

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge Robert E. Blackburn**

Civil Case No. 07-cv-00081-REB-CBS

ERICA HOFFMAN,
GARY HOFFMAN, and
SANDRA HOFFMAN, individually,

Plaintiffs,

v.

FORD MOTOR COMPANY, a Delaware corporation, and
TRW AUTOMOTIVE SAFETY SYSTEMS, INC., a Delaware corporation,

Defendants.

ORDER DENYING RULE 702 MOTIONS

Blackburn, J.

The matters before me are (1) **Defendants' Joint Motion and Memorandum To Limit the Testimony and Opinions of Mariusz Ziejewski Pursuant to Federal Rules of Evidence 702** [#158], filed December 1, 2008; and (2) **Defendants' Joint *Daubert* Motion To Exclude Opinions and Testimony of Craig Good** [#159], filed December 1, 2008. I deny both motions.

I. JURISDICTION

I have jurisdiction over this case under 28 U.S.C. § 1332 (diversity of citizenship).

II. STANDARD OF REVIEW

Defendants seek to strike or limit the testimony of plaintiffs' expert witnesses. Rule 702 of the Federal Rules of Evidence, which governs the admissibility of expert witness testimony, provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

FED.R.EVID. 702. As interpreted by the Supreme Court, Rule 702 requires that an expert's testimony be both reliable, in that the witness is qualified to testify regarding the subject, and relevant, in that it will assist the trier in determining a fact in issue.

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589-92, 113 S.Ct. 2786, 2795-96, 125 L.Ed.2d 469 (1993); ***Truck Insurance Exchange v. MagneTek, Inc.***, 360 F.3d 1206, 1210 (10th Cir. 2004). The Supreme Court has described the court's role in weighing expert opinions against these standards as that of a "gatekeeper." **See *Kumho Tire Company, Ltd. v. Carmichael***, 526 U.S. 137, 147, 119 S.Ct. 1167, 1174, 142 L.Ed.2d 248 (1999).

Under ***Daubert*** and its progeny, an expert opinion is reliable if it is based on scientific knowledge. "The adjective 'scientific' implies a grounding in the methods and procedures of science. Similarly, the word 'knowledge' connotes more than subjective belief or unsupported speculation." ***Daubert***, 113 S.Ct. at 2795. In short, the touchstone of reliability is "whether the reasoning or methodology underlying the testimony is scientifically valid." ***Id.*** at 2796; **see also *Truck Insurance Exchange***, 360 F.3d at 1210. The party proffering the expert opinion must demonstrate both that the expert has employed a method that is scientifically sound and that the opinion is "based

on facts which enable [the expert] to express a reasonably accurate conclusion as opposed to conjecture or speculation.” **Goebel v. Denver and Rio Grande Western Railroad Co.**, 346 F.3d 987, 991 (10th Cir. 2003) (quoting **Gomex v. Martin Marietta Corp.**, 50 F.3d 1511, 1519 (10th Cir. 1995)).

Rule 702 demands also that the expert’s opinion be relevant, that is, that the testimony “fit” the facts of the case. **Daubert**, 113 S.Ct. at 2796; **In re Breast Implant Litigation**, 11 F.Supp.2d 1217, 1223 (D. Colo. 1998). “[T]he standard for fit is higher than bare relevance.” **In re Breast Implant Litigation**, 11 F.Supp.2d at 1223 (quoting **In re Paoli Railroad Yard PCB Litigation**, 35 F.3d 717, 745 (3rd Cir. 1994), **cert. denied**, 115 S.Ct. 1253 (1995)). The proffered evidence must speak clearly and directly to an issue in dispute in the case. **Id.**

Guided by these principles, the court has broad discretion in determining whether expert testimony is sufficiently reliable and relevant to be admissible. **Truck Insurance Exchange**, 360 F.3d at 1210; **Smith v. Ingersoll-Rand Co.**, 214 F.3d 1235, 1243 (10th Cir. 2000). The overarching purpose of the court’s inquiry is “to make certain that the expert . . . employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” **Goebel**, 346 F.3d at 992 (quoting **Kumho Tire Company**, 119 S.Ct. at 1176).

III. ANALYSIS

On March 14, 2006, plaintiff Erica Hoffman sustained crippling injuries when the 1999 Mercury Cougar in which she was a passenger left the road and rolled over multiple times. Erica, who was ejected from the vehicle during the accident, is now

quadriplegic. In this negligence and strict products liability action, plaintiffs contend that the car's seatbelt was defective in that it became unlatched during the crash, a phenomenon referred to as "inertial unlatch"; thereby, allowing Erica Hoffman to be ejected from the car. The parties dispute whether Erica Hoffman was wearing her seat belt at the time of the crash and whether her injuries were sustained while she was still inside the car or after she was ejected.

Defendants challenge the putative opinions of two of plaintiffs' proffered expert witnesses: Dr. Mariusz Ziejewski and Dr. Craig Good. Applying the standards of Fed.R.Evid. 702 as codified and construed, I find that neither expert's testimony should be limited or excluded as argued in the motions.

A. Dr. Mariusz Ziejewski

Dr. Mariusz Ziejewski is a professor of mechanical engineering at North Dakota State University, an adjunct professor of neuroscience at the University of North Dakota School of Medicine, and director of the Impact Biomechanical Laboratory and the Automotive Systems Laboratory at North Dakota State University's college of engineering. He is proffered as an expert in the field of biomechanics, and more specifically, in occupant kinematics (that is, how an occupant moves during a crash) and injury mechanics (that is, how the occupant's movements create the forces necessary to create the observed injuries). His opinions in this matter are essentially (1) that plaintiff was belted at the time of her accident; (2) that plaintiff's injuries occurred after she was ejected from the car; and (3) plaintiff would not have sustained the injuries she did if she had remained restrained inside the car.

Defendants expressly agree that Ziejewski is qualified to offer these opinions. However, based on testimony given at his deposition, they are wary that he will attempt to opine further that the seatbelt was defective. Specifically, defendants refer to an exchange in which Ziejewski was asked about the final sentence of his first expert report. That sentence read: “Therefore, with a properly functioning seatbelt Ms. Hoffman would not have sustained the injuries that she did.”

Having read the relevant excerpts from the deposition, I do not share defendants’ concern that Ziejewski will offer any rogue opinions regarding the design of the seatbelt or any defect *vel non* of the restraint system. It is true that in response to a question regarding whether he intended to testify “that any aspect of the Mercury Cougar is defective in this case,” Ziejewski replied, “Unlatching of the seatbelt is a defective component of the vehicle.” (Def. Motion App., Exh. A at 70.) Nevertheless, the entirety of Ziejewski’s testimony on this issue, both before and after this response, makes clear that he appreciates the boundaries of his own expertise. For example, when initially asked about the reference in his expert report to a “properly functioning seatbelt,” Ziejewski gave the following explanation:

Q. In terms of the biomechanical opinions you’re providing, do you intend to address the functionality of the belt system or is it simply your opinion that if [Erica Hoffman] had not been ejected and was held in place she wouldn’t have been injured?

. . . .

A. Well, definitely the second statement of yours is true. In terms of the first one, I would not be talking about the design of the seatbelt.

Q. Okay.

A. I would be talking about the effectiveness or performance of the seatbelt from biomechanical effectiveness or effectiveness in terms of restraining the occupant . . . I will be telling you what is my opinion in terms of what happened to body kinematics when suddenly the seatbelt is not available.

(*Id.*, Exh. 1 at 67-68.) Moreover, both before and after making the bare statement that the seatbelt was defective, Ziejewski confirmed that it was not his role to determine how the seatbelt became unlatched or what caused it to do so. (*Id.*, Exh. 1 at 67-72.)

In short, I find nothing in Ziejewski's deposition testimony to undermine my confidence that he will confine his opinions to those which he is qualified to give. For those reasons, defendants' motion to limit his testimony should be denied.

B. Dr. Craig Good

Dr. Craig Good is a licensed professional engineer and president of Collision Analysis Ltd./Collision Analysis, Inc., an automotive forensic consulting firm. He has worked as an engineering consultant in accident investigation and reconstruction, automotive safety systems analysis, injury biomechanics, and product defect analysis for his entire professional career. He also is an adjunct professor in the department of mechanical and manufacturing engineering at the University of Calgary's school of engineering.

As part of his investigation, Good conducted laboratory tests in which he subjected eighteen sample buckles to various degrees of shock using a pneumatic shock machine in order to quantify the threshold at which the buckle would inertially unlatch. The buckles were tested at angles of 0°, 15°, 30°, and 45°. From these tests, Good determined a threshold range for inertial release of 133 to 435 g, with reduced

thresholds as the angle of the buckle increased. He then compared the laboratory results with real world data. However, because “there is a lack of buckle acceleration data from real-world rollover collisions suitable for comparison,” Good relied on data from planar crashes, which showed inertial unlatch in the range of 100 to 200 g. Based on this and other evidence, Good ultimately concluded that Erica Hoffman was wearing her seat belt at the time of the crash, that her seatbelt buckle was susceptible to inertial unlatch, and that the buckle “most probably inertially unlatched causing Ms. Hoffman to be ejected.”

Defendants maintain that Good’s methodology in reaching these conclusions was fundamentally and fatally flawed and that his resulting opinions, therefore, are irreparably unreliable and irrelevant. They identify four specific alleged failings in his methods and opinions: (1) that he failed to account for web belt tension; (2) that he cut the metal stalks off the buckles he tested; (3) that he did not test the buckles at the angle at which they are actually installed in the vehicle; and (4) that he failed to compare his laboratory data to real-world data from rollover, as opposed to planar, car crashes.

In considering the admissibility of expert testimony on this precise topic, other federal courts have required proof of “substantial similarity” between the test conditions and the actual crash. *See, e.g., Bado-Santana v. Ford Motor Co.*, 364 F.Supp.2d 79, 99-100 (D. Puerto Rico 2005); *Guild v. General Motors Corp.*, 53 F.Supp.2d 363, 367 (W.D.N.Y. 1999). Of course, “substantial” does not mean “identical,” and clearly it is impossible to know, much less replicate, the conditions of the actual accident that is the

subject of the lawsuit. **See *Nemir v. Mitsubishi Motors Corp.***, 381 F.3d 540, 555 (6th Cir. 2004); ***Christie v. Mazda Motor of America, Inc.***, 2006 WL 2128897 at *8 (E.D. Tenn. July 27, 2006); ***Guild***, 53 F.Supp.2d at 366. The question, then, is whether Good's tests describe circumstances so dissimilar to those that might have been anticipated to occur in Erica Hoffman's accident as to be unreliable and irrelevant to the issues before the jury.

Yet other than accusing Good of having concocted a "worst case scenario" by virtue of his various testing choices, defendants make no effort to quantify the differences between Good's laboratory results and real world rollover crashes.¹ Stated differently, although defendants insist that the variables they identify matter, they do not show how much they matter, much less that they matter enough to completely undermine the reliability and relevance of Good's opinions such that his testimony must

¹ It strikes this court as particularly unfair for defendants to demand that Good compare his laboratory results to evidence from rollover crash tests when it appears that the limited number of rollover tests that have been conducted did not measure acceleration forces in any event.

Moreover, defendants' own reliance in the present motion on an inadmissible report from the National Highway Transportation and Safety Administration ("NHTSA") that distills information from a large number of crash tests and real-world accident data suffers from much the same alleged infirmity:

[Defendant's] argument that these differences are so substantial as to make the test results irrelevant strike this Court as precarious, if not factually incongruous. For it must be remembered that the NHTSA report which [defendant] so strenuously seeks to admit at trial is based in part on the government's analysis of 2,067 different crash and sled tests involving the performance of both side release and end release seat belts. Obviously, none of these tests attempted to duplicate the collision dynamics present in plaintiff's accident. Indeed, one can assume that most of the 2,067 crash and sled tests noted in the NHTSA report are far more dissimilar to the facts of plaintiff's accident than the few crash and sled tests plaintiff seeks to introduce at her trial. Yet, [defendant] contends the results of the thousands of crash and sled tests relied on in the NHTSA report are similar enough to be properly relied upon by NHTSA in support of the agency's finding that there exists no reliable evidence of inertial release defects in safety belts. Suffice it to say that if the crash tests are similar enough to be evidence of non-defect, they are similar enough to be evidence of defect as well.

Guild, 53 F.Supp.2d at 367.

be excluded *in toto*. Where the test is substantial similarity, such proof clearly is relevant. Nor is this a case in which Good's testing methods are so patently inadequate that his conclusions are nothing more than rank speculation or subjective belief. **Cf. *Pries v. Honda Motor Co.***, 31 F.3d 543, 545 (7th Cir. 1994) (wherein counsel for plaintiffs performed a test by dropping a buckle on a hard surface to see if it would open); ***Shawgo v. General Motors Corp.***, 2007 WL 2301315 at *4 (S.D. Ill. Aug. 9, 2007) (wherein expert used only two exemplars, did not record how many times he performed the test, was unable to repeat the testing, and was unable to cite to any literature supporting his chosen testing method, i.e., rolling balls of various sizes along the release buckle to see if it would unlatch); ***Dale v. General Motors Corp.***, 109 F.Supp.2d 1376, 1380-81 (N.D. Ga. 1999) (rejecting expert's use of "pendulum test" as a "parlor trick").²

Essentially, the alleged deficiencies defendants identify go to the weight, not the admissibility, of Good's expert opinions. Any alleged shortcomings in those opinions can be more than adequately addressed by cross-examination and competing evidence. For these reasons, defendants' motion to exclude Good's testimony must be denied.

THEREFORE, IT IS ORDERED as follows:

1. Defendants' Joint Motion and Memorandum To Limit the Testimony and

² Defendants' attempt to rely on this opinion as applicable to the facts of this case is misleading. Not only is the specific type of testing there derided as a mere "parlor trick" not similar to that at issue here, but there also has been much more testing and review of the phenomenon of inertial release in the nearly ten years since that opinion was issued. **See *Reynolds v. General Motors Corp.***, 2007 WL 2908564 at * 6 (N.D. Ga. Sept. 28, 2007).

Opinions of Mariusz Ziejewski Pursuant to Federal Rules of Evidence 702 [#158]

filed December 1, 2008, is **DENIED**; and

2. That **Defendants' Joint *Daubert* Motion To Exclude Opinions and Testimony of Craig Good** [#159] filed December 1, 2008, is **DENIED**.

Dated March 16, 2009, at Denver, Colorado.

BY THE COURT:



Robert E. Blackburn
United States District Judge