

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF WISCONSIN

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ESTATE OF THE LATE  
DAYTONA J. BREWSTER,  
LORI A. BARTRAM,  
JASON A. BREWSTER, and  
MONICA BARTRAM,

Plaintiffs,

v.

DOREL JUVENILE GROUP, INC.,

Defendant.

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OPINION AND ORDER

05-C-0005-C

This civil case for monetary damages resulting from the alleged failure of an infant's car seat manufactured by defendant Dorel Juvenile Group, Inc. is before the court following an evidentiary hearing held on December 20, 2005. The question raised is whether the proposed testimony of plaintiffs' expert, Frederick Elder, meets the standards for expert testimony set out in Daubert v. Merrell Dow Pharmaceuticals, Inc. 509 U.S. 579 (1993).

Plaintiffs have alleged that defects in the harness latch used in the car seat caused the death of Daytona J. Brewster, the infant son of plaintiffs Lori Bartram and Jason Brewster. They have secured the services of Dr. Frederick Elder to examine and analyze the latching

mechanism used in Daytona's car seat. It is Elder's opinion that the latch in question is defective in several respects: (1) the latch plate can be inserted into the latch mechanism in a "false latch" position, that is, far enough into the mechanism to give the appearance of latching but not so far as to engage the latch plate and prevent it from coming loose when pressure is applied to the child retention straps. Once pressure is applied, such as by the child climbing out of the seat, the straps will move up the child's body, forming a natural noose around the child's neck; (2) the latch design offers no disgorging mechanism to clear false latching; and (3) neither the latch plate nor the latch mechanism is marked to distinguish between latched and false latched positions. Thus, the false latching is a hidden defect that would not be observable by car seat owners. (In his written opinions, Elder identified the angle of the car seat as a design hazard that makes the hanging more likely; once the child exits the seat with the loop around his neck, the seat angle tightens the noose as he struggles. My understanding from the hearing is that plaintiffs are not pursuing the contention that the car seat angle is a design defect.)

Defendant has attacked Elder's testimony on a number of grounds. Elder has no training or experience in the car seat industry; he cannot point to any relevant federal design or performance standards to support his testimony; he has not cited any relevant literature or industry practice in support of his opinions; he has not tested either the feasibility of his proposals to add marks to the latch plate or latching mechanism or the utility of such marks;

and his investigation is not an analysis of the accident history but merely a determination of one way that the accident *might* have occurred, assuming that the deposition testimony of Daytona's parents is accurate and complete.

In support of Elder's testimony, plaintiffs assert that he is a qualified engineer with a Ph.D. in mechanical engineering; he has taught design courses to upper level engineering students in mechanical engineering and has design experience with ocean-going winches and HVAC systems; he is qualified to investigate and provide opinions about the latching mechanism, which is a subject well within the province of a mechanical engineer; his investigation has disclosed the way in which the latch plate may be falsely latched while appearing to be fully engaged; and he has identified a practical means of alerting car seat owners to a false latch by adding colored marks that would be exposed if the latch is not fully engaged.

According to Elder, the car seat latch is composed of two injection-molded plastic parts and one metal spring. One of the plastic parts is the housing for the latch. It consists of a plastic inclined ramp and a slot to accept the latch plate, which is attached to the two child restraint straps. The plate or tongue has a cutout rectangle near its forward edge and another cutout above the bend aft of the tongue; a continuous loop of nylon webbing is threaded through the upper cutout. The two ends of the loop are anchored through two slots in the upper back of the car seat shell; one slot is located on each side of the infant's

shoulder area.

The second plastic part of the latch mechanism runs inside the housing and combines the functions of latch and latch release. When the latch plate is inserted into the latch, it forces the inclined ramp of the mechanism to move down against the spring. When the slot of the metal latch plate is aligned with the inclined ramp, the force of the spring moves the inclined ramp upward into the slot and engages. If the latch plate is angled upward during insertion either because of human force or by soft car seat material, the back edge of the opening in the latch plate catches on the front nose of the housing as the latch plate moves toward the latch plate and is retained by the housing. This catching stops the latch plate from seating firmly in the latch. The movement of the plate toward the latch can cause a muffled clicking sound that could be heard as confirmation of full latching, even though the latch is not fully engaged.

Elder is of the opinion that his false latching theory is the only explanation that is consistent with the account that Daytona's parents gave of the accident. Jason Brewster testified that he put Daytona in his rear-facing car seat in the back seat by lifting him over the front seat and placing him into the seat. He inserted the latch plate and then reached back and gave the restraint straps a pull. He drove around with Daytona and never noticed the latch plate coming out of the mechanism. Lori Bartram testified that she checked on Daytona twice while he was asleep in his car seat in the back seat of the car and never saw

the latch undone. If Jason had never connected the latch plate and latch, Lori would have noticed that Daytona was not buckled in. Jason could have given the straps a pull without dislodging the plate from the mechanism because he would have been pulling them at an angle rather than straight up as he would have done had he placed Daytona in the car seat from a standing or stooped position at the rear passenger side of the car.

In arriving at his opinion, Elder designed a computer model that allowed him to show the different ways in which the latch mechanism worked. He deconstructed the mechanism, using standard techniques of reverse engineering. (Because the parties agreed not to disassemble the actual seat, Elder used exemplars of the same mechanical configuration and drawings furnished by defendant for his analysis.). He made solid models and drawings of the mechanism and applied standard laws of physics.

## OPINION

The admissibility of expert testimony is governed by Fed. R. Evid. 702, which provides that “[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.” In working terms this means that “[p]roposed testimony must be supported by appropriate validation,” Daubert, 509 U.S. at 590, that is, it must have

evidentiary reliability, and it must also have “a valid scientific connection to the pertinent inquiry.” Id. at 591-92. In assessing the reliability of proposed expert testimony, the trial court’s role is “to determine whether the expert is qualified in the relevant field and to examine” the method he used to reach his conclusions. Smith v. Ford Motor Co., 215 F.3d 713, 718 (7th Cir. 2000).

Defendant’s challenges to Elder’s testimony emphasize what it is not. It is not accident reconstruction; it is not based on federal design and performance standards or on independent standards; and it does not depend on accident histories. Would it be more persuasive if Elder had been able to reconstruct the accident or if known standards or accident records existed to support his theory? Of course. But it does not follow that because the testimony is lacking in these respects, it would not be helpful to the jury or is not supported by appropriate validation. “[T]he Rule 702 test is a flexible one, and no single factor is either required in the analysis or dispositive as to its outcome.” Smith, 215 F.3d at 719 (citing Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141 (1999)).

Elder has analyzed a latching mechanism, using his mechanical engineering experience, education and training, and has come to the opinion that the mechanism is not as safe as it could be because it is subject to false latching. He cannot prove that the latch did not fully engage when Jason Brewster put Daytona into the car seat but he has proposed a reasonable explanation for the accident if the accounts of the accident given by Daytona’s

parents are accurate. Moreover, he has a suggestion for lessening the possibility of false latching by adding color to the latch or mechanism, which if visible, will indicate that the latch is not fully engaged. Elder is qualified to give this opinion; he has both academic and practical experience and he used well known and widely accepted techniques for investigating and analyzing the latch mechanism in issue. His testimony will be helpful to the jury when it has to decide how the accident in this case might have happened.

In addition to its other attacks on Elder's testimony, defendant calls the "false latching" a parlor trick that is not readily reproducible. Elder's deconstruction of the mechanism and his application of physics principles refute this characterization of his theory.

In allowing Elder to testify, I express no opinion on the persuasiveness of his opinions or analysis; that is a matter for the jury. I hold only that his testimony is sufficiently reliable and relevant to be admissible at trial.

#### ORDER

IT IS ORDERED that the motion of defendant Dorel Juvenile Group, Inc. to strike

the testimony of plaintiffs' expert, Frederick Elder, is DENIED.

Entered this 29th day of December, 2005.

BY THE COURT:  
/s/  
BARBARA B. CRABB  
District Judge