

IN THE MISSOURI SUPREME COURT

SUPREME COURT NO. SC90681

**JEANNE MOORE and MONTY MOORE,
Appellants,**

vs.

**FORD MOTOR COMPANY,
Respondent.**

**Appeal from the Circuit Court of St. Louis County, Missouri
Circuit Judge Mark D. Seigel, Case No. 06CC-003222**

SUBSTITUTE BRIEF OF RESPONDENT

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JURISDICTIONAL STATEMENT

Respondent Ford Motor Company adopts Appellant's Jurisdictional Statement as a correct statement of this Court's jurisdiction over this appeal.

STATEMENT OF FACTS

I. Procedural History.

This product liability case arises out of an accident in which a 2002 Ford Explorer, stopped or almost stopped while waiting to turn left across traffic, was hit in the rear by a Ford Expedition traveling at about 30 mph. (L.F. 14; Tr. 135, 759.) Jeanne Moore, the driver of the Explorer, was severely injured. (L.F. 15-16.) She and her husband ("Plaintiffs") brought a lawsuit against Ford Motor Company ("Ford") alleging negligence and strict liability in the design of the Explorer's seat and failure to warn. (L.F. 10-23.)

The trial court conducted a jury trial beginning on December 1, 2008. (L.F. 6.) At the close of Plaintiffs' case, the trial court directed a verdict in favor of Ford on the failure to warn claims (both negligence and strict liability). (Tr. 751.) Shortly thereafter, Plaintiffs dismissed their remaining negligence claims, leaving only a strict liability/defective design claim to go to the jury. (L.F. 186.) After more than two weeks of testimony, and approximately 25 minutes of deliberation, the jury returned a general verdict in favor of Ford. (L.F. 374-76.)

Plaintiffs' motion for a new trial was denied on March 13, 2009. (L.F. 455.) The Missouri Court of Appeals affirmed the trial court judgment on December 22, 2009.

(Appendix to Plaintiffs' Brief, "Pltfs' Apdx," A24.) This Court sustained Plaintiffs' application for transfer on March 23, 2010.

II. Facts.

A. The Accident.

On November 1, 2005, Mrs. Moore was driving a 2002 Ford Explorer which she and her husband had purchased used. (Tr. 693.) Mrs. Moore, who weighed about 300-325 pounds, was stopped or almost stopped waiting to complete a left turn across traffic. (L.F. 14; Tr. 461, 688-89.) A Ford Expedition traveling at about 30 mph rear-ended the Explorer. (L.F. 14, Tr. 135, 759.) The Expedition, a heavier vehicle than the Explorer (Tr. 127), struck the Explorer with enough force to send the vehicle more than 300 feet down the road before it left the roadway and traveled another 193 feet down a grassy hill, coming to rest after striking the side of a building. (L.F. 14, Tr. 157.) The forces put on the Explorer's driver's seat were such that Mrs. Moore's seat yielded rearward, leaving Mrs. Moore reclined in her seat after the accident. (L.F. 14.) Mrs. Moore's injuries rendered her a paraplegic. (L.F. 15-16.)

B. Plaintiffs' Design Defect Case.

At trial, Plaintiffs' theory was that Mrs. Moore's seat yielded or deformed rearward when her vehicle was hit by the Expedition, that she "ramped" up over the seat, and that she struck the rear seat with her head, neck and shoulders, causing a compression fracture to her thoracic spine. (Tr. 484-85.) Plaintiffs' expert, Louis D'Aulerio, conceded that if the striking vehicle had been smaller than a 6,000-pound Expedition or if the

collision had been at a lower speed, Mrs. Moore likely would not have been injured in this way. (Tr. 333.)^{1/}

Mr. D'Aulerio testified that the driver's seat in the Explorer was defective and unreasonably dangerous in design "because it's not strong enough to react to forces in a rear impact. It collapsed and allowed the body to move rearward until it was stopped by something else." (Tr. 259.) Mr. D'Aulerio also testified that Ford was negligent because it did not properly design the seat. (Tr. 264-65.) According to Mr. D'Aulerio, seats "should remain essentially upright" in collisions. (Tr. 272-73.)

Plaintiffs' counsel asked Mr. D'Aulerio *on direct examination* whether, by this testimony, he was "indicting virtually every front seat in every vehicle. . . ." (Tr. 273.) Mr. D'Aulerio agreed that he was indicting "a lot of them, yes." (Tr. 273.) To support Mr. D'Aulerio's testimony that the Explorer's seats were defective and unreasonably dangerous, Plaintiffs' counsel asked Mr. D'Aulerio, also on direct examination, to identify "other seats on the market or that were on the market in 2002 that are stronger than the seats in [Mrs. Moore's] Explorer." (Tr. 259.) In response, Mr. D'Aulerio

^{1/} Plaintiffs improperly suggest that this is "not the first time a person has suffered a serious injury from a weak Ford seat," citing *Newman v. Ford Motor Co.*, 975 S.W.2d 147, 149 (Mo. 1998). (Br. 26.) Plaintiffs presented no evidence at trial of any incidents that were substantially similar to Mrs. Moore's accident or injuries. *Newman* involved a different vehicle, a different seat, and a collision that took place under entirely different circumstances than the accident here.

identified a chart purporting to show the Explorer's seatback was not as strong as those in a few other vehicles, including a 1991 BMW 850. (Tr. 260; Plaintiffs' Exhibit 53, attached in Defendants' Appendix, A-1.) Plaintiffs offered this chart into evidence without limitation and it was admitted without objection as Exhibit 53. (Tr. 261; Exhibit 53.)

On cross-examination, Mr. D'Aulerio testified to the following without objection or limitation:

- The Explorer's seats were stronger than most of the seats on the market. (Tr. 278-79, 281-82, 284.)
- "[T]here's [sic] many, many other automobile manufacturers that make seats of this same strength." (Tr. 295.)
- The Explorer's seat strength was 17,000 inch-pounds, more than five times the standard required by the federal government. (Tr. 282.)
- General Motors' current seatback strength standard was 15,000 inch-pounds, 2,000 inch-pounds less than the strength of the Explorer's seat. (Tr. 280, 354-55.)
- The "industry position" was that stronger seats are not necessarily better, and the "general consensus in the industry" favored yielding seats. (Tr. 305-06, 313.)
- He knew of no passenger vehicle on the road that would meet his standard for seatbacks. (Tr. 319-21, 323.)

- Seats in most vehicles with the same size occupant would deform as much as or more than the Explorer's in an accident of the same severity as Mrs. Moore's. (Tr. 333.)

C. Ford's Design Defense.

Ford's evidence showed that it (like virtually all other motor vehicle manufacturers) designs its vehicle seats to yield in a rear-impact accident to absorb the energy of the collision and reduce the risk of injury in most rear-end collisions. Ford's expert, Roger Burnett, explained:

It is similar to the – when a stuntman jumps off a building into an airbag, it slows him down over the depth of that airbag until he gets to the concrete six feet or however deep the airbag is, that's how he can survive the impact, rather than a much shorter landing on a mattress or landing just on the concrete. It's a much shorter period of acceleration. You want to cushion and a lot of things to give to spread the time out which lowers the loads on the person.

(Tr. 836.) Indeed, this same concept is applicable to seatbelts, which Plaintiffs at trial analogized to seatbacks. (Tr. 218, Br. 27.) A seatbelt stretches and gives in a front-end collision so that the occupant is not subjected to the full force of hitting a rigid seatbelt. (Tr. 840.) In contrast, a seatback or seatbelt that is rigid or non-yielding poses a greater risk of injury to the occupant because the forces of impact may be transmitted directly to the occupant. (Tr. 841-42.) For example, increasing seatback strength will increase the

accident forces acting on the spine and increase the risk of spinal injury in rear impact collisions. (Tr. 841-42.)

Therefore, Ford's evidence showed that the non-yielding seatback design proposed by Mr. D'Aulerio would "increase the risk of injury to most people in most collisions." (Tr. 841.) To demonstrate this, Ford's expert, Mr. Burnett, tested a BMW 850 – one of the vehicles specifically identified by Mr. D'Aulerio as having stronger seats than the Explorer – in the type of test recommended by Mr. D'Aulerio. (Tr. 879-83.) The results were neck loads on the dummy "that were so far beyond the tolerance levels, they would represent a definitely serious injury, possibly a fatality." (Tr. 880.)

In the majority of accidents, Ford's yielding seats will not yield to any noticeable degree. (Id. at 842-43, 866.) In some rear-end collisions, however, the combination of the size and weight of the vehicles, the speed of the collision, the direction of impact, the size of the occupant, and the position of the occupant produce forces such that the seat yields rearward, as designed. (Tr. 307-08, 814, 866.) In this case, Ford's experts concluded that Mrs. Moore must have been leaning slightly to the right prior to impact. (Tr. 1101-10, 1185-93, 1207-10.) The impact caused the upper portion of Mrs. Moore's body to extend backwards around the side of the seatback. (Tr. 1207-10.) The seat frame acted as a fulcrum as her back extended rearward, and this hyperextension caused Mrs. Moore's thoracic injuries. (Id.) Thus, Ford's experts concluded, the yielding seatback did not cause Mrs. Moore's injury as Plaintiffs claimed.

D. Plaintiffs' Failure to Warn Case.

At trial, Plaintiffs also advanced a theory that Ford was liable because it failed to provide a warning to Plaintiffs relating to the potential for the front driver's seat to yield in an accident such as this one. (Br. 20.) They did not present any evidence of what an appropriate warning should have said, how such a warning should have been conveyed to purchasers of used cars, or what effect a warning would have had on the actions of reasonable consumers. Nevertheless, Mr. and Mrs. Moore both testified, over Ford's objection, that they would not have purchased the Explorer had they been warned that the Explorer's seats were not "designed for people of [Mrs. Moore's] size." (Tr. 696-97; Tr. 649-51.) Plaintiffs presented no evidence concerning what vehicle they would have purchased as an alternative to the Explorer, no evidence that any vehicle they might have purchased would have prevented Mrs. Moore's injuries in this accident, and no evidence that any vehicle on the market had seats designed specifically for people of Mrs. Moore's size.

Plaintiffs' argument that the Explorer's seats were not "designed for people [Mrs. Moore's] size" was based on evidence that Ford did not conduct design tests with dummies heavier than a 95th percentile male dummy weighing about 220 pounds. (Br. 7-8.) In fact, however, Ford does design its vehicles for heavier occupants, not by testing with dummies heavier than the standard dummy used by the industry and by the government, but by testing at impact speeds that are significantly higher than standard tests run by the rest of the industry. (Tr. 820-23.) Ford's expert explained:

[I]f we want to test the severe impact between an occupant and a seat, that severe impact can be created by increasing the weight of the dummy or using a standard dummy and increasing the velocity of the impact. And you actually get a greater severity increase by increasing the velocity because it's a squared term in the energy equation . . . [So] . . . 25 mile-per-hour [delta v] with a 50th percentile [175-pound] dummy is . . . a more severe impact between the occupant and the seat than the 300-pound dummy at 17 miles per hour [delta v].

(Tr. 822-23.)² Other manufacturers test their vehicles only up to about 17 delta v; Ford tests up to 25 delta v, higher than any other manufacturer in the industry. (Tr. 815, 820.) Plaintiffs' expert, Mr. D'Aulerio, conceded that he could not identify any car manufacturer that tested its seats to standards as high as Ford's. (Tr. 304.)

² Delta v is the expression of change in velocity often used to evaluate the severity of an accident. A basic explanation of delta v is this: If one vehicle impacts a stopped vehicle of the same size at 60 mph, the striking vehicle will be instantaneously slowed from 60 mph to 30 mph and the struck vehicle will be instantaneously accelerated from 0 to 30 mph. Thus, the resulting delta v will be 30 mph for each vehicle. (Tr. 356, 815.)

E. The Verdict.

The trial court granted a directed verdict on Plaintiffs' failure to warn claims at the close of Plaintiffs' case, and Plaintiffs then withdrew their remaining negligence claims. (Tr. 751; L.F. 186-87.) At Plaintiffs' request, the jury was instructed to disregard any evidence of the seat's compliance with government standards. (L.F. 369.) However, Plaintiffs never sought a limiting instruction telling the jury to disregard or limit the consideration of any other evidence presented in their case-in-chief.

The case was submitted to the jury on Plaintiffs' strict liability claim based on an alleged design defect. (L.F. 359-73.) The jury returned a general verdict for Ford, necessarily finding that the Explorer's seat was not defective, that any defect did not cause Mrs. Moore's injuries, or both. (L.F. 374.)

POINTS RELIED ON

- I. THE TRIAL COURT CORRECTLY DIRECTED A VERDICT ON PLAINTIFFS' FAILURE TO WARN THEORIES BECAUSE PLAINTIFFS DID NOT PROVE THAT THE ABSENCE OF A WARNING MADE THE EXPLORER UNREASONABLY DANGEROUS OR CAUSED MRS. MOORE'S INJURY.**

Arnold v. Ingersoll-Rand Co., 834 S.W.2d 192 (Mo. 1992)

Arnold v. Ingersoll-Rand Co., 908 S.W.2d 757 (Mo. App. 1995)

Morgen v. Ford Motor Co., 797 N.E.2d 1146 (Ind. 2003)

- II. THE TRIAL COURT PROPERLY LIMITED THE CROSS-EXAMINATION OF DR. HARRY SMITH BECAUSE THE EXCLUDED CROSS-EXAMINATION WAS NOT RELEVANT TO THE ISSUES OF THE CASE AND PLAINTIFFS DID NOT PRESERVE THEIR CLAIM OF ERROR FOR REVIEW.**

State v. Foulk, 725 S.W.2d 56 (Mo. App. 1987)

Terry v. Mossie, 59 S.W.3d 611 (Mo. App. 2001)

Lineberry v. Shull, 695 S.W.2d 132 (Mo. App. 1985)

Cline v. William H. Friedman & Ass., Inc., 882 S.W.2d 754 (Mo. App. 1994)

- III. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION IN ADMITTING THE SEAT DESIGN EVIDENCE ABOUT WHICH PLAINTIFFS COMPLAIN BECAUSE THE EVIDENCE WAS RELEVANT,**

SUBSTANTIALLY SIMILAR EVIDENCE WAS ADMITTED WITHOUT OBJECTION, AND ANY ERROR WAS WAIVED OR WAS HARMLESS.

Guess v. Escobar, 26 S.W.3d 235 (Mo. App. 2000)

Moll v. General Automatic Transfer Co., 873 S.W.2d 900 (Mo. App. 1994)

Miller v. Yazoo Mfg. Co., 26 F.3d 81 (8th Cir. (Mo.) 1994)

DiCarlo v. Keller Ladders, Inc., 211 F.3d 465 (8th Cir. (Mo.) 2000)

IV. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION IN ADMITTING TESTIMONY OF DR. CATHERINE CORRIGAN BECAUSE PLAINTIFFS HAVE NOT PROPERLY PRESERVED ALL OF THEIR CLAIMED ERRORS FOR REVIEW, BECAUSE NONE OF HER OPINIONS CONSTITUTED “MEDICAL TESTIMONY,” AND BECAUSE SHE WAS QUALIFIED TO STATE ALL OPINIONS TO WHICH SHE TESTIFIED.

Koedding v. Kirkwood Contractors, Inc., 851 S.W.2d 122 (Mo. App. 1993)

Carlisle v. Hitachi Koki U.S.A. Ltd., 2007 WL 1100454 (W.D. Mo. April 10, 2007)

Spencer v. Knapheide Truck Equipment Co., 1997 WL 342235 (W.D. Mo. June 17, 1997)

V. THE TRIAL COURT DID NOT ERR IN DENYING A NEW TRIAL BASED ON CUMULATIVE ERROR BECAUSE THERE WAS NOT CUMULATIVE TRIAL COURT ERROR SUFFICIENT TO JUSTIFY REVERSAL.

DeLaporte v. Robey Bldg. Supply, Inc., 812 S.W.2d 526 (Mo. App. 1991)

Crawford ex rel. Crawford v. Shop 'N Save Warehouse Foods, Inc., 91 S.W.3d
646 (Mo. App. 2002)

Koontz v. Ferber, 870 S.W.2d 885 (Mo. App. 1993)

ARGUMENT

I. THE TRIAL COURT CORRECTLY DIRECTED A VERDICT ON PLAINTIFFS' FAILURE TO WARN THEORIES BECAUSE PLAINTIFFS DID NOT PROVE THAT THE ABSENCE OF A WARNING MADE THE EXPLORER UNREASONABLY DANGEROUS OR CAUSED MRS. MOORE'S INJURY.

A. Introduction And Standard Of Review.

Plaintiffs first argue that the trial court erred in granting a directed verdict on their strict liability and negligent failure to warn claims. (Br. 18.) Plaintiffs do not argue that a warning of any kind would have caused Mrs. Moore to use her vehicle in a different way on the day of the accident. Rather, they contend only that they would not have purchased the Explorer if they had been warned that “the front seats could collapse in rear impacts” or “the front seats were not tested or designed to perform with occupants of [Mrs. Moore’s] size.” (Br. 19.) Beyond this, Plaintiffs never explain what an appropriate warning would have said. Further, although they never expressly say it (let alone cite supporting evidence), Plaintiffs seem to assume that if they had not purchased the Explorer, Mrs. Moore would have been driving a different vehicle on the day of the accident and would not have suffered her spinal cord injury. (*See* Br. 31-37.)

“In an appeal challenging a directed verdict in favor of a defendant, we review to determine whether a submissible case was made by the plaintiff.” *Crane v. Drake*, 961 S.W.2d 897, 900 (Mo. App. 1998), *citing Matthis v. Jones Store Co.*, 952 S.W.2d 360,

365 (Mo. App. 1997). “To make a submissible case, a plaintiff must present substantial evidence for every fact essential to liability.” *Erdman v. Condaire, Inc.*, 97 S.W.3d 85, 88 (Mo. App. 2002), *citing Coggins v. Laclede Gas Co.*, 37 S.W.3d 335, 338 (Mo. App. 2000). The Court does not “supply missing evidence or give the plaintiff the benefit of unreasonable, speculative, or forced inferences.” *Id.* “Whether evidence in a case is substantial and whether inferences drawn are reasonable are questions of law.” *Erdman*, 97 S.W.3d 85, 88, *citing Coggins*, 37 S.W.3d 335, 339. Because all of the issues raised by Plaintiffs’ first point are questions of law, they are reviewed *de novo* by this Court. *Williams v. Kimes*, 996 S.W.2d 43, 44-45 (Mo. banc 1999).

Plaintiffs did not make a submissible case for failure to warn under either strict liability or negligence theories because they did not present substantial evidence of two essential elements of their case. First, Plaintiffs did not present substantial evidence that the Explorer’s seat was defective or unreasonably dangerous without a warning. In fact, the only argument advanced by Plaintiffs on appeal is that proof that a vehicle is unreasonably dangerous because of its design is necessarily sufficient to show that it is unreasonably dangerous without a warning. (Br. 23-30.) But this argument ignores the fact that the jury in this case rejected their claim that the design was unreasonably dangerous.

Second, Plaintiffs’ theory of causation is both legally unsound and unsupported by competent evidence. It is legally unsound because the same type of theory was rejected by this Court in *Arnold v. Ingersoll-Rand Co.* (“*Arnold I*”), 834 S.W.2d 192 (Mo. banc 1992). It is unsupported by competent evidence because Plaintiffs did not establish by

competent or substantial evidence that (1) if given a warning they would have purchased any vehicle other than an Explorer or (2) any other vehicle they might have purchased would have prevented Mrs. Moore's injuries. Therefore, the trial court did not err in granting a directed verdict on Plaintiffs' failure to warn claims.

B. Plaintiffs Did Not Present Substantial Evidence That The Absence of a Warning Made the Explorer's Seat Unreasonably Dangerous.

A directed verdict was proper on Plaintiffs' failure to warn claims because they did not present substantial evidence that the Explorer was defective or unreasonably dangerous without a warning.³ In fact, Plaintiffs' argument on appeal confirms that they

³ Plaintiffs concede that they were required to prove that the absence of a warning rendered the product unreasonably dangerous in order to prevail on their strict liability claim based on failure to warn. (Br. at 23.) Further, if the absence of a warning did not make the vehicle unreasonably dangerous, Ford could not have breached its duty under negligence law to provide warnings necessary to make the product reasonably safe for use. *See, e.g., Gerhard v. Terminal R. Ass'n of St. Louis*, 299 S.W.2d 866, 872 (Mo. 1957) (bridge operator's duty was to "use ordinary care to keep the bridge in a reasonably safe condition for travel thereon"); *German v. Kansas City*, 512 S.W.2d 135, 143 (Mo. 1974) (city had duty to provide warnings necessary "to keep its streets in a reasonably safe condition for travel"); *Singleton v. Charlebois Const. Co.*, 690 S.W.2d 845, 847 (Mo. App. 1985) ("an invitee is owed the duty of ordinary care by the [land]owner to keep the premises reasonably safe").

made no attempt to prove that the vehicle was unreasonably dangerous in any respect other than its design.

The only evidence Plaintiffs cite as proof that the vehicle was unreasonably dangerous without a warning is the testimony from their experts that the vehicle was unreasonably dangerous because of its *design*. (Br. 23-30.) For example:

Mr. D'Aulerio opined that the driver's seat in Jeanne's Ford Explorer was defective and unreasonably dangerous "because it did not do the job that it's intended to do, that is, to protect people during rear impacts," and was not strong enough to prevent Jeanne from moving rearward and hitting the backseat. [Tr. Vol. I, p. 259, 1.1-p. 260, l. 1]. From this substantial evidence a reasonable jury could have concluded Ford's seat was unreasonably dangerous if used by Jeanne without knowledge of its characteristics.

(Br. 28.) In fact, Plaintiffs argue that it was "inconsistent" for the court to find that they had presented substantial evidence that the Explorer's seatback was unreasonably dangerous because of its design but that they had not presented substantial evidence that the seatbacks were unreasonably dangerous when used without a warning. (Br. 22.) This was inconsistent, Plaintiffs assert, because "the former is more restrictive than the latter." (*Id.*)

In other words, Plaintiffs argue if a product is unreasonably dangerous because of its design, with or without a warning, it is automatically unreasonably dangerous without

a warning. This appears to be Plaintiffs' *only* argument in support of their theory that the vehicle was defective and unreasonably dangerous because of the absence of a warning. However, this argument serves only to defeat Plaintiffs' appeal. When the jury rejected Plaintiffs' argument that the Explorer's seatback was defective and unreasonably dangerous because of its design, the jury necessarily rejected Plaintiffs' only basis for claiming that the vehicle was defective and unreasonably dangerous without a warning.⁴

Theoretically, of course, Plaintiffs could have tried to prove that the seatback, even if properly designed, was nevertheless unreasonably dangerous because of the absence of a warning. *See, e.g., Palmer v. Hobart Corp.*, 849 S.W.2d 135, 142 (Mo.App. 1993) (finding of no defect in design was not inconsistent with finding of failure to warn defect). But whether the lack of a warning makes a product defective or unreasonably dangerous logically requires evidence distinct from the evidence that would support a design defect claim – starting with proof of what warning should have been given. *See, e.g., Morgen v. Ford Motor Co.*, 797 N.E.2d 1146, 1152 (Ind. 2003).

⁴ It may be that the jury's verdict was based on a finding that the seatback did not cause Mrs. Moore's injury rather than a finding that the seatback was not unreasonably dangerous. If so, *all* failure-to-warn theories Plaintiffs might have advanced on appeal would be foreclosed. *See, e.g., Arnold I*, 834 S.W.2d 192, 194 (proof of causation in failure to warn cases requires proof that plaintiffs' injuries were caused by the product from which the warning is missing).

Plaintiffs cite two decisions of the Court of Appeals holding that proof of an alternative *design* is not necessary to prove a *design* defect claim. (Br. at 21, citing *Smith v. Brown & Williamson Tobacco Corp.*, 275 S.W.3d 748, 789-90 (Mo. App. 2008) and *Thompson v. Brown & Williamson Tobacco Corp.*, 207 S.W.3d 76, 108 (Mo. App. 2006).) Even assuming these decisions are correct, however, a failure to warn claim is significantly different. Without proof of what a warning would have said, it is not possible to evaluate whether it would have made the product safer. Nor is it possible to determine how the Plaintiff or reasonable consumers in general would have responded to a warning if the substance of that warning is unknown.

For example, the issues a jury would be required to resolve in this case would differ depending on whether the warning should have been (1) “Do not buy this vehicle because the seats are defectively designed,” (2) “The seats in this vehicle were not designed for people over 300 pounds,” (3) “This vehicle was not tested with dummies over 220 pounds,” or (4) “The seatbacks in this vehicle are designed to yield rearward in rear-end collisions to absorb energy and provide the greatest protection to most occupants in most collisions, but there is a risk that yielding seats may lead to injuries to some occupants in some collisions.” If Plaintiffs were advocating the first warning (as their argument on the unreasonably dangerous issue suggests they are), a finding by the jury that the seatbacks were not defectively designed would end the inquiry. If Plaintiffs were proposing the second warning, Ford would defend itself by proving (among other things) that the warning was simply untrue; the vehicle was designed for occupants of all sizes. If Plaintiffs were advocating the third warning, Ford would defend itself by proving

(among other things) that the warning was misleading and not beneficial to consumers because it does not take into account the delta v of the tests. And if Plaintiffs were advocating the fourth warning, Ford would defend itself by proving (among other things) that dozens, if not hundreds or thousands, of non-defective motor vehicle components present risks of injuries to occupants of all shapes and sizes in all types of collisions at all speeds and angles with all types of vehicles. Thus, no reasonable consumer would elect not to buy a vehicle because of one such risk associated with one such component in one type of accident, because any alternative vehicle would pose its own risks associated with the same or other components in the same or other types of accidents.

But here, Ford, the jury, the trial court, the Court of Appeals, and this Court have no way to know which of these warnings – if any – Plaintiffs are advocating. As the Indiana Supreme Court has recognized, this makes rational evaluation of Plaintiffs’ failure to warn claim impossible:

“[S]upporting and opposing evidence relevant to a determination of what a proper warning should state . . . [is] indispensable to a rational conclusion that the product was defective and unreasonably dangerous to the user without warnings *and* to a rational conclusion that such unreasonably dangerous condition was the proximate cause of accident and injury.” Without such evidence, the parties and appellate courts are required to hypothesize as to specific warnings that would meet muster.

Morgen, 797 N.E.2d at 1152 (emphasis in original), quoting *Nissen Trampoline Co. v. Terre Haute First Nat'l Bank*, 358 N.E.2d 974, 978 (Ind. 1976).

Moreover, proof that the absence of a warning renders a product defective logically requires evaluation of several factors, including a consumer's normal expectations of how a product will perform; degrees of simplicity or complication in its operation or use; the nature and magnitude of the danger to which the user is exposed; the likelihood of injury; and the feasibility and beneficial effect of including such a warning. See, e.g., *Oxford v. Foster Wheeler LLC*, 177 Cal.App.4th 700, 717, 99 Cal.Rptr.3d 418, 432 (2009). Plaintiffs here offered no evidence on any of these factors, or on any other relevant ones. For example, Plaintiffs offered no evidence that consumers have any specific expectations with respect to the performance of seatbacks in collisions – either that they will yield or not yield – any more than they have specific expectations with respect to the performance of steering wheels and columns, radiators, fenders, B-pillars, trunks, or any other component of the vehicle. Plaintiffs presented no evidence at all concerning the likelihood of an injury like that experienced by Mrs. Moore; in fact, Ford's evidence showed that such an injury was highly unlikely. Even Plaintiffs' expert, Mr. D'Aulerio, conceded that the injury probably would not have occurred if the Explorer had been hit by a smaller vehicle or even by an Expedition traveling at a slower speed. (Tr. 333.)

Nor did Plaintiffs present any evidence concerning the feasibility of providing a warning, particularly given the complexity of the issues involved. For example, Plaintiffs presented no evidence concerning how Ford could have provided a warning that

purchasers of used vehicles, like Mrs. Moore, would have seen prior to purchasing their vehicle. Mrs. Moore herself claims to have read portions of her owners' manual *after* she purchased her vehicle, but she does not claim that she read that manual – or any other documents in which Ford might have inserted a warning – prior to her purchase. (Tr. 694-95) Indeed, she does not claim that she did any research of any kind prior to purchasing the Explorer.

Moreover, Plaintiffs presented no evidence of how the complicated issue of seatback performance in various types of collisions could have been described in a way that was beneficial and useful to consumers. For example, Plaintiffs seem to be arguing primarily that Ford should have advised consumers that the Explorer's seats were not tested with 300-pound dummies. But it is undisputed – indeed, the laws of physics make it indisputable – that forces on a seat in a crash test are dependent on both the weight of the occupant and on the relative severity of the crash. (Tr. 307-08, 312, 356, 814.) A seat with a 175-pound occupant might yield or deform in a 25-mph delta v accident, whereas the same seat might not yield, or not yield as much, with a 300-pound occupant in a more common 10-mph delta v accident.

Thus, a warning based only on the weight of the dummies used in crash tests without considering delta v would be misleading. Plaintiffs presented no evidence, expert or otherwise, to prove that these complicated issues could be explained to the ordinary consumer in a way that would be helpful without being misleading. Moreover, while it might theoretically be possible to devise such an explanation, Plaintiffs presented no evidence that would justify providing this type of detailed technical information

concerning seatbacks, but not with respect to all of the other systems and components in the vehicle. The massive amounts of technical information that manufacturers would have to provide under the regime apparently contemplated by Plaintiffs would obviously be overwhelming and of no use to the ordinary consumer.

But even if a warning should, for some reason, be limited to seatbacks, the information would be useful to consumers considering an Explorer only in conjunction with the same information with respect to seatbacks in other vehicles they might buy. No rational consumer concerned about seat strength would refuse to buy one vehicle solely because it had “weak” seats only to buy another vehicle with even “weaker” seats. Here, the undisputed evidence – including the testimony from Plaintiffs’ own expert – establishes that the Explorer’s seats are stronger than most other seats on the market, that the Explorer’s seats were tested to the highest standard in the industry, and that seats in most vehicles with the same size occupant would deform as much as or more than the Explorer’s in an accident of the same severity as Mrs. Moore’s. (Tr. 333.) Thus, if a warning of the sort contemplated by Plaintiff would have been beneficial at all, it would have *supported* a decision to buy an Explorer rather than another vehicle.

Under these circumstances, Plaintiffs plainly have not met their burden of proof. Where, as here, the issue is sufficiently complex, “[a] failure to warn claim requires admissible expert testimony that additional or other warnings might have altered the behavior of the plaintiff.” *Davidson v. Besser Co.*, 70 F.Supp.2d 1020, 1023 (E.D. Mo. 1999); *see also Bryant v. Laiko Int’l Co.*, 2006 WL 2788520, *10 (E.D. Mo. Sept. 26, 2006) (“Plaintiff has provided no basis for a finding that they can prove their case

[including failure to warn claims] without expert testimony”) (emphasis added); *Arnold v. Amada North America, Inc.*, 2008 WL 3411789, *10 (E.D. Mo. Aug. 8, 2008) (granting summary judgment, including summary judgment on failure to warn claims, where plaintiff “will be unable to meet his burden under Missouri law in showing the press brake machine was in a defective condition and unreasonably dangerous without the assistance of an expert”) (emphasis added); *Jaurequi v. John Deere Co.*, 971 F.Supp. 416, 431 (E.D. Mo. 1997), *affirmed Jaurequi v. Carter Mfg. Co., Inc.*, 173 F.3d 1076 (8th Cir. 1999)(“Thus, plaintiff has failed to present any evidence that his experts’ proposed warnings would have in any way [] altered the behavior of plaintiff.”).

Plaintiffs cite *Tune v. Synergy Gas Corp.*, 883 S.W.2d 10, 14 (Mo. banc 1994), for the proposition that expert testimony is not required to establish a case for failure to warn. (Br. 12.) But *Tune* does not stand for the proposition that such a claim *never* requires expert testimony. *Id.* In that case, the plaintiffs claimed that there should have been a warning regarding the dangers of overfilling the propane tank, and that the presence of propane in the air cannot always be detected based on smell. *Id.* The warning in *Tune* could have been as simple as “do not overfill” or “the odor additive may not always warn of propane gas in the air.” *Tune* did not involve the same type of complex warning that would be required here.

Moreover, even assuming that expert testimony was not required to establish that the absence of a warning made the vehicle unreasonably dangerous, plaintiffs were required to present *some* evidence that *some* warning on the complex topic of seatback strength would have been sufficiently feasible and beneficial to have improved the

overall safety of the vehicle and make it reasonably safe. Plaintiffs elected not to produce any such evidence. Instead, as their brief on appeal confirms, they elected to rely solely on evidence that the design of the seatback was unreasonably dangerous. (Br. 23-30.) Therefore, the directed verdict in favor of Ford was proper, and it must be upheld. *Davidson*, 70 F.Supp.2d 1020, 1023; *Bryant*, 2006 WL 2788520, *10; *Arnold*, 2008 WL 3411789, *10; *Jaurequi*, 971 F.Supp. 416, 431.

C. Plaintiffs Did Not Present Substantial Evidence That The Absence Of A Warning Caused Mrs. Moore's Injuries.

Causation was an essential element of Plaintiffs' failure to warn claim. *Arnold I*, 834 S.W.2d 192, 194; *Mothershead v. Greenbrier Country Club, Inc.*, 994 S.W.2d 80, 89 (Mo. App. 1999). Plaintiffs' *only* theory of causation in this case is that if they had been warned that the Explorer's seats were not designed for people of Mrs. Moore's size, Mrs. Moore would not have purchased the Explorer and, therefore, would not have been injured. But this time-of-purchase causation theory is both unsupported by the evidence and foreclosed as a matter of law by this Court's decision in *Arnold I*.

1. Plaintiffs' time-of-purchase causation theory is legally unsound and contrary to this Court's holding in *Arnold I*.

In *Arnold I*, the plaintiff alleged that the manufacturer of an air compressor was liable for failing to warn of the danger of explosion from accumulated gas fumes. 834 S.W.2d 192, 193. The plaintiff asserted two alternate theories of causation: "1) if a warning had been given, the supplier would not have sold the air compressor to [plaintiff's employer]; and 2) if a warning had been given, [plaintiff] would have altered

his behavior on [the day of the accident].” *Id.* The Court recognized that the second theory of causation – that a warning would have caused the plaintiff to use the product differently on the day of the accident – was legally viable, and it examined the facts (including the potential applicability of the “heeding presumption”) to determine if the theory was supported by the evidence. *Id.* But with respect to the first theory of causation – the time-of-purchase causation theory – this Court simply held that it was not legally sound, regardless of whether the evidence supported it:

On the first theory of causation, a rational jury could perhaps (imaginatively) find that the lack of information at the time of purchase was a “but for” cause of the explosion. This theory, however, ignores any reasonable concept of proximate cause. That information affecting the sale of a product could proximately cause injury from its use defies logic. To accept this claim as legally sound would be an unprecedented extension of liability. Plaintiffs cite no cases supporting this theory of causation, and this Court finds none.

Id. Thus, this Court rejected the time-of-purchase causation theory even though it assumed that a jury could find that a warning would have prevented the sale and, therefore, the subsequent explosion. Plaintiffs’ theory in this case – that a warning at the time of purchase would have prevented Mrs. Moore’s injury by preventing her purchase of the Explorer – is precisely the type of theory that this Court rejected in *Arnold I* because it “defies logic” and is not “legally sound.”

This holding in *Arnold I* – that the time-of-purchase theory of causation was legally unsound even assuming “but for” causation – is also dispositive of Plaintiffs’ argument based on the “heeding presumption.” The heeding presumption, when applicable, permits a jury to infer that if an adequate warning had been given it would have been read and heeded. *Arnold I*, 834 S.W.2d at 194. In other words, in appropriate cases the heeding presumption aids the plaintiff in proving “but for” causation, i.e., in proving that the injury would not have occurred had a warning been given.

In *Arnold I*, this Court considered the potential application of the heeding presumption in evaluating the sufficiency of the evidence to support the plaintiff’s day-of-accident causation theory. *Id.* But this Court in *Arnold I* did not even consider the heeding presumption in evaluating the plaintiff’s time-of-purchase causation theory. *Id.* at 193. The Court did not need to consider the heeding presumption in connection with the time-of-purchase theory because its ruling *assumed* the very fact that the heeding presumption would have helped establish – “but for” causation – that a warning at the time of purchase would have prevented the injury.

For precisely the same reason, *Arnold I* is also dispositive of Plaintiffs’ argument based on the testimony of Mrs. Moore and her husband that they would not have purchased the Explorer had they been given a warning at the time of their purchase. Again, this Court in *Arnold I* assumed that a warning would have prevented the sale and prevented the injury, but it nevertheless rejected the time-of-purchase causation theory as legally unsound. *Id.* at 193. The testimony of Mrs. Moore and her husband does nothing except establish facts that this Court in *Arnold I* deemed legally irrelevant.

2. Plaintiffs' time-of-purchase causation theory is unsupported and contrary to the evidence.

Even assuming that Plaintiffs' time-of-purchase causation theory is not foreclosed by this Court's decision in *Arnold I*, it is not supported by the evidence, regardless of whether the "heeding presumption" is deemed applicable. In fact, the evidence here demonstrates why, in this type of case, *Arnold I* was correct as a matter of law.

Plaintiffs' causation theory in this case logically required proof of two separate elements: (1) proof that a warning would have caused Mrs. Moore to purchase some vehicle other than the Explorer, and (2) proof that the seat in that other vehicle would have prevented her injury. Plaintiffs at least tried, albeit unsuccessfully, to prove the first element, but they ignored the second element altogether.

a. Plaintiffs did not prove that a warning would have caused Mrs. Moore to purchase a different vehicle.

Plaintiffs recognized at trial that their causation theory required them to prove that a warning would have caused them to purchase a vehicle other than the Explorer, and testified that they would not have purchased the Explorer if they had known that the Explorer's seats were not "designed for people of [Mrs. Moore's] size." (Tr. 696-97; Tr. 649-51.) This testimony is insufficient for three separate but related reasons.

First, Ford's objection to this testimony should have been sustained and the testimony should have been excluded. Indeed, Plaintiffs' testimony about what they "might have done under a hypothetical state of facts in this case" is at least as "speculative and immaterial" as the testimony excluded in *Arnold v. Ingersoll-Rand Co.*

(*Arnold II*), 908 S.W.2d 757, 763 (Mo. App. 1995). At a retrial after the remand of the case in *Arnold I*, the plaintiff claimed that the defendant should have warned users of the air compressor that it should not be used within 20 feet of explosive vapors. *Id.* The plaintiff offered to testify that if such a warning had been given he would not have worked on gasoline lines or fuel tanks within 20 feet of the compressor. *Id.* The trial court held this testimony inadmissible, and the Court of Appeals affirmed:

[The trial court] found it is not proper for a lay witness to speculate about his conduct on different facts. The testimony offered by [plaintiff] constituted his opinion of what he believed he would have done in a hypothetical situation. Testimony about what a plaintiff might have done under a hypothetical state of facts is speculative and immaterial.

Id. Case law from other jurisdictions is in accord. *E.g. Wilson v. Bradlees of New England, Inc.*, 250 F.3d 10, 15 n.8 (1st Cir. 2001) (affirming exclusion of “testimony, that had the sweatshirt displayed a warning label, she would have acted differently” because how she would have acted is speculative); *Wash. v. Dept. of Transp.*, 8 F.3d 296, 300 (5th Cir. 1993) (testimony about what witness would have done under different circumstances properly excluded); *Kloepfer v. Honda Motor Co., Ltd.*, 898 F.2d 1452, 1459 (10th Cir. 1990) (affirming exclusion of lay testimony as to whether witness would have obeyed a warning had she seen it); *Elyria-Lorain Broad. Co. v. Loraine J. Co.*, 298 F.2d 356, 360 (6th Cir. 1961) (“a witness may not testify as to what he would have done had the situation been different than it actually was.”).

Second, there was no evidence that the 2002 Explorer was *not* “designed for people of [Mrs. Moore’s] size.” There was evidence that Ford did not conduct tests with dummies heavier than 220 pounds, but the evidence is undisputed that Ford designs for heavier occupants not by increasing the weight of the dummy, but by increasing the severity of the forces on the seat. (Tr. 820-23.)

Third, Plaintiffs presented no evidence that any vehicle manufacturer tests its seats with dummies weighing 300 pounds. Moreover, Plaintiffs’ expert conceded that he knew of no vehicle manufacturer that tests its seats at higher impacts than Ford. (Tr. 304.) In fact, the evidence is undisputed that Ford’s 25-mph delta v tests with standard dummies are more severe than the 17-mph delta v tests conducted by other manufacturers, even if those tests were conducted with 300-pound dummies. (Tr. 822-23.) Accordingly, if the Explorer was not “designed for people of [Mrs. Moore’s] size,” as Plaintiffs allege, neither was any other vehicle. Thus, if it is true that Plaintiffs would not have purchased the Explorer for this reason, it must also be true that they would not have purchased *any* vehicle. But this, of course, is a patently unreasonable conclusion.

Therefore, Plaintiffs’ opinion that they would not have purchased the Explorer if they had known it was not designed for people of Mrs. Moore’s size is premised on the unsupported assumption that they could have purchased another vehicle that was, unlike the Explorer, “designed for” people of Mrs. Moore’s size. Under these circumstances, their opinion on what they would have done cannot be substantial evidence in support of their claim because it was based on a set of assumed facts that was either incomplete or erroneous. *See Washington*, 8 F.3d 296, 300 (upholding exclusion of evidence of what

witness “would have done” had he seen a label on the product because the testimony was not proper opinion testimony; “such testimony would not have been based upon Thomas’s perception, but upon his self-serving speculation”); *Magoffe v. JLG Industries, Inc.*, 2008 WL 2967653, *32 (D.N.M. May 7, 2008) (striking portions of plaintiff’s affidavit regarding what he “would have done” if he had been warned as improper opinion testimony because such testimony “goes too far into the realm of speculation for a lay witness and requires additional foundation in the form of scientific, technical, or other specialized knowledge of an expert”); *Ackerman v. Lerwick*, 676 S.W.2d 318, 321 (Mo. App. 1984) (opinion testimony properly excluded where “questions did not contain all facts necessary to authorize expression of an opinion”); *Hobbs v. Harkin*, 969 S.W.2d 318, 322-23 (Mo. App. 1998) (“Where, as here, an opinion is hypothetical in nature it ‘must not be founded on mere assumption or surmise, but on facts within the expert’s knowledge or upon hypothetical questions embracing proven facts.’”).

For similar reasons, the heeding presumption, even if applicable, would not support a finding that the absence of a time-of-purchase warning caused Mrs. Moore’s injuries. The “heeding presumption” assumes that “a reasonable person will act appropriately if given adequate information.” *Arnold I*, 834 S.W.2d at 192, 194. The fundamental issue here – which Plaintiffs never address – is how a reasonable person would act if given the unspecified warning demanded by Plaintiffs. Plaintiffs seem to assume, for example, that a reasonable person weighing 300 pounds would not have purchased the Explorer if advised that it was not tested with 300-pound dummies or that it was not “designed for” people weighing 300 pounds. But Plaintiffs presented no

evidence that any vehicle manufacturer tests with 300-pound dummies or that any vehicle is “designed for” 300-pound occupants to a greater extent than the Explorer. Indeed, the evidence is directly to the contrary – no vehicle manufacturer subjects its seats to crash-test forces as high as Ford’s. (Tr. 304, 820.)

Thus, if a consumer heeded such a warning by buying a vehicle other than the Explorer, he or she would be rejecting a vehicle whose seats were – according to Plaintiffs’ own expert – among the strongest on the market in favor of a vehicle likely to have seats that were both weaker and tested to less stringent standards. This, of course, would not be an appropriate response to whatever warning Plaintiffs might be advocating. Even presuming, then, that Plaintiffs would have heeded an appropriate warning, there is no basis for the further inference that they would have heeded that warning by purchasing a vehicle other than the Explorer. *See Edic v. Century Products Co.*, 364 F.3d 1276, 1280 n. 2 (11th Cir. 2004) (plaintiffs claimed defendant failed to warn that a child restraint system [CRS] was not subjected to side-impact collision tests; “because [defendant’s] undisputed evidence showed that no CRS manufacturers were conducting such tests on child seats, we cannot infer that such a warning would have altered the Edics’ decision to use this particular CRS.”); *Elsroth v. Johnson & Johnson*, 700 F.Supp. 151, 166 (S.D.N.Y. 1988) (“It is not as if the warning would have allowed the consumer to make a more informed “choice,” for no choice was presented. *All over-the-counter drugs suffer from the same inability to ensure a tamper-proof product.*”); *Mazda Motor of America, Inc. v. Rogowski*, 659 A.2d 391, 397 (Md. App. 1995)(“Moreover, if the notice is required in this case, where there is no defect in design

or manufacture of the seatbelt restraint system, it presumably would be required in the case of every manufacturer, and thus every owner's manual would say the same thing.”⁵

b. Plaintiffs did not prove that the seats in a different vehicle would have prevented Mrs. Moore's injury.

For this same reason, Plaintiffs' evidence was insufficient even if it permits a conclusion that a warning would have caused them to purchase a different vehicle. According to the testimony of their own expert, Mr. D'Aulerio, the Explorer's seats were stronger than the seats in most other vehicles, and most other seats would have deformed in this accident as much or more than the Explorer's seats. (Tr. 333.) Plaintiffs presented no evidence that any vehicles they might have purchased instead of the Explorer were among the few possible exceptions. Thus, Plaintiffs did not prove that Mrs. Moore would not have suffered the same or comparable injuries if she had purchased a vehicle other than the Explorer.

⁵ Plaintiffs mischaracterize Ford's argument as an argument that the evidence was sufficient to rebut the heeding presumption. The true issue is not whether Plaintiffs or ordinary consumers would have heeded Plaintiffs' unspecified warning, but what they would have done in the course of heeding the warning. Plaintiffs are simply assuming that ordinary consumers heeding the unspecified warning they propose would have purchased a vehicle other than an Explorer. As explained in the text, however, this assumption is illogical under the circumstances of this case.

Mr. D'Aulerio did identify a handful of vehicles that he claimed had stronger seats than the Explorer's, but Mr. and Mrs. Moore did not testify that they would have purchased any of those vehicles. In fact, the vehicles identified by Mr. D'Aulerio were various passenger cars manufactured between 1987 and 1998 (four to fifteen years older than the 2002 Explorer), a 1982 Range Rover, and a 2003 F-250 truck. (Tr. 260; Ex. 53.) None of these vehicles was comparable to a 2002 Explorer, and there is no basis for inferring that Plaintiffs would have purchased any of them.

Moreover, while Mr. D'Aulerio claimed these vehicles had seats that are *stronger* than the Explorer's seats, he did not claim they were *safer* than the Explorer's seats. On the contrary, he testified that if seatbacks are not designed correctly, "you're going to have trouble, regardless of whether the seat is strong or yielding." (Tr. 241-42.) For example, one of the vehicles identified by Mr. D'Aulerio was the Buick Park Avenue, and he believes that the seatback in that vehicle is unsafe because it creates excessively high neck loads. (Tr. 324.) In fact, Mr. D'Aulerio could not identify a single vehicle with seats that meet his standard for safety, whether on his list of vehicles with stronger seats or not. (Tr. 319-21, 323.) Thus, it is sheer speculation to assume that Mrs. Moore (1) would have purchased one of the vehicles identified by Mr. D'Aulerio, none of which was shown to be safe according to Mr. D'Aulerio's standards, or (2) would have avoided severe injury even if she did.

3. Plaintiffs' authorities and hypothetical examples are inapposite.

From the discussion above, it should be apparent that Plaintiffs' causation theory in this case relies so heavily on unproven assumptions and requires so many leaps of logic that this Court's conclusion in *Arnold I* – that such a theory was “imaginative,” “defies logic,” and was not “legally sound” – applies here with at least equal force. Indeed, Plaintiffs themselves recognize that this Court in *Arnold I* held “that the Arnolds' thesis that a certain warning would have prevented the seller of the product from selling it to Rich's Auto Repair strained credibility” – without bothering to explain why their thesis here is any more credible. (Br. 44, n.3.) Not surprisingly, therefore, other courts around the country have rejected similar claims, just as this Court did in *Arnold I*. *Edic*, 364 F.3d at 1280 n.2; *Elsroth*, 700 F.Supp. at 166; *Day v. Volkswagenwerk Aktiengesellschaft*, 451 F.Supp. 4, 6 (E.D. Pa. 1977) (“And to suggest that had the warnings been given the Days might not have purchased the van is sheer speculation.”); *Greiner v. Volkswagenwerk AG*, 429 F.Supp. 495, 498 (E.D. Pa. 1977) (“Such a suggestion, [that plaintiff would not have purchased the vehicle if given a warning] in our opinion, would have invited the jury to indulge in ‘pure conjecture or guess.’”); *Morgen*, 707 N.E.2d 1146, 1152; *Mazda Motor of America*, 659 A.2d 391, 397; *Baughn v. Honda Motor Co.*, 727 P.2d 127, 144 (Wash. 1986) (“To say that Bratz would not have bought the mini-trail bike if the warning had been stronger, however, is sheer speculation.”); *American Motors Corp. v. Ellis*, 403 So.2d 459, 466 (Fla. App. 1981) (“Only if we were to engage in the speculation that the owner, properly warned, would not have purchased

the car, or would not have allowed it to be driven on interstate highways, could we recognize a causal relationship between breach of a duty to warn and the instant injury.”).

Ignoring these cases, Plaintiffs assert that the Eastern District’s opinion following *Arnold I* “would turn failure to warn cases from across the country on their heads.” (Br. 48.) Plaintiffs cite no examples of such cases. Instead, they analogize the warning they are demanding in this case to “appropriate age warnings on children’s toys,” “maximum weight limits on ladders, chairs and step stools,” “drug interaction warnings on medicines,” “proper minimum and maximum heights and weight limits on child safety seats,” and “maximum strength on ropes, chains, cables, and bungee cords.” (Br. 48.) But unlike *Arnold I*, and unlike Plaintiffs’ warning claims in this case, these are examples of typical warnings that instruct consumers on the proper *use* of the products. Such warnings might, in some instances, influence the decision to purchase a product, but that is a secondary effect of the warning’s primary function – to ensure proper *use*. Thus, for example, if a bungee cord or ladder breaks under 300 pounds of force because it is designed to hold only 200 pounds, an injured consumer can recover for failure to warn of the weight limit regardless of whether a warning would have prevented the sale of that particular bungee cord or ladder. All the injured consumer must prove is that a warning would have prevented the *use* of the bungee cord or ladder for that prohibited purpose at the time of the accident.

Indeed, these are precisely the type of circumstances where both the substance of the required warning and the measures that should be taken in response are clear, and where application of the heeding presumption makes sense. *See, e.g., Greiner*, 429

F.Supp. 495, 498. The Plaintiffs in *Greiner* alleged that the defendant should have warned of a vehicle's propensity to overturn in sharp steering maneuvers. To support their claim, the plaintiffs relied on the same type of cases relied on by Plaintiffs here. But the court recognized a fundamental difference:

Those cases [relied on by plaintiffs], however, are distinguishable. In the first place, the nature of the required warning was both specific and easily followed[:] push the autorotation button immediately on engine failure, do not operate in excess of 6,000 revolutions per minute, use only in well-ventilated area, and do not insert dynamite in freshly drilled hole. It requires no guess or conjecture to determine how the accident could have been avoided by following the warnings. In this case, on the other hand, although the propensity to overturn on sudden maneuvers could be described, whether such description could have avoided this accident would call for pure speculation.

Second, in the four cases referred to by plaintiff, it was reasonable to infer from the evidence that the simple, easily understood directions and limitations could and would be followed had they been given. Their omission or inadequacy could thus be found to be a proximate cause of the accident.

. . . No such inference can be made here *Id.*

Steele v. Evenflo, 178 S.W.3d 715 (Mo. App. 2005), the only case relied upon by Plaintiff with even superficial similarity to this case and to *Arnold I*, is distinguishable for this same reason. The opinion in *Steele* reveals little about the facts of the case, but it appears that plaintiff alleged that the defendant was liable because it failed to provide a “permanent label” on a child car seat. 178 S.W.3d 715, 717. Without citing *Arnold I*, the court sustained a verdict for the plaintiff based on the plaintiff’s testimony (which came into evidence without objection) that “if there would have been a warning that the car seat was not intended for children weighing less than forty pounds he would have heeded the warning and not purchased the car seat for [his child].” *Id.* at 718. Thus, like the cases discussed in *Greiner*, *Steele* was a case where “[i]t requires no guess or conjecture to determine how the accident could have been avoided by following the warnings.” *Greiner*, 429 F.Supp. at 498. Unlike *Arnold I*, and unlike here, no speculation is required to presume that a person heeding such a warning would not *use* it to carry children under 40 pounds. Indeed, the *Steele* court, if alerted to a possible conflict with *Arnold I*, could have eliminated that conflict by simply changing the word “purchased” to “used.”

In contrast to *Steele* and the other cases, the warning demanded by Plaintiffs here would not have provided necessary guidance on using the product safely; instead, it would have provided information relevant, if at all, only to the decision to buy the product in the first instance. The only cases cited by Plaintiffs that might support liability for failure to provide such a warning are two cases involving tobacco, *Smith v. Brown & Williamson Tobacco Corp.*, 275 S.W.3d 748, 789-90 (Mo. App. 2008) and *Thompson v. Brown & Williamson Tobacco Corp.*, 207 S.W.3d 36, 108 (Mo. App. 2006). Like motor

vehicles, tobacco products create risks. Just as the risk of injury in motor vehicle collisions cannot be avoided by buying a different vehicle, the risk of using tobacco cannot be avoided by buying a different brand of tobacco. But any similarity ends there, for the risk of harm created by tobacco can be avoided altogether by not using tobacco, but *not driving* is not a practical alternative for most consumers in today's society. And Mr. and Mrs. Moore certainly never suggested they would have stopped driving motor vehicles altogether had they been informed that there were no vehicles "designed for people [Mrs. Moore's] size."

In short, whatever merit failure to warn claims might have in tobacco or other cases, Plaintiffs' failure to warn claim in this case has none. In fact, if Plaintiffs in this case are correct, proof sufficient to establish a prima facie case of design defect would automatically be sufficient to submit a duplicative failure to warn theory, without requiring any evidence that the failure to warn made the product unreasonably dangerous *or* caused the injury. Plaintiffs have cited no authority from anywhere in the country to support this position, and Ford is aware of none.

II. THE TRIAL COURT PROPERLY LIMITED THE CROSS-EXAMINATION OF DR. HARRY SMITH BECAUSE THE EXCLUDED CROSS-EXAMINATION WAS NOT RELEVANT TO THE ISSUES OF THE CASE AND PLAINTIFFS DID NOT PRESERVE THEIR CLAIM OF ERROR FOR REVIEW.

A. Introduction and Standard of Review.

Plaintiffs claim that the trial court abused its discretion in limiting the cross-examination of Dr. Harry Smith. But Plaintiffs did not preserve this claimed error by making an adequate offer of proof. Further, the topic on which Plaintiffs apparently hoped to question Dr. Smith – bracing the head to reduce the risk of neck strain and neck discomfort following rear-end collisions – was irrelevant to the claims in this case and was, at best, collateral. For these reasons, there was no error, but if there was it was harmless.

Appellate review of the trial court’s admission or exclusion of evidence is limited to whether the trial court abused its discretion. *Aliff v. Cody*, 26 S.W.3d 309, 314-15 (Mo. App. 2000); *Arnold II*, 908 S.W.2d 757, 763, citing *Kansas City v. Keene Corp.*, 855 S.W.2d 360 (Mo. banc 1993) (appellate courts give “substantial deference to the trial court as to the admissibility of evidence”). “The trial court has broad discretion in determining the admissibility of substantive evidence and in determining the extent and scope of cross-examination, including the impeachment of a witness by use of a prior inconsistent statement.” *Long v. St. John’s Regional Health Center, Inc.*, 98 S.W.3d 601, 605-06 (Mo. App. 2003). The abuse of discretion review standard is severe: “Judicial discretion is abused when a trial court’s ruling is clearly against the logic of the circumstances then before the court and is so arbitrary and unreasonable as to shock the sense of justice and indicate a lack of careful consideration; if reasonable men can differ about the propriety of the action taken by the trial court, then it cannot be said that the

trial court abused its discretion.” *Aliff*, 26 S.W.3d 309, 315, citing *Rodriguez v. Suzuki Motor Corp.*, 996 S.W.2d 47, 73 (Mo. banc 1999).

In addition, evidentiary error “does not mandate a reversal of judgment unless the error materially affected the merits of the action.” *Aliff*, 26 S.W.3d 309, 315, citing *Environmental Waste Management, Inc. v. Industrial Excavating & Equipment, Inc.*, 981 S.W.2d 607, 613 (Mo. App. 1998) (emphasis added). The party alleging error must show that the trial court’s rulings created a “*substantial or glaring injustice*” in order to warrant reversal of the trial court’s evidentiary rulings. *Carroll v. Kelsey*, 234 S.W.3d 559, 566-67 (Mo. App. 2007), citing *State ex rel. Mo. Hwy. & Transp. Comm’n v. Pracht*, 801 S.W.2d 90, 93 (Mo. App. 1990) (emphasis added). The complaining party cannot be prejudiced if the challenged evidence is merely “cumulative to other admitted evidence of like tenor.” See, e.g., *City of Rolla v. Armaly*, 985 S.W.2d 419, 424 (Mo. App. 1999).

B. Plaintiffs’ Offer of Proof Was Insufficient to Assist the Trial Court in Determining Relevance or to Preserve their Claimed Error for Appeal.

Plaintiffs did not preserve their objection to this evidentiary ruling for review by this Court. When an objection to proffered evidence is sustained, the offering party must, at the time of the objection, show its relevancy and materiality through an offer of proof to preserve the issue for review. *State v. Foulk*, 725 S.W.2d 56, 66 (Mo. App. 1987). “An offer of proof must demonstrate the relevancy of the testimony offered, must be specific, and must be definite.” *Karashin v. Haggard Hauling & Rigging, Inc.*, 653 S.W.2d 203, 205 (Mo. banc 1983), citing *State v. Sullivan*, 553 S.W.2d 510, 513 (Mo. App. 1977); *State v. Davis*, 515 S.W.2d 773, 775 (Mo. App. 1974). The offer of proof must show: (1)

what the evidence will be; (2) the purpose and object of the evidence; and (3) each fact essential to establishing the admissibility of the evidence. *Terry v. Mossie*, 59 S.W.3d 611, 612 (Mo. App. 2001). Missouri courts have established that the preferable way to make an offer of proof is by questioning the witness outside of the jury's presence. *Karashin*, 653 S.W.2d 203, 205; *see also Terry*, 59 S.W.3d 611, 612.

The purported offer of proof made by Plaintiffs consisted only of arguments and conclusions of counsel and was not sufficient to alert the trial court to the relevance or materiality of the evidence or to preserve their alleged error for review:

MR. STUCKY: Your Honor, I'd like to just make a brief offer of proof about the issue of Dr. Smith's testimony regarding Dr. Ross. On direct examination Dr. Smith made extensive comment on his review of Dr. Ross's testimony. And the question that I was asking and Mr. Strauss objected to and Your Honor sustained pertained to Dr. Smith's evaluation of Dr. Ross's opinion regarding maintaining head and neck complex in a rear-impact collision and whether or not Dr. Smith agreed with Dr. Ross that it would ameliorate or make better injuries regarding – in a rear-impact collision when you maintain the head and neck complex. And then one step further, whether he was going to agree with the forces that the human body can withstand when that was done in the range of 28 to 42 Gs. The paper that doctor identified as

Plaintiff's Exhibit 119 contains a statement that supports that issue. So we would make an offer of proof of Plaintiff's Exhibit 119 where the issue of confirming that Dr. Smith agreed with Dr. Ross on two premises.

(Tr. 1139-40.) With this offer of proof, Plaintiffs established that they intended to ask Dr. Smith about the “head and neck complex” and whether human bodies can withstand forces of 28-42 g’s. But they did not establish what they expected Dr. Smith’s answers to be or how those answers would have been relevant to the issues of the case.

C. The Plaintiffs’ Proffered Evidence Was Not Relevant And Any Error Was Harmless.

Plaintiffs rely on RSMo. § 491.070 for the proposition that cross-examination may extend to questioning “on the entire case.” (Br. 55.) However, Plaintiffs disregard the court’s discretion to control cross-examination. *See Lineberry v. Shull*, 695 S.W.2d 132, 136 (Mo. App. 1985), *citing Myers v. City of Palmyra*, 431 S.W.2d 671, 679 (Mo. App. 1968); *Pettus v. A.R. Casey*, 358 S.W.2d 41, 44 (Mo. 1962). Missouri law allows the trial judge to limit cross-examination to questions relevant to the case. *See e.g. Cline v. William H. Friedman & Ass., Inc.*, 882 S.W.2d 754, 762 (Mo. App. 1994). “[C]ross examination should not be an outlet for ‘merely bringing in irrelevant matters purposely calculated to prejudice the minds of the jury’” *Id.*, *quoting Wills v. Townes Cadillac-Oldsmobile, Inc.*, 409 S.W.2d 257, 263 (Mo. 1973). The trial court has discretion to rule

on questions of relevancy of the proffered evidence. *State v. Gardner*, 8 S.W.3d 66, 72 (Mo. banc 1999).^{6/}

Plaintiffs argue that they wanted to cross-examine Dr. Smith with respect to the conclusions he expressed in an article, and that those conclusions “go[] to the very heart of this case.” (Br. at 56.) But neither their brief offer of proof at trial nor the article itself supports this assertion. Dr. Smith’s article addressed neck strain and neck discomfort following low-impact collisions. The particular portion that Plaintiffs focus on supports the view that “perfectly brac[ing]” the head against relative rearward motion can reduce the risk of such injuries, even in impact forces reaching 28 to 42 g’s. But no expert in

^{6/} Plaintiffs suggest they wanted to impeach Dr. Smith with a “prior inconsistent statement” in his article. (Pltf. Br. 56.) But to impeach a witness based on a prior inconsistent statement, the witness must have made a statement during his testimony that was actually inconsistent with his prior statement. *See St. Louis Southwestern Ry. Co. Federal Compress and Warehouse Co.*, 803 S.W.2d 40, 44 (Mo. App. 1990) (“Although a witness may be cross-examined and impeached with a prior inconsistent statement, there must be a “real inconsistency” between the prior statement and the one made at trial”). Here, Dr. Smith stated no opinions with respect to head and neck injuries, accident accelerations, seat design, or any of the topics Plaintiffs allege were improperly limited. Thus, any opinions Dr. Smith stated in the past regarding those topics could not be considered prior inconsistent statements.

this case ever suggested that it is possible for the head to be “perfectly braced” in a vehicle. Moreover, Plaintiff’s expert Mr. D’Aulerio testified that proper head restraints were necessary to make seatbacks safe, and no witness from Ford disagreed with him on this point. And nothing in Dr. Smith’s article suggests that he even considered issues relating to seatback strength and its correlation with *any* type of injury.

The “very heart” of the design defect issue was whether increasing the strength of the seatback would transfer more energy to the spine, thereby increasing the risk of spinal injuries. Plaintiffs never argued that Dr. Smith would have provided any testimony at all on this issue. Even if it were possible to conclude that the trial court abused its discretion in refusing to permit the cross-examination, it would have been cross-examination on a collateral issue and any error would be harmless. *See, e.g., Harris v. Quality Dairy Co.*, 423 S.W.2d 8, 12 (Mo. App. 1967) (“It is also well settled that the scope and extent of cross-examination of a witness in a civil case is discretionary with the trial court and this is particularly so with regard to collateral or immaterial matter.”). It certainly did not create the “substantial or glaring injustice” necessary to warrant reversal. *Carroll*, 234 S.W.3d 559, 566-67.

III. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION IN ADMITTING THE SEAT DESIGN EVIDENCE ABOUT WHICH PLAINTIFFS COMPLAIN BECAUSE THE EVIDENCE WAS RELEVANT, SUBSTANTIALLY SIMILAR EVIDENCE WAS ADMITTED WITHOUT OBJECTION, AND ANY ERROR WAS WAIVED OR WAS HARMLESS.

A. Introduction And Standard Of Review.

Plaintiffs – who voluntarily dismissed their negligence claims only after they had presented their entire case-in-chief – argue that the trial court erred in admitting “state-of-the-art” evidence during Ford’s case-in-chief because, they claim, such evidence was not relevant to the strict liability claim. (Br. 60.) But Plaintiffs’ argument does not implicate true “state-of-the-art” evidence, i.e., evidence purporting to show that the defendant “could not have known of the product’s unreasonable danger” due to limits of technology at the time. *Elmore v. Owens-Illinois, Inc.*, 673 S.W.2d 434, 437 (Mo. banc 1994). Instead, Plaintiffs expressly define “state-of-the-art” evidence as “evidence of industry custom and practice” (Br. 61), a type of evidence not at issue in *Elmore*.

To the extent that Plaintiffs are truly challenging evidence of industry custom and practice, any error was waived and was harmless because the evidence to which they object was cumulative of substantial evidence admitted during their own case-in-chief, much of it elicited by Plaintiffs themselves and all of it admitted without objection and without limitation. But most of the evidence about which Plaintiffs complain was not evidence of industry custom and practice at all; rather, it was highly relevant evidence showing that the stronger seats advocated by Plaintiffs’ expert – seats *not* generally used in the industry – were *not* safer than the yielding seats used by Ford.

Regardless of how Plaintiffs characterize the evidence to which they are objecting, the “primary criterion for the admission of evidence is relevancy.” *Guess v. Escobar*, 26 S.W.3d 235, 242 (Mo. App. 2000). A court tests logical relevancy by determining “whether the evidence offered tends to prove or disprove a fact in issue or corroborate

other evidence.” *Id.* Each specific piece of evidence challenged by Plaintiffs must be examined to determine whether it logically tends to prove or disprove a fact in issue. Relevancy determinations made by the trial court, like other evidentiary rulings, will be reversed only for abuse of discretion. *See, e.g., State v. Madison*, 302 S.W.3d 763, 768 (Mo. App. 2010), *quoting State v. Olson*, 854 S.W.2d 14, 16 (Mo. App. 1993) (“The Court is vested with broad discretion in ruling [on] questions of relevancy of evidence and, absent a clear showing of abuse of that discretion, the appellate court should not interfere with the trial court’s ruling.”); *Jackson v. Mills*, 142 S.W.3d 237, 241 (Mo. App. 2004), *citing State v. Shepherd*, 903 S.W.2d 230, 232 (Mo. App. 1995) (“The circuit court has broad discretion in ruling on questions of relevancy, and we will not interfere where no abuse of discretion has been shown.”).

B. Ford’s Testing Of Relatively Strong BMW 850 Seats Was Relevant To Rebut Plaintiffs’ Claim That Those Seats Were Safer Than The Explorer’s Seats.

The untenable nature of Plaintiffs’ so-called “state-of-the-art” arguments is demonstrated by their objection to testimony from Ford’s expert, Roger Burnett, about his testing of seats in the BMW 850. (Br. 67.) It was Plaintiffs, not Ford or Mr. Burnett, who injected the BMW’s seats into this litigation. To bolster Mr. D’Aulerio’s claim that the Explorer’s seats were “defective and unreasonably dangerous,” Plaintiffs asked Mr. D’Aulerio to identify vehicles that had seats stronger than the Explorer’s seats. In response, Mr. D’Aulerio identified the handful of vehicles listed on Plaintiffs’ Exhibit 53, which was offered by Plaintiffs without limitation and accepted into evidence without

objection. (Tr. 261.) The BMW 850 was one of the handful of vehicles Mr. D'Aulerio identified on Exhibit 53. (*Id.*)

Mr. D'Aulerio's testimony that a safer design was both feasible and in actual use in the BMW 850 and other vehicles was plainly relevant to Plaintiffs' strict liability claim. *See, e.g., Thompson*, 207 S.W.3d 76, 90 n.5 ("Certainly, the plaintiff may introduce such [alternative design] evidence in support of showing the design was defective and therefore unreasonably dangerous . . ."). In fact, the record shows that Plaintiffs wanted the jury to consider this evidence specifically on their strict liability claim: they offered this evidence as Mr. D'Aulerio was specifically testifying that the Explorer's seats were defective and unreasonably dangerous and *before* he was specifically asked to opine on the issue of Ford's alleged negligence. (Tr. 256-61, 263-64.)

Thus, in defending against Plaintiffs' claim that the Explorer was defective and unreasonably dangerous, Ford was entitled to present evidence in response and to show that the alternative designs touted by Plaintiffs as stronger and therefore safer were not in fact safer. That is what Mr. Burnett's testimony established: the BMW 850, even with its "very strong" seats, nevertheless produced severe neck loads in testing that would have "registered a very severe neck injury or a fatality." (Tr. 880-82.) In fact, Plaintiffs recognized that the results of the tests were relevant, and they objected at trial only because the vehicle in the test was identified as a BMW 850. (Tr. 881-82.) But Mr. D'Aulerio explicitly identified the BMW 850's seat as stronger – and therefore, in his

view, safer – than the Explorer’s seat. Ford was entitled to show that the BMW 850’s seats *specifically* were not in fact safer than the Explorer’s.

Not only was this evidence plainly relevant as a matter of logic, it was plainly not “state-of-the-art” evidence in any sense, let alone evidence of “industry custom and practice.” By the time Mr. Burnett testified, Mr. D’Aulerio’s testimony during Plaintiffs’ case-in-chief – some of it elicited by Plaintiffs themselves on direct examination, and all of it elicited without objection or limitation – had already established that the BMW’s seats were stronger than the Explorer’s and, therefore, stronger than the seats in most vehicles on the road. (*See e.g.* Tr. 278-79, 281-82, 284.) Far from reflecting “industry custom and practice,” the very strong seats in the BMW represented a departure from “industry custom and practice.”

C. Ford’s Tests Of Relatively Strong Trailblazer And LeSabre Seats Were Offered Into Evidence By Plaintiffs, They Were Relevant To Rebut Plaintiffs’ Claim That Stronger Seats Were Safer, And Plaintiffs Did Not Preserve Any Objection.

Plaintiffs’ objections to other tests testified to by Mr. Burnett comparing the Explorer seats with relatively strong seats in the Trailblazer and the LeSabre are equally meritless, and for the same reasons. (Br. 67.) Once again, the Trailblazer and LeSabre testing plainly was not evidence of “industry custom and practice”; on the contrary, the relatively strong seats used in those vehicles were departures from “industry custom and practice.” Once again, the Trailblazer and LeSabre tests were injected into the case by Plaintiffs, not Ford, during their case-in-chief, and Plaintiffs introduced into evidence

another chart prepared by Mr. D'Aulerio summarizing the results of Mr. Burnett's tests and specifically identifying the Trailblazer and LeSabre by name. (Tr. 265-68; Plaintiffs' Exhibit 64, attached in Defendants' Appendix, A-2).

Once again, Plaintiffs did not request that the jury consider this evidence only on their negligence claim, and the jury was entitled to consider it for all purposes. And once again, the results of the tests were clearly relevant to show that the Explorer's seats were not defective, because they showed – contrary to Mr. D'Aulerio's testimony – that seats stronger than the Explorer's were not safer; instead, they increased the forces to which occupants (particularly out-of-position occupants) were exposed and therefore increased the risk of injury. (Tr. 893-95, 896-97, 907.)

Moreover, Plaintiffs waived any objections to these tests by affirmatively offering them into evidence. “The general rule is that a party cannot complain on appeal of any alleged error in which, by his or her own conduct, he or she acquiesced to or joined in.” *Eltiste v. Ford Motor Company*, 167 S.W.3d 742, 759 (Mo. App. 2005) (holding that plaintiffs opened the door to seat belt evidence and, therefore, could not complain of its admission in the defendant's case); *see also Gallagher v. DaimlerChrysler Corp.*, 238 S.W.3d 157, 169-70 (Mo. App. 2007) (finding that defense expert evidence regarding statistical analysis of rollover accidents was appropriate where plaintiffs presented evidence that the minivan at issue had a disproportionately high number of rollover accidents and was unreasonably dangerous).

Even further, in order to preserve error for review, Plaintiffs were required to object to the admission of the evidence at trial. Mo. R. Civ. P. 78.09. In addition, they

were required to include the alleged error in their motion for new trial in order to preserve the issue for appellate review. Mo. R. Civ. P. 78.07(a); Mo. R. Civ. P. 84.13(a); *United Services of America, Inc. v. Empire Bank of Springfield*, 726 S.W.2d 439, 445 (Mo. App. 1987) (both objection at the time of trial and inclusion in motion for new trial required to preserve error for review; otherwise, plain error rule is applied). Plaintiffs here did neither with respect to the Trailblazer and LeSabre tests.

Plaintiffs did not include objections to these tests in their motion for new trial, even though they specifically complained about the admission of other evidence they characterized as “state-of-the-art” evidence. (L.F. 395.) Moreover, during trial, Plaintiffs consented to the admission of the evidence of the tests so long as the tested seats were referred to only by their seat strength rather than by vehicle name:

MR. RHODES: I think it's not relevant because you're using seats from other car manufacturers. *If you want to say we tested stiff seats without saying the Chevy Trailblazer and Buick LeSabre, you're entitled to do that.* If it was part of the design process, this case isn't about the litigation defense. Right now it's about the design process and these are litigation tests, not design tests.

...

THE COURT: Tell you what. I'll permit you to use this, provided you make a statement to the jury that the make of the vehicle is irrelevant.

...

MR. RHODES: *I think that fixes the problem.*

(Tr. 888-890)(*emphasis added*). The exhibits summarizing the test results were then objected to but admitted subject to this same discussion. (Tr. 893, 898, 909-10.) And Mr. Burnett in his testimony did in fact make it clear that the make of the vehicle was irrelevant. (Tr. 891.)⁷

D. Ford's Evidence Of A Test Of the Relatively Strong Seats In An Unidentified Vehicle Was Relevant To Rebut Plaintiffs' Claim That Stronger Seats Were Safer.

Plaintiffs also allege that the trial court committed prejudicial error in allowing the jury to view a video showing a test of a Buick seat and by allowing Ford expert Andrew Levitt to testify with respect to that test. (Br. 68.) The Buick seat testing was similar to the tests of the BMW 850, Trailblazer, and LeSabre discussed above, and it was relevant for the same reason: it showed that the stronger seats advocated by Plaintiffs were not in

⁷ Although Mr. Burnett never mentioned the Trailblazer or the LeSabre by name in his testimony, Ford's exhibits summarizing Mr. Burnett's tests do list those vehicles by name. (Exhibits RR, TT, and VV, Pltfs' Apdx A5-A7.) But this was harmless, because Mr. D'Aulerio in Plaintiffs' case-in-chief had already told the jury that Mr. Burnett's tests involved the Trailblazer and the LeSabre (Tr. 267.) Further, Plaintiffs had already offered into evidence Mr. D'Aulerio's summary of those tests, summaries which specifically referred to the Trailblazer and LeSabre by name. (Tr. 265-66; Exhibit 64.)

fact safer than the Explorer's seats. (Tr. 1045-47.) Moreover, pursuant to discussions between the Court and counsel with respect to the Trailblazer and LeSabre tests (Tr. 887-893), Mr. Levitt did not identify this seat as a "Buick Seat"; he referred to it instead as a "43,000 inch-pound seat." (Tr. 1045-47.) This one test of one unidentified vehicle cannot reasonably be characterized as "state-of-the-art" evidence, let alone evidence of "industry custom and practice," and it was relevant and admissible because it provided one of the bases for Mr. Levitt's opinion that a stiffer seat was not necessarily a reasonably safe seat. (*Id.*) In fact, Plaintiffs' counsel effectively admitted the relevance of evidence of this nature when he conceded that the Buick and LeSabre tests were admissible provided the jury understood the make of the vehicle was irrelevant.⁸

⁸ Plaintiffs also object to the showing of a test of a Volvo seat and Mr. Levitt's testimony regarding that test on grounds that it too is evidence of industry custom. (Br. 68.) Plaintiffs do not explain what prejudice they suffered from Mr. Levitt's brief discussion of this test. The testimony was so limited that no substantive discussion was had regarding the test, the results of the test, whether the test exhibited a rigid or yielding seat, the strength of the seat, or whether the seat was designed in line with industry custom. (Tr. 1043-45.) At most, the test was cumulative of the BMW, Trailblazer, LeSabre, and Buick tests.

E. The Testimony Related To The Hybrid III Crash Test Dummy To Which Plaintiffs Object Does Not Exist, But Would Have Been Both Cumulative And Relevant If It Did.

Plaintiffs claim that the trial court erred in admitting testimony from Ford witness Roger Burnett about “what ‘other manufacturers’ do in terms of testing with dummies.” (Br. 63-64.) In fact, the testimony concerning the Hybrid III test dummy to which Plaintiffs object does not exist. During Plaintiffs’ case-in-chief, Mr. D’Aulerio criticized Ford’s use of the Hybrid III dummy in its testing and asserted that Ford should have used a different type of dummy called a “pedestrian dummy.” In response, Ford’s counsel asked Mr. Burnett the following question:

Q. All right. And then what about other automobile manufacturers? Is that the generally accepted dummy to use for forward and rear testing in – by other automobile manufacturers?

(Tr. 793-94.) The trial court overruled Plaintiffs’ objection to this question, *but Mr. Burnett never answered it*. Instead, Ford’s counsel immediately moved into a different area – a photograph of a HYGE sled, admitted into evidence without objection from Plaintiffs. (Tr. 794-95.)

Even if Mr. Burnett had answered the question, however, Mr. D’Aulerio had already testified in Plaintiffs’ case-in-chief – without objection or limitation – that the federal government uses the same type of dummy for its tests as Ford and that he knew of no manufacturer that used “pedestrian” dummies for testing outside of litigation.

(Tr. 289, 290-92.) Any evidence that Ford would have elicited from Mr. Burnett in response to the above question would merely have been cumulative of Mr. D'Aulerio's testimony.

Further, if Mr. Burnett had answered the question it would have been relevant and admissible. The evidence was directly responsive to Mr. D'Aulerio's criticism of Ford's use of the Hybrid III dummy in its litigation testing. The real issue addressed by the evidence was whether the demonstrative tests performed to illustrate Ford's defenses in this case to the jury were fair and reasonable tests. (Tr. 265-72.) Indeed, by statute, test data relied upon by an expert must be of a type "reasonably relied upon by experts in the field." RSMo. § 490.065(3). Thus, evidence that the motor vehicle industry and the federal government rely on data developed using Hybrid III dummies tends to establish that the data is of the type "reasonably relied upon by experts in the field," as required by section 490.065.

F. Plaintiffs Opened The Door To Evidence Relating To Ford's Opposition To An Amended Government Standard And Any Perceived Error Was Corrected By A Limiting Instruction.

Plaintiffs object to testimony from Mr. Burnett regarding a decision by the National Highway Traffic Safety Administration ("NHTSA") "not to change the safety standard applicable to automotive seat strength despite petitions recommending that the minimum seat strength standard be raised." (Br. 68-69.) Once again, however, it was Plaintiffs, not Ford, who injected this issue into the case, without limitation, in their case-in-chief.

On direct examination, Plaintiffs' counsel asked Mr. D'Aulerio whether a vehicle could comply with the federal safety standard for seats and still be "defective and unreasonably dangerous," thereby signaling that Mr. D'Aulerio's expected testimony on this topic was directed at Plaintiffs' strict liability case. (Tr. 226.) Mr. D'Aulerio testified, as expected, that a vehicle that complied with the federal safety standard could still be unsafe. (Tr. 226-27.) He also testified that his company and "several other people" petitioned NHTSA in the late 1980's to increase the seat strength standard, but that Ford was "against strengthening or changing" the standard. (Tr. 233-34.) During Ford's case, Mr. Burnett added nothing to the testimony already provided by Mr. D'Aulerio, except to explain that Ford opposed changing the standard because it "felt that it was inappropriate to arbitrarily change a standard without understanding what it would do to occupant safety." (Tr. 844.)

Under these circumstances, it is not at all clear what grounds Appellants believe they have to claim error. Plaintiffs expressly agreed that "I think it's okay to talk about submissions to the government, I think it's okay to talk about everything but the standard." (Tr. 844.) Mr. Burnett's testimony, responding directly to Mr. D'Aulerio's testimony on precisely the same subject, falls squarely within what Plaintiffs told the trial court was "okay" because it explained Ford's submission to the government.

Further, consistent with Plaintiffs' position, the trial court instructed the jury as follows:

In determining whether the Ford Explorer was unreasonably dangerous when put to a reasonably anticipated use in

Instruction Numbers 6 and 7, you are not to consider any evidence that the driver's seat and related component parts of the Ford Explorer complied with any of the Federal Motor Vehicle Safety Standards.

(L.F. 369.) There is a presumption under Missouri law that jury instructions, including withdrawal instructions, are followed. *Lohmann v. Norfolk & W. Ry. Co.*, 948 S.W.2d 659, 665 (Mo. App. 1997) (internal citations omitted). Such instructions will only be found inadequate in extraordinary circumstances, which have not been shown here. *Id.* Plaintiffs were granted their requested jury instruction and, therefore, cannot now claim prejudice. *See Duke v. Gulf & Western Mfg. Co.*, 660 S.W.2d 404, 417 (Mo. App. 1983) (where plaintiffs were granted the relief they sought, they cannot claim prejudice).

G. Plaintiffs Opened The Door To Proof That Ford's Seat Testing Exceeded Testing Done By Other Manufacturers, The Evidence Was Relevant, the Evidence was Cumulative To Other Evidence Admitted Without Objection, And Any Error Was Harmless.

Plaintiffs argue that the trial court committed prejudicial error by admitting testimony from Mr. Burnett that Ford's design and development testing of seats was more demanding than tests conducted by other manufacturers. (Br. 63-64.) Unlike the rest of the so-called "state-of-the-art" evidence challenged by Plaintiffs, this testimony might fairly be characterized as evidence of industry custom and practice. Once again, however, it was Plaintiffs, not Ford, who injected the issue into this case in their case-in-

chief. Moreover, they did so while specifically addressing their strict liability claim that the Explorer's seats were defective and unreasonably dangerous.

On direct examination during Plaintiffs' case-in-chief, Plaintiffs asked Mr. D'Aulerio whether, in his opinion, the Explorer's seats were defective and unreasonably dangerous. (Tr. 259.) Predictably, Mr. D'Aulerio agreed that the Explorer's seat was defective and unreasonably dangerous "because it's not strong enough." (*Id.*) In their very next question, Plaintiffs asked Mr. D'Aulerio whether there "are other seats on the market in 2002 that are stronger than the seats" in the Explorer. (*Id.*) Mr. D'Aulerio agreed that there were such seats and identified a chart listing "some" of them. (Tr. 259-260.) Plaintiffs offered this chart into evidence, and it was admitted as Exhibit 53, before they "shift[ed] gears" and asked Mr. D'Aulerio to opine on whether Ford was negligent and the reasons for that opinion. (Tr. 260-64.) Later, Plaintiffs concluded their direct examination of Mr. D'Aulerio with this question and answer:

Q. Aren't you essentially with your testimony today indicting virtually every front seat in every vehicle, Mr. D'Aulerio?

A. Well, not every front seat in every vehicle, but, unfortunately, a lot of them, yes.

(Tr. 273.) Thus, not only did Plaintiffs offer evidence of "industry custom and practice" without requesting that it be limited to their negligence claims, the context in which they offered that evidence shows that they were offering it specifically on their strict liability claim.

Moreover, on cross-examination Mr. D'Aulerio provided even more evidence of "industry custom and practice" with no objection from Plaintiffs and no request that this testimony be limited to their negligence claim. Mr. D'Aulerio testified without objection, for example, that the Explorer's seats were stronger than most of the seats on the market (Tr. 278-79, 281-82, 284); that the "general consensus in the industry" favored yielding seats (Tr. 305-06, 313); that he knew of no passenger vehicle on the road that would meet his standard for seatback strength (Tr. 319-21, 323); that most seats with the same size occupant would deform as much as or more than the Explorer's in an accident of the severity of the one involved in this case (Tr. 333); and that he could not identify any car manufacturer that tested its seat to standards as high as Ford's. (Tr. 304.)

In short, Plaintiffs opened the door to evidence of Ford's testing and cannot now complain of its admission. *See, e.g., Moll v. General Automatic Transfer Co.*, 873 S.W.2d 900, 904 (Mo. App. 1994) ("[P]laintiff also offered similar evidence. The issue was thereby waived."). Further, any error in the admission of the testimony from Mr. Burnett was harmless because it was cumulative of testimony from Plaintiffs' own expert, some of which was elicited by Plaintiffs themselves and all of which was admitted without objection or limitation. *See, e.g., City of Rolla*, 985 S.W.2d 419, 424 ("The complaining party cannot be prejudiced . . . if the challenged evidence is merely cumulative to other admitted evidence of like tenor.")

Plaintiffs do not deny that the evidence admitted during their case-in-chief was cumulative of the evidence offered in Ford's case. Instead, they insist that when they dismissed their negligence claim at the close of their case Ford had an obligation to move

to strike the evidence previously admitted or to request a limiting instruction. But it was, and continues to be, Ford's position that evidence of industry custom and practice is admissible on both the negligence and strict liability claims; Ford was not obligated to request a limiting instruction that it did not believe was appropriate. If Plaintiffs wanted the jury to consider the evidence in their case-in-chief only on their negligence claim, they should have requested a limiting instruction at the time the evidence was offered. They did not do so. Absent such a limiting instruction, the jury could properly consider the evidence admitted in Plaintiffs' case for any purpose. *Brown v. Kroger Co.*, 358 S.W.2d 429, 434 (Mo. App. 1962); *see also Lane v. Amsted Industries, Inc.*, 779 S.W.2d 754, 759 (Mo. App. 1989) ("It was open to the plaintiff at the end of her case, when the court ruled a submissible issue of punitive damages was not proven, to seek the direction of the court to withdraw all the evidence on that abandoned issue from the jury . . . But none was sought.").

Thus, the seat-testing evidence about which Plaintiffs complain would have been before the jury, and properly considered by it, even if Mr. Burnett had never testified. Moreover, Mr. Burnett's testimony would have been relevant and admissible even if Plaintiffs had not opened the door on the issue. Contrary to Plaintiffs' argument, there is no blanket rule that excludes all evidence of "industry custom and practice" in strict liability cases, regardless of its legal and logical relevance. Missouri courts have admitted this type of evidence when it was logically relevant and where the probative value was not outweighed by the potential for unfair prejudice. *See, e.g., Moll*, 873 S.W. 2d 900, 904 (evidence of "industry custom and practice" was relevant in a strict liability

case “to prove the purpose or intended use of catwalks” and on the “scope of expert witness’ familiarity with industrial washers”); *Hoppe v. Midwest Conveyor Co.*, 485 F.2d 1196, 1202 (8th Cir. 1973) (“The comparative design with similar and competitive machinery in the field [and other factors] . . . are all relevant to proof of defective design.”); *Miller v. Yazoo Mfg. Co.*, 26 F.3d 81, 83 (8th Cir. 1994) (“evidence [of ANSI standard] is relevant because it tends to make the existence of an unreasonably dangerous condition more or less probable than it would be without such evidence”); *DiCarlo v. Keller Ladders, Inc.*, 211 F.3d 465, 468 (8th Cir. 2000) (evidence of compliance with ANSI standards bears on whether a product contains a design defect).

In fact, the logical relevance of this evidence in this case can be demonstrated using Mr. D’Aulerio’s own testimony. To support his opinion that the Explorer’s seats were defective and unreasonably dangerous because they were not strong enough, Mr. D’Aulerio relied heavily on the fact that other manufacturers made a handful of vehicles with stronger seats. (Tr. 259-263.) If it were the case that *most* vehicles had stronger seats than the Explorer, Mr. D’Aulerio surely would have used that evidence to support his opinion as well – and appropriately so. Evidence that Mr. D’Aulerio’s opinion was not simply his own personal opinion but that it reflects the consensus of an entire industry logically would have tended to enhance the credibility of that opinion. Thus, there is no question that a failure to comply with industry custom and practice is properly admitted in a strict liability case if offered by the plaintiff.

The same logic that would permit evidence of “industry custom and practice” when offered by the plaintiff also supports admission of such evidence when offered by

the defendant. Mr. Burnett's opinion that stronger seats are not necessarily safer seats is not just his own personal opinion but the consensus of an entire industry. Similarly, Mr. Levitt's opinion that the Explorer's seats are reasonably safe is far more credible if it reflects the consensus of experts in the field rather than his own personal belief.

This does not mean, of course, that compliance with industry custom proves conclusively that a product is not defective or unreasonably dangerous, any more than departure from industry standards proves that it is. All it means is that such evidence is logically relevant in a strict liability case because it *tends* to support a conclusion on whether a product is defective and unreasonably dangerous and because it *tends* to support expert testimony on that issue.

Given the logical relevance of evidence of "industry custom and practice," it is not surprising that the majority of courts in other jurisdictions recognize that industry standards and customs are relevant and admissible in strict liability cases on the issue of defect, regardless of whether the evidence is offered by plaintiffs or defendants. *See, e.g., Reed v. Tifflin Motor Homes, Inc.*, 697 F.2d 1192, 1196 (4th Cir. 1982) ("The majority of courts have found in design defect cases ... that ... industry standards are relevant to show both the reasonableness of the design, [citations], and that the product was dangerous beyond the expectations of the ordinary consumer"); *Union Supply Co. v. Pust*, 583 P.2d 276, 286 (Colo. 1978) (holding that "[b]y reason of the nature of the case, the trier of fact is greatly dependent on expert evidence and industry standards in deciding whether a defect is present"); *Beech v. Outboard Marine Corp.*, 584 So.2d 447, 450 (Ala. 1991); *Hohlenkamp v. Rheem Mfg. Co.* 655 P.2d 32, 36-37 (Ariz.App. 1982);

Hall v. Mississippi Chemical Express, Inc., 528 So.2d 796, 799 (Miss. 1988); *Thibault v. Sears, Roebuck & Co.*, 395 A.2d 843, 850 (N.H. 1978); *Price v. Buckingham Manufacturing Co.*, 266 A.2d 140, 141 (N.J.App. 1970); *Bragg v. Hi-Ranger, Inc.*, 462 S.E.2d 321, 328 (S.C.App. 1995); *Boatland of Houston, Inc. v. Bailey*, 609 S.W.2d 743, 749 (Tex. 1980).

H. The Cases Plaintiffs Rely On Are Inapposite.

In arguing for a blanket rule that all “state-of-the-art” evidence of *any* kind is *always* inadmissible in a strict liability case when offered by defendants, regardless of logical or legal relevance in any particular case, Plaintiffs rely on this Court’s decision in *Elmore*, 673 S.W.2d 434. (Br. 35.) But the “state-of-the-art” evidence held inadmissible in *Elmore* is distinguishable from the evidence offered here. At issue in *Elmore* was evidence that the defendant “could not have known of the product’s unreasonable danger” at the time of manufacture. 673 S.W.2d 434, 437. Similarly, the *Cryts* case upon which plaintiffs rely also dealt with true “state-of-the-art” evidence: evidence that the arm-rest at issue was designed to the best of the manufacturer’s technological capabilities at the time. *Cryts v. Ford Motor Co.*, 571 S.W.2d 683, 688 (Mo. App. 1978). Subsequent cases have recognized that the “state-of-the art” evidence excluded in *Elmore* and *Cryts* is significantly different from evidence of “industry custom and practice.” *E.g., Moll*, 873 S.W. 2d 900, 904 (evidence of industry custom and practice “is not ‘state of the art’ evidence”); *Miller*, 26 F.3d 81, 83 n. 2 (*Elmore* dealt not with “industry custom and practice” but with “true ‘state-of-the-art’ evidence (i.e., evidence about the limits of scientific ‘knowability’)”).

None of the other cases relied on by Plaintiffs support a blanket rule excluding any evidence that might be characterized as “state-of-the-art” evidence, regardless of legal or logical relevance, and they certainly do not require the exclusion of the specific evidence offered by Ford under the specific facts of this case. The court in *Klein v. General Electric Co.*, 714 S.W.2d 896, 905 (Mo. App. 1986), for example, did not rely on any such blanket rule; rather, it made its determination based on evaluation of the relevance of the specific evidence offered to the specific issues in that case. *Id.*^{9/}

Plaintiffs’ reliance on *Johnson v. Hannibal Mower Corp.*, 679 S.W.2d 884, 885-86 (Mo. App. 1984), is similarly misplaced. There the court considered an ANSI standard related to lawn mowers, different evidence than that which the Court is considering here. *Id.* at 885. Further, in contrast to *Johnson*, subsequent cases have recognized the difference between evidence of “industry custom and practice” and “state-of-the-art,”

^{9/} Plaintiffs also cite *Lane*, 779 S.W.2d 754, 758-59, as support for their argument for a blanket exclusion of all evidence of “industry custom and practice.” (Br. 34.) The *Lane* court considered an ANSI standard requiring the user of the machinery at issue to provide safety guards for the product – essentially shifting responsibility for safety guarding from the manufacturer to the user. *Id.* This is entirely different from a standard related to the design of the product. The reasoning in *Lane* would apply if Ford were defending this case on the basis that the driver of the Expedition alone bore responsibility for Mrs. Moore’s injuries and offered evidence that he was exceeding the speed limit in support of that legally improper defense.

even with respect to ANSI standards similar to those excluded in *Johnson*. See *Miller*, 26 F.3d 81, 83 n. 2 (considering the admissibility of ANSI standards and specifically questioning the *Johnson* court’s decision regarding the same). Moreover, *Johnson* cannot reasonably be read to require exclusion of *all* evidence of any kind – regardless of its relevance in a particular case – simply because it might be characterized as “state-of-the-art” evidence.

For similar reasons, *Uxa v. Marconi*, 128 S.W.3d 121 (Mo. App. 2003), cannot be read to establish a blanket rule excluding evidence of “industry custom and practice” or “state of the art,” regardless of relevance. (Br. 66.) In *Uxa*, the trial court exercised its discretion to exclude evidence that the child car seat at issue was virtually identical to all of the other similar car seats on the market at the time of manufacture. *Id.* at 131-32. This Court simply upheld the trial court’s discretion, in part because the evidence was not “relevant” under the circumstances of that case and in part because other evidence on the topic was admitted. *Id.*

There is no dispute that a trial court has the discretion to exclude evidence of “industry custom and practice” – just as it has discretion to exclude any evidence that is logically relevant – if the evidence is not “legally” relevant, i.e., if the probative value of the evidence is outweighed in the particular case by the potential for unfair prejudice or other considerations. See, e.g., *Guess*, 26 S.W. 3d 235, 242. Thus, the ruling in *Uxa* that the trial court did not abuse its discretion in excluding cumulative evidence does not support an argument that the trial court in this case abused its discretion by admitting different evidence under far different circumstances.

* * * * *

In short, the trial court did not abuse its discretion in admitting any of the evidence about which Plaintiffs now complain. First, any alleged error was waived and was harmless because the challenged evidence was cumulative of other evidence admitted in Plaintiffs’ case-in chief – often by Plaintiffs themselves – without objection or limitation. *See, e.g., Moll*, 873 S.W. 2d 900, 904 (“[P]laintiff also offered similar evidence. The issue was thereby waived.”); *City of Rolla*, 985 S.W.2d 419, 424 (“The complaining party cannot be prejudiced . . . if the challenged evidence is merely cumulative to other admitted evidence of like tenor.”). In addition, there are substantial issues with respect to preservation of the error. Second, in considering the substance and relevance of the evidence, the trial court’s decisions were not “against the logic of the circumstances before it” and were not “so arbitrary and unreasonable” as to “shock[] the sense of justice and indicate[] a lack of careful deliberation.” *Gallagher*, 238 S.W. 2d 157, 166-67. On the contrary, the trial court’s decisions were entirely reasonable under the unique circumstances of this case. The fact that other reasonable persons might have decided differently is of no moment. *Id.* at 167 (“Where reasonable persons can differ about the propriety of the trial court’s action, we cannot say the trial court abused its discretion.”).

IV. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION IN ADMITTING TESTIMONY OF DR. CATHERINE CORRIGAN BECAUSE PLAINTIFFS HAVE NOT PROPERLY PRESERVED ALL OF THEIR CLAIMED ERRORS FOR REVIEW, BECAUSE NONE OF HER OPINIONS CONSTITUTED “MEDICAL TESTIMONY,” AND

BECAUSE SHE WAS QUALIFIED TO STATE ALL OPINIONS TO WHICH SHE TESTIFIED.

A. Introduction And Standard of Review.

Plaintiffs claim that the trial court committed prejudicial error in the admission of alleged “medical opinion testimony” of Ford’s biomechanical expert, Dr. Catherine Corrigan. (Br. 72.) Plaintiffs admit, however, that Dr. Corrigan is an expert with respect to forces on the body and occupant kinematics. (Tr. 1170.) Review of this evidentiary issue is once again limited to review for abuse of discretion. *See, e.g., Aliff*, 26 S.W.3d 309, 315; *Arnold II*, 908 S.W.2d 757, 763, *citing Kansas City v. Keene Corp.*, 855 S.W.2d 360 (appellate courts give “substantial deference to the trial court as to the admissibility of evidence”). “The determination whether to admit or exclude expert testimony is within the sound discretion of the trial court...We will not find an abuse of discretion unless the ruling is clearly against the logic of the circumstances then before the court and is so arbitrary and unreasonable that it shocks the sense of justice and indicates a lack of careful consideration.” *8000 Maryland, LLC v. Huntleigh Financial Services*, 292 S.W.3d 439, 446 (Mo. App. 2008), *citing McGuire v. Seltsam*, 138 S.W.3d 718, 720 (Mo. banc 2004).

Here, Plaintiffs failed to show that the court committed any prejudicial error. In addition, their allegations of error were largely waived.

B. Dr. Corrigan is a Qualified Biomechanic.

Dr. Corrigan has a Ph.D. in Medical Engineering from the Harvard University-MIT Division of Health Sciences and Technology, a Master’s Degree in mechanical

engineering from MIT, and a Bachelor's Degree in Bioengineering from the University of Pennsylvania. (Tr. 1143-44.) Her graduate work included doctoral research at the Orthopedic Biomechanics Laboratory at the Beth Israel Hospital in Boston, a teaching hospital of the Harvard Medical School. (Tr. 1146-47.) One significant focus of her research studied trabecular bone, the spongy bone inside vertebrae, and the effects of forces on that bone. (Tr. 1147-48.) Her graduate work also included several required medical courses at the Harvard Medical School. (Tr. 1144, 1146.) She is an expert in biomechanics, the field which is specifically focused on forces on objects, including the human body. (Tr. 1146.) She also is specifically trained in engineering and the field of occupant kinematics (how accident forces cause bodies to move during an accident). (Tr. 1145-1146.) These are the type of qualifications that Missouri courts have held to be sufficient for experts in biomechanics to testify. (Tr. 1142-48); *Koedding v. Kirkwood Contractors, Inc.*, 851 S.W.2d 122 (Mo. App. 1993) (admitting the testimony of a Ph.D./biomechanical engineer regarding the nature of the skull fracture suffered by the plaintiff and how the nature of the fracture ruled out plaintiff's causation theory); *Carlisle v. Hitachi Koki U.S.A. Ltd.*, 2007 WL 1100454, *4 (W.D. Mo. April 10, 2007) (admitting testimony of Ph.D. in biomechanical engineering regarding injury causation. The biomechanical engineer had reviewed medical reports, depositions and photographs in formulating his opinions and conducted experiments using an anthropomorphic dummy to simulate a human's use of the tool at issue); *Spencer v. Knapheide Truck Equipment Co.*, 1997 WL 342235, *10, n. 16 (W.D. Mo. June 17, 1997) (acknowledging that plaintiffs' biomedical expert is qualified to testify and stating "the court is not aware of

any Missouri cases distinguishing competent medical testimony from incompetent testimony on the basis of whether the expert has received an M.D. Dr. Burnstein appears to be an expert on application of mechanical engineering to the human muscular-skeletal system...”).

It is undisputed that Dr. Corrigan is not a medical doctor and does not diagnose or treat medical conditions. (Tr. 1146.) However, Dr. Corrigan is highly qualified to testify with respect to the direction, magnitude and effect of forces acting on the body in an accident.^{10/}

^{10/} Dr. Corrigan did not, at any time during her testimony, testify to the diagnosis or treatment of Mrs. Moore’s injuries. This is in stark contrast to *Childs v. Williams*, 825 S.W.2d 4, 10 (Mo. App. 1992), relied upon by Plaintiffs. In *Childs*, a medical diagnosis was explicitly required by law in order for plaintiff to state a claim for emotional distress. *Id.* No medical doctor was called to testify. *Id.* The Court held that plaintiff’s psychology expert (not a medical doctor), who admittedly could not diagnose a medical condition, could not testify to the necessary “medically diagnosable” mental injury. *Id.* Similarly, *Pfeffer v. Kerr*, 693 S.W.2d 296, 304 (Mo. App. 1985), is distinguishable from the case at issue. In *Pfeffer*, plaintiff offered an Emergency Medical Technician, not an MD, to testify to the diagnosis of a heart attack or stroke based on the blood-pressure reading he took at the scene. *Id.* The court held that that the trial court did not err in allowing the EMT to testify only to the reading itself, without diagnosing a stroke or heart attack, because the EMT was not an expert in cardiology or related medicine. *Id.*

C. The Trial Court Did Not Abuse Its Discretion In Allowing Dr. Corrigan’s Testimony With Respect To Forces Placed On The Skull In The Accident.

Plaintiffs first claim that Dr. Corrigan’s testimony regarding “whether there was an injury to Jeanne’s skull” was “medical opinion testimony” that was, therefore, erroneously admitted. (Br. 74.) However, the trial court did not err (and any possible error was not prejudicial) for two independent reasons: (1) the testimony about which Plaintiffs complain does not exist; and (2) any testimony from Dr. Corrigan regarding forces applied to the skull in the accident was not medical in nature. In addition, the error was not sufficiently preserved for review through a timely and specific trial objection and inclusion in the Plaintiffs’ motion for new trial.

Dr. Corrigan did not testify with respect to any “injury” to Mrs. Moore’s skull in the accident. When questions were asked with respect to skull injury, the objection of Plaintiffs’ counsel prompted the amendment of the question to one clearly within Dr. Corrigan’s expertise as follows:

Q: . . . First of all, is there any evidence of an injury to the skull? . . .

Mr. Rhodes: Your honor, at this point we object to any testimony, opinion testimony from this witness regarding any kind of injuries, giving any kind of diagnoses, anything that relates to medical issues that she’s not qualified to address. She’s qualified to talk about how the body moves in a wreck.

I even think she's qualified to talk about forces on bones, but once we get to the point of injuries and injury analysis –

Mr. Ball: I can re-word that question...

Q: Based on the review of the information, was there any evidence of any application of forces to the skull in the accident?

A: No, there wasn't.

(Tr. 1170-71.) Dr. Corrigan did not testify to any diagnosis of “injury” to the skull. Her testimony related to evidence, or lack thereof, of forces applied to the skull, an issue within her area of expertise. *See Koedding*, 851 S.W.2d 122, 126 (upholding testimony from a biomechanic, not an M.D., regarding the types of “loading forces” that would cause a particular type of bone fracture pattern in the skull as visible on X-rays). In addition, Plaintiffs' counsel made no objection to the reformulated question. The challenged testimony was not properly objected to at the time of trial and the objection was, therefore, not preserved for review.

D. The Trial Court Did Not Abuse Its Discretion In Allowing Testimony Interpreting CT Films Because Dr. Corrigan Did Not Interpret CT Films.

Plaintiffs next argue, inexplicably, that the Court committed some error in Dr. Corrigan's “attempt to interpret CT films.” (Br. 74.) However, Dr. Corrigan did not testify to the interpretation of the CT films. In the portions of the transcript cited by Plaintiffs, (Tr. 1179-81), Plaintiffs objected to testimony from Dr. Corrigan interpreting

“radiographical film,” but there was no ruling on this objection. Ford’s counsel then moved on without asking Dr. Corrigan to interpret any medical data. (Tr. 1181-1182.) Dr. Corrigan, instead, was asked questions based on her understanding of Dr. Harry Smith’s interpretation of the CT films. (Tr. 1181.) Plaintiffs’ claim of error with respect to Dr. Corrigan’s interpretation of CT films is without merit.

E. The Trial Court Did Not Abuse Its Discretion In Admitting Testimony From Dr. Corrigan About Forces Required To Cause A Fracture Dislocation Of The T9-T10 Vertebrae.

Plaintiffs claim that the trial court committed prejudicial error in its admission of testimony from Dr. Corrigan related to the directional forces that would cause a fracture dislocation of Mrs. Moore’s T9-T10 vertebrae. (Br. 74-75.) However, Plaintiffs’ counsel conceded during the testimony of Dr. Corrigan that she was qualified to testify regarding “forces on bones” or “directional forces.” (Tr. 1170, 1183.) Dr. Corrigan’s testimony as to the direction of forces that are required to cause a “fracture dislocation” at T9-10 was exactly that:

Q. Okay. And you – One of the things you've done in this case is you've evaluated the forces, the direction of forces, for example, that would create a T9-T10 dislocation in that area?

A. Yes.

Q. Okay. And the study of the direction of forces and the applications of forces at a particular point in the spine in order

to create a dislocation is another one of the things that you've studied through your education and your experience?

A. Yes.

Q. Okay. And that's smack in the field of biomechanics?

A. It is.

Q. Okay. Then what I'd like you to do is, first of all, I'll ask you a question in terms of the direction of the forces that were required to produce the rib fractures, okay? Were those up and down forces, or were those horizontal, side-to-side forces?

A. They were horizontal forces.

Q. Okay. And then I will ask you, the forces that were required to produce the fracture dislocation at T9-T10, were those hyperextension forces or were those compressive forces?

MR. RHODES: Objection, Your Honor. Can we approach?

THE COURT: Sure.

(Counsel approached the bench, and the following proceedings were held out of the hearing of the jury.)

MR. RHODES: I think he's entitled to ask directional forces, but I think once he starts using medical terminology, he's out of this witness's area of expertise.

THE COURT: What medical?

MR. RHODES: We just heard Dr. Smith tell us he thought this was a hyperextension injury rather than a compression injury. If he wants to talk about vertebral loading of the spine, I think that's in her bailiwick, but I think what he's trying to do is kind of give her a little bit of Dr. Smith's credibility by using medical terminology instead of –

MR. BALL: Hyperflexion and hyperextension, flexion, compression, those are all engineering terms.

THE COURT: I agree. Overruled.

MR. BALL: Thank you.

(Tr. 1182-84, emphasis added.) Dr. Corrigan went on to specifically testify that forces, such as hyperextension and hyperflexion, are a regular part of her engineering analysis of kinematics and causation. (Tr. 1184-85.) Dr. Corrigan used no medical terminology and, therefore, Plaintiffs cannot argue that it should have been excluded as such. This testimony is, again, just like that upheld by the court in *Koedding*, 851 S.W.2d 122, 126.

F. The Trial Court Did Not Abuse Its Discretion In Admitting Testimony From Dr. Corrigan Regarding Fractures Of Trabecular Bone.

Plaintiffs again claim that Dr. Corrigan testified to a medical opinion, which she was not qualified to give, when she testified to the characteristics of trabecular bone, the spongy bone inside vertebrae, and the effect of forces on that bone. (Br. 75.) However, analysis of the forces required to cause fracture of the trabecular bone is not medical

testimony. As discussed above, Plaintiffs conceded that Dr. Corrigan is qualified to testify to forces acting on the bone. (Tr. 1183.) Additionally, with respect to trabecular bone specifically, Dr. Corrigan is uniquely qualified. One significant focus of her graduate research studied trabecular bone and the effects of forces on that bone. (Tr. 1144, 1147-48.)

G. The Trial Court Did Not Abuse Its Discretion In Admitting Testimony From Dr. Corrigan Regarding Differing Bone Densities Seen In CT Scans.

Plaintiffs' final claim of error in Dr. Corrigan's testimony is that the Court improperly admitted what Plaintiffs describe as "medical testimony" about differing bone densities shown in CT scans. (Br. 75-76.) Plaintiffs, again, claim that Dr. Corrigan is not qualified to state those opinions. But Plaintiffs agreed at the time of trial that Dr. Corrigan could testify with respect to the density of bone shown on the radiological images. (Tr. 1203.) They argued that she could not, however, diagnose an osteophyte, which Plaintiffs consider to be a medical diagnosis. (*Id.*):

MR. BALL: The other thing, she's just going to point out on the areas that are more dense, the osteophytes that Dr. Smith described.

MR. RHODES: That's a diagnosis. She can talk about density, but she can't say it's dense and here's why. It's also cumulative.

MR. BALL: I'm not asking her, I'm saying this is what Dr. Smith called bone spurs, is that dense or not dense. That's all I'm going to say. I want you to assume he identified that as a bone spur. I'm certainly entitled to do that.

THE COURT: No, you're entitled, you're entitled to establish with her that she measured the density. If she did. I think you're entitled to do that. I don't think she can identify anything as an osteophyte.

MR. BALL: She can't rely upon what another expert has said is an osteophyte?

THE COURT: Let me put it this way. Suppose you ask her, you tell her that Dr. -

MR. BALL: Smith.

THE COURT: – Smith, identified this area as an osteophyte. Suppose she disagrees with that.

MR. BALL: She's not.

MR. RHODES: Then it's cumulative.

THE COURT: Let's be candid about it. She is not qualified to disagree with it.

MR. BALL: I'm not asking her to disagree with it.

THE COURT: You're asking her to call it an osteophyte.

MR. BALL: I'm asking her to assume he called it an osteophyte. Is that particular area, again, more or less bone dense than the other.

THE COURT: I'll let you do it without identifying it as an osteophyte.

MR. RHODES: I think that's fair.

(Tr. 1203-1204.) Dr. Corrigan proceeded to testify, with no further objection, to her analysis of bone density without referring to an osteophyte. (Tr. 1204-1206.)

Even without the consent of the Plaintiffs, such testimony is admissible. Dr. Corrigan's specific training in interpreting radiological images, about which she testified at trial, is more than sufficient expertise to allow the testimony. (Tr. 1199-1206.) In addition, evidence with respect to diagnosis of osteophytes seen on the CT scans of Mrs. Moore's spine was already in evidence through the testimony of Dr. Smith, whose qualifications to diagnose medical conditions Plaintiffs do not challenge. (Tr. 1114-16.) Therefore, Dr. Corrigan's testimony related to osteophytes shown on Mrs. Moore's films, even if she had "diagnosed" an osteophyte through her testimony, was cumulative of that of Dr. Smith and was not prejudicial.

Even when Plaintiffs' objections were properly preserved for review, none of the opinions offered by Dr. Corrigan were objectionable as medical opinions. None involved the diagnosis or treatment of injuries. Her opinions were limited to her analysis of the movement of and forces on Mrs. Moore's body and were properly admitted.

V. THE TRIAL COURT DID NOT ERR IN DENYING A NEW TRIAL BASED ON CUMULATIVE ERROR BECAUSE THERE WAS NOT CUMULATIVE TRIAL COURT ERROR SUFFICIENT TO JUSTIFY REVERSAL.

Plaintiffs' argument that cumulative error in this case rises to the level of requiring reversal, in the absence of a single instance of prejudicial error, is without merit. (Br. 80.)

A. Standard of Review.

The denial of a motion for new trial is reviewed for abuse of discretion. *Dooley v. St. Louis County*, 302 S.W.3d 202, 208 (Mo. App. 2009), *citing Campise v. Borcharding*, 224 S.W.3d 91, 04 (Mo. App. 2007). The trial court will be found to have abused its discretion where "its ruling is clearly against the logic of the circumstances and is so arbitrary and unreasonable as to shock the sense of justice and indicate lack of careful consideration." *Id.* A new trial based on cumulative error will not be granted where there is no showing that prejudice resulted from the rulings. *Koontz v. Ferber*, 870 S.W.2d 885, 894 (Mo. App. 1993).

B. The Trial Court Did Not Error in Denying New Trial Based on Cumulative Error.

Where "[m]ost of appellant's grievances [. . .] are either not errors, minor infractions, sufficiently cured, or misstatements of the record," a new trial cannot result. *DeLaporte v. Robey Bldg. Supply, Inc.*, 812 S.W.2d 526, 536 (Mo. App. 1991); *see also Crawford v. Shop 'N Save Warehouse Foods, Inc.*, 91 S.W.3d 646, 652 (Mo. App. 2002), *citing DeLaporte*, 812 S.W.2d 526, 536. A new trial will not be granted based on

cumulative error where, as here, there is no showing that prejudice resulted from any erroneous rulings of the trial court. *Koontz*, 870 S.W.2d 885, 894-95, citing *Wilkins v. Cash Register Service Co.*, 518 S.W.2d 736, 753 (Mo. App. 1975). As the discussion above illustrates, there was no prejudicial error committed by the trial court. Even if one or more of the evidentiary rulings at issue were in error, Plaintiffs have shown no specific prejudice that may have resulted from those rulings and are, therefore, not entitled to a reversal on the ground of cumulative error.

CONCLUSION

For all the foregoing reasons, the jury verdict and judgment of the trial court should be affirmed.

Respectfully submitted,

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RULE 84.06 CERTIFICATION

Pursuant to Mo. R. Civ. P. 84.06(c), the undersigned hereby certifies that: (1) this brief includes the information required by Rule 55.03; (2) this brief complies with the limitations contained in Rule 84.06(b); and (3) pursuant to those rules, this brief contains 21,992 words as calculated by the Microsoft Word software used to prepare it.

The undersigned further certifies that the CD-ROM electronic copy of this brief filed with the Court has been scanned for viruses and is virus-free.

Counsel for Respondent

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to Rules 84.05 and 84.06(g) one copy of the above and foregoing brief plus on copy on a CD-ROM (that has been scanned for viruses and is virus-free) were served via U.S. Mail postage prepaid on this 17th day of May, 2010 to:

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Mo. R. Civ. P. 78.07. A-3

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