



# CONSIDERATIONS FOR SELECTION OF A CAR SEAT

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Over the past three years, car seat referrals have jumped from 70 to 800 per year at Cincinnati Children's Hospital Medical Center. As this trend continues, it becomes increasingly important for our therapists to have a good understanding of the complexities involved in evaluating for a special needs car seat. This article will briefly run through some evaluation considerations and provide a few case studies to bring to light this often forgotten but critical piece of special needs equipment.

## BEHAVIORAL

For behavioral clients, the main concern is to keep the child safe in their seat. Safety seats should have fasteners that are difficult or impossible for the child to get out of on their own. Because of this, caregivers should have quick access to belt cutters in the case of emergencies. The size of the child is important due to lack of options, especially for larger individuals above 170 pounds. Types of behaviors should also be considered as well as severity. Is the child sensory seeking or an escape artist? Do they need help keeping their hands and legs to themselves? Many safety seats use seat belts for securing the child, therefore buckle guards may need to be used for certain clients. The type of buckle guards and quality is also important as some are simple twist and turn variations while others use sophisticated locks with keys and guards used by law enforcement. Knowing out of pocket options

will help bridge between current commercial seats and adaptive ones due to the extended time needed for funding equipment.

## POSITIONAL

For a positional child, seating and positioning knowledge comes into play. The main goal is to consider what parts of the child's body are lacking control and plan accordingly, choosing the appropriate product that is able to provide the needed support. For all car seat evaluations, size of the child is extremely important as car seats are grown in the back height and seat depth not hip width. Knowing the accessories of each seat helps (swivel option, leg rests, incontinence liner, scoliosis kits, etc.) as transfers, hygiene and 24-hour positioning are all important when providing a special needs car seat. Finally, the year and make of each family vehicle will provide insight on LATCH setup, placement of anchors and the type of seat belts used in the car. All of this information can be found in the vehicle owner's manual and car seat manual for reference.

## CASE STUDY 1

Lacy is a 14-year-old girl with a diagnosis of autism and severe behaviors including self-injury and aggression towards others. Lacy was having issues staying in her seat and was disturbing the driver and other passengers during travel. This is a common occurrence with the behavioral population and puts the driver and passengers at severe risk. She was referred to the Children's Hospital Medical Center Aron W. Perlman Center (Perlman Center) to evaluate for a safety harness. During the evaluation, we learned that Lacy was escaping her EZ-ON Vest while traveling in the family car (2008 Pontiac G6). This vest is frequently used for school aged children during bus travel. Unfortunately, Lacy had outgrown the vest and there was no mount installed in the family car, which is a critical component for this product in children with behavioral issues over 68 pounds.

**IT BECOMES INCREASINGLY IMPORTANT FOR OUR THERAPISTS TO HAVE A GOOD UNDERSTANDING OF THE COMPLEXITIES INVOLVED IN EVALUATING FOR A SPECIAL NEEDS CAR SEAT.**

Other than her EZ-ON Vest, there were only a few options to consider. The Roosevelt car seat with Escape Proof option could have been used. This adaptive car seat manufactured by Merritt may be used for individuals from 30 to 100 lbs. Lacy would have fit in this seat however the size of the Roosevelt made it difficult to fit in the Pontiac or transfer from car to car. Another option was the Churchill vest. This product fastens together with heavy duty Velcro and can have snap buckles added, making it more difficult to take off. Even with the added buckles, Lacy could have easily ripped off the vest due to her high cognitive and fine motor functioning. Because of these factors, the only options were the EZ-ON vest using a floor mount or the Churchill Safety Harness. The safety harness comes with a locking chest clip and crotch buckle guard making it very difficult to escape from if used properly. After going through the safety features of the harness and making sure Lacy's family knew how to install it, the harness was provided to Lacy's family to maintain her safety during family travel.

## CASE STUDY 2

Christine is a 30-year-old woman with a diagnosis of spastic quadriplegic cerebral palsy. She was referred to the Perlman Center for multiple pieces of adaptive equipment, including a specialized car seat. She needed a seat that would support her trunk and pelvis in an appropriate position for safety and comfort. The car seat also needed to provide appropriate head support to prevent hyperextension. Without these supports to maintain an appropriate position, Christine would be at risk for significant injury or death in the event of a car accident. Christine trialed several car seats during the evaluation process. Due to her positioning needs, the Roosevelt, Spirit Plus and Churchill Vest were all trialed with variable success. The Roosevelt seat fit Christine but did not provide appropriate trunk support and the upright positioning was difficult for her to tolerate. The Spirit Plus had more positioning options with hip guides and laterals but was

difficult to transfer in and out of due to all of the aforementioned equipment. We decided that the Churchill Vest would offer trunk support while also enabling Christine to extend her trunk slightly, which provided better seating tolerance during travel. The added hip wedges provided a perfect hip and back angle to improve tolerance while also managing tone in a more comfortable position. Finally, the Churchill Vest is easy to move from car to car, which could be an option later on for Christine's family.

Christine's family had a 2006 Toyota Sienna that they used for travel. Christine had outgrown her last car seat (commercial booster) and her family was using a bed sheet tied around her waist to hold her up while in the van! Obviously, she was in dire need of safe support during travel. The family had many grandchildren so the Sienna was packed with other car seats which took some planning on where best to position her safety seat. Since two commercial car seats were in the third row, care was taken to keep Christine in the center, second row. This would allow for the family to move freely in the van without Christine blocking their path. The LATCH setup allowed for Christie to be positioned in the middle of the second row without problems. The family was educated on the proper use and positioning considerations. They also were able to demonstrate the ability to install and reinstall the vest as needed.

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*William Danner has been an occupational therapist for 19 years with experience in outpatient, inpatient, behavioral, acute and home health settings. He has been a member of the Aron W. Perlman Center team at Cincinnati Children's Hospital Medical Center for the past eight years and specializes in assistive technology assessments including augmented communication, wheelchairs, upper extremity supports, ADL equipment and car seats. Several years ago, Danner began his descent into the world of adaptive car seats and is the lead therapist in charge of triaging Perlman's growing number of car seat referrals.*