limits up to 40 pounds
 - Forward facing built-in recline or recline mechanism
 - Forward-facing harnesses up to 65-80 pounds
 - Boosters with weight limits up to 120 pounds and/or adjustability features



Infant born prematurely

- Rear-facing only car safety seat
- Multiple harness slots
- Minimum weight of 4 pounds
- Seat comes with positioning insert for small baby



Infant born prematurely

- Rear-facing only car safety seat
- Does not come with positioning insert
- Rolled receiving blankets used to position infant



1 year old with achondroplasia
In rear-facing only car safety seat



18 month old with Down syndrome in rear-facing car safety seat with higher rear-facing weight limit



Convertible car safety seat with built-in forward-facing recline



5 year-old with cerebral palsy and scoliosis

- Forward-facing car safety seat with higher weight harness (65 lbs.)
- Towel rolls and soft cervical neck collar for positioning
- Often helpful as interim solution



10 year-old with achondroplasia
In booster seat with adjustable
sides and head support



6 year-old, approximately 95
lbs. in booster seat with upper
weight limit of 120 lbs.

**SPECIALIZED
OR
ADAPTIVE RESTRAINTS**

**Involve Rehab Therapists in
Complex Cases**



Rehabilitation Therapist Role

- Obtain prescription from doctor (prior to appointment)
- Interview family and client
- Assess positioning needs
- Recommend restraint options



Rehabilitation Therapist Role





- Agree upon vendor/supplier with family input
- Write letter of medical necessity
- Vendor receives funding approval and orders child restraint system
- Deliver equipment

Rehabilitation Therapist Role

- Few are trained in car safety seats and need to work with child passenger safety technicians (CPSTs)
- Vendors may be making decisions without input from trained therapist
 - Equipment may be less than ideal

Children who must travel lying down



CRD	Size	Harness	Positioning	Comments
 Angel Ride	<9 lbs. <21.5"	3-point harness	Back Right-side Abdomen (only if medically necessary)	Head toward center \$78.50
 Dream Ride	5-20 lbs. 19-26"	3-point harness	Back Abdomen (only if medically necessary)	Head toward center \$58.50
 Hope	4.5-35 lbs. Up to 29"	3 point-harness or restraint bag	Back Right-side Abdomen (only if medically necessary)	Head toward center Requires 2 seat belts \$850
 Modified E-Z-ON Vest	1-12 yrs. old 20-100 lbs.	Vest with hip, chest, and shoulder straps and crotch strap	Back Abdomen Side	Must fit lengthwise on bench seat \$125








Baby with encephalocele after VP shunt; able to ride in conventional car safety seat

Children who cannot bend at the hip



-6 months old
Hip spica cast for developmental dysplasia of the hip (DDH)
In stroller

CRD	Size : Add wt. of cast	Harness	Comments
 Car beds	Varies (<9 lbs. up to 35 lbs.)	3-point harness; one has restraint bag;	Some can take up to 2 seating positions; Install lengthwise Can order HOPE w/cast cut outs \$58.50-\$850
 Hippo car seat	5-35 lbs. RF 1 year and 20-65 lbs. FF	5-point harness	Shallow seat depth and low sides; Positioning wedge; Install rear or FF facing \$500
 Modified E-Z-ON vest	1-12 yrs. old 20-100 lbs	Vest with hip, chest, and shoulder straps and crotch strap	Must fit lengthwise on bench seat \$125



Rear-facing baby in Hippo convertible
car safety seat that rear-faces to 35 lbs



Forward-facing child in Hippo that forward faces to 65 pounds


Children who cannot use traditional harnesses



CRD	Size	Harness	Positioning	Comments
Hope car bed 	4.5-35 lbs. Up to 29"	Restraint bag	Back Abdomen Right-side	Requires 2 seat belts \$850
Jefferson 	7.5-40 lbs.	Yoke harness	Semi-upright Rear-facing angle up to 50 degrees	Rear-facing only \$850



2 weeks old; born 4 weeks prematurely; omphalocele and trisomy 3; positioned in Hope car bed restraint bag



9 months, 18 pounds
Source: Children's Hospital of the King's Daughters
Norfolk, VA

Children who require additional postural support

CRD	Size	Description	Accessories
	Varies: 20-150 lbs.	Look similar to FF CSS Require some type of tethering system	Head support pads, abductor wedge, seat extenders, lateral supports, scoliosis harness, incontinence covers \$597-\$2,000
	Varies: 30-175 lbs.	Must use shoulder/lap belt across child for restraint Some require LATCH	Postural harness Head support pads Abductor, seat extender, lateral supports, footrests, trays \$595-\$2,000

Hazel

- 18-y.o. with autism, blindness, and sensory processing disorder with communication deficits and lack of safety awareness
 - 80 pounds
 - 55 inches
- Currently in lap/shoulder belt
- Mom concerned that Hazel does not sit still and will put shoulder belt behind back



Hazel



- Hazel nearing height or weight limits for many large medical seats
- Selected Churchill booster seat:
 - Provided upright sitting position
 - Includes adjustable vest that provided compression helpful in calming Hazel
 - Booster cushion with no sides facilitated ease in transferring

Rose

- 15-y.o. with spastic cerebral palsy & scoliosis
 - 90 pounds
 - 53 inches
- Riding in adaptive booster seat
- Booster did not provide lateral support required to hold her in upright sitting position

Rose

- Selected Columbia 2500 large medical seat



Rose



- Rigid sides and block style support pads provided more support for scoliotic curvature
- Allowed for proper harness adjustment
- Rigid pommel helped to position pelvis

Nancy & Joan

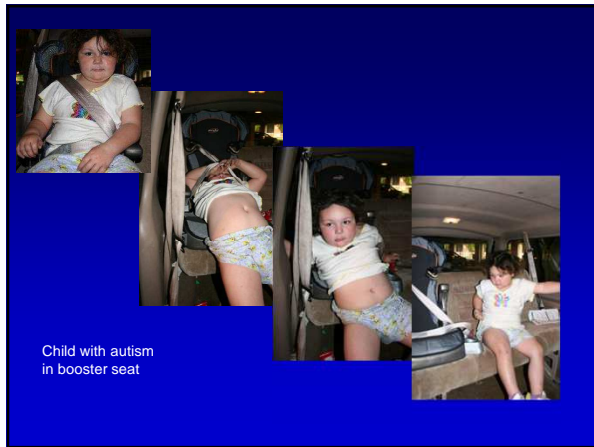
- 10-y.o. and 12-y.o sisters with trichothiodystrophy
 - 44 pounds, 48 inches
 - 49 pounds, 48 inches
- Riding in car safety seats with harnesses they had outgrown
- Dad concerned because they fell over in car, due to lack of support offered by car safety seats

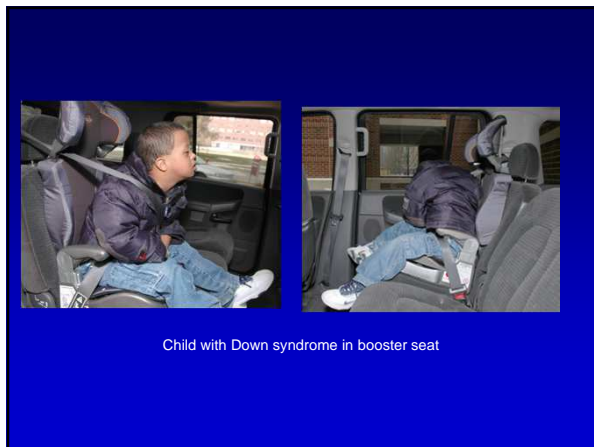
Nancy & Joan

- Selected Monza adaptive boosters:
 - Both girls fit well in seats
 - Had long and lean body type
 - Both adaptive boosters fit well in small back seat of family vehicle



Children with severe behavioral issues







“Desperate” Measures





CRD with Anti-Escapism Features	Size	Comments
Large medical seat with "anti-escapism" accessories 	Varies: 20-130 lbs.	Use with specific CSS, not interchangeable Additional charge for accessory
E-Z-ON vest with floor mount tether 	At least 2-y.o. 20-168 lbs. Back closure model	Bench seat or captain's chair Heavy duty hardware anchored to vehicle floor Tether wraps around vehicle seat and attaches at shoulder and hip D-rings

Lucy

- 5-y.o. with autism
 - 36 pounds
 - 40 inches
- Riding in a child safety seat with harness to higher weights
- Pushes chest clip down, wiggles out of harness

Lucy

- Selected Roosevelt large medical seat with “anti-escapism” features



Lucy

- Chest clip guard



- Buckle cover



Mia

- 7-y.o. old with autism
- Riding in 5-point harness
- Pushes chest clip down
- Mom had made homemade chest clip cover



Mia

- Chose E-Z-On vest with rear zipper and floor mount tether
 - Eliminates use of seat belt
 - All closures/hooks behind Mia
 - Ensured Mia will stay buckled in vehicle



RESOURCES

Pennsylvania

- Loan programs for conventional car safety seats: search www.pakidstravelsafe.org
- Hope car beds and Hippo car safety seats in ~ 35 hospitals
- Hope car beds in a number of rural pediatric practices identified through the medical home project
- Call 1-800-CAR-BELT for details

National

- National Center for the Safe Transportation of Children with Special Healthcare Needs
- 1.800.755.0912
- *Safe Travel for All Children* course
- www.preventinjury.org



National

- <http://cert.safekids.org>
 - Search for child passenger safety technicians with special needs training
- www.healthychildren.org
- AAP policy statements
 - Premature and low birth weight infants reaffirmed in 2013
 - Special needs being revised

CAR BEDS

Product	Manufacturer	Website
Angle Ride	Angel Guard	www.angel-guard.com
Dream Ride SE	Dorel Juvenile Group	www.djgusa.com
Hope	Merritt Manufacturing	www.eztether.com

CRD FOR CASTS

Product	Manufacturer	Website
Hippo Convertible Car Seat	Britax Distributed by Snug Seat	www.snugseat.com
Modified E-Z-ON Vest	E-Z-ON Products	www.ezonpro.com

CSS for OMPHALOCELES

Product	Manufacturer	Website
Hope	Refer to Car Beds table	Refer to Car Beds table
Jefferson Rear-Facing Car Seat	Merritt Manufacturing	www.eztether.com

LARGE MEDICAL SEATS

Product	Manufacturer	Website
Carrie Car Seats: Preschool, elementary, junior, small adult	Tumble Forms	www.pattersonmedical.com
Columbia: 2000, 2500, 2400 Spirit	Columbia Medical	www.columbiamedical.com
Recaro ProSPORT Reha	Recaro/Thomashilfen	www.thomashilfen.us
Roosevelt	Merritt Manufacturing	www.eztether.com
Special Tomato: Small and large	Bergeron	www.specialtomato.com
Traveller Plus EL	Britax/Snug Seat	www.snugseat.com

ADAPTIVE BOOSTERS

Product	Manufacturer	Website
Carrot 3	Convaid	www.convaid.com
Churchill	Merritt Manufacturing	www.eztether.com
Monza	Recaro/Thomashilfen	www.thomashilfen.us
Pilot	Snug Seat	www.snugseat.com
Recaro Start 2.0 Plus		

CRD WITH "ANTI-ESCAPISM" FEATURES

Product	Manufacturer	Website
Specific Large Medical CSS	Refer to Large Medical CSS table	Refer to Large Medical CSS table
E-Z-ON Vest	E-Z-ON Products	www.ezonpro.com