

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLORADO  
**Judge Philip A. Brimmer**

Civil Action No. 08-cv-00491-PAB-MEH

AMY BULLOCK, as an individual, as the next of kin and personal representative of  
JEFFREY BULLOCK, deceased, and as parent and next friend of  
ADAM BULLOCK, CHELSEA BULLOCK, and MELISSA BULLOCK,

Plaintiff,

v.

DAIMLER TRUCKS NORTH AMERICA, LLC,  
formerly known as FREIGHTLINER, LLC,

Defendants.

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**ORDER ON DEFENDANT'S RULE 702 MOTION**

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**I. INTRODUCTION**

Plaintiff Amy Bullock brought this product liability case against defendant Daimler Trucks North America, LLC ("Daimler") following a motor vehicle accident in which Ms. Bullock's husband, Jeffrey Bullock, was killed. On August 15, 2006, Mr. Bullock, a commercial truck driver for Dominos Pizza, was on a delivery route in the mountains of Colorado with co-driver Donald Green. On their way through Monarch Pass in Gunnison County, Colorado, the truck went off the road. At the time of the accident, Mr. Green was driving and Mr. Bullock was a passenger. Mr. Green survived the accident. Mr. Bullock suffered severe injuries in the accident and died at the scene.

This matter is presently before the Court on defendant Daimler's motion to exclude the testimony of biomedical/biomechanical engineer and forensic investigator

Paul Lewis, one of Ms. Bullock's expert witnesses, under Federal Rule of Evidence 702 [Docket No. 190].

## II. FEDERAL RULE OF EVIDENCE 702

Pursuant to Federal Rule of Evidence 702,

[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, 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 the rule makes clear, while required, it is not sufficient, that an expert be qualified based upon knowledge, skill, experience, training, or education to give opinions in a particular subject area. Rather, the Court must "perform[] a two-step analysis." *103 Investors I, L.P. v. Square D Co.*, 470 F.3d 985, 990 (10th Cir. 2006).

After "determin[ing] whether the expert is qualified by 'knowledge, skill, experience, training, or education' to render an opinion," *id.* (quoting Fed. R. Evid. 702), the specific proffered opinions must be assessed for reliability. *See id.*; Fed. R. Evid. 702 (requiring that the testimony be "based upon sufficient facts or data," be the "product of reliable principles and methods," and reflect a reliable application of "the principles and methods . . . to the facts of the case").

Rule 702 "imposes on the district court a gatekeeper function to 'ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.'"

*United States v. Gabaldon*, 389 F.3d 1090, 1098 (10th Cir. 2004) (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993)). To perform that

function, the Court must “assess the reasoning and methodology underlying the expert’s opinion, and determine whether it is both scientifically valid and applicable to a particular set of facts.” *Dodge v. Cotter Corp.*, 328 F.3d 1212, 1221 (10th Cir. 2003) (citing *Daubert*, 509 U.S. at 592-93). When assessing reliability, “the court may consider several nondispositive factors: (1) whether the proffered theory can and has been tested; (2) whether the theory has been subject to peer review; (3) the known or potential rate of error; and (4) the general acceptance of a methodology in the relevant scientific community.” *103 Investors I*, 470 F.3d at 990 (citing *Daubert*, 509 U.S. at 593-94). These considerations are not exhaustive. Rather, “the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999). Ultimately, the test requires that the expert “employs in the courtroom the same level of intellectual rigor that characterizes the practice of any expert in the relevant field.” *Kumho Tire Co.*, 526 U.S. at 152.

While plaintiff, as the proponent of the challenged testimony, has the burden of establishing admissibility, her proffer is tested against the standard of reliability, not correctness; plaintiff need only prove that “the witness has sufficient expertise to choose and apply a methodology, that the methodology applied was reliable, that sufficient facts and data as required by the methodology were used and that the methodology was otherwise reliably applied.” *United States v. Crabbe*, 556 F. Supp. 2d 1217, 1221 (D. Colo. 2008).

In sum, expert testimony must be excluded if the expert is unqualified to render an opinion of the type proffered, if the opinion is unreliable, if the opinion will not assist the trier of fact, or if the opinion is irrelevant to a material issue in the case.

### **III. PLAINTIFF'S EXPERT – PAUL LEWIS**

Defendant's Rule 702 motion challenges several opinions of plaintiff's biomedical/biomechanical engineering expert Paul Lewis. See generally Def. Daimler Trucks North America, LLC's FRCP 702 Motion to Exclude Test. & Ops. of Paul Lewis [Docket No. 190] ("Def.'s Lewis Mot."). Mr. Lewis sets forth three formal opinions in his expert report:

(1) Jeffrey Bullock's primary injuries resulting in his death were multiple traumatic chest and abdominal injuries which included multiple fractured ribs, injury to his lungs, and trauma to his liver; (2) Mr. Bullock's chest and abdominal trauma occurred as a result of his body's full ejection from the sleeper cabin of the subject truck and interaction with the ground/environment, that none of his extensive chest and abdominal which resulted in his death occurred as a result of his body's interaction with interior vehicle structures prior to being ejected; and, (3) if Mr. Bullock had been contained in the subject vehicle through the sleeper cabin door remaining closed throughout the accident sequence, he would not have received the massive chest and abdominal injuries which resulted in his death.

Pl.'s Resp. to Def's. FRCP 702 Mot. to Exclude Test. & Ops. of Paul Lewis [Docket No. 207] ("Pl.'s Resp. to Lewis Mot.") at 1-2. Daimler asks the Court to prohibit Mr. Lewis from testifying as to:

1. Any opinion that Mr. Bullock was ejected from the tractor during the accident;
2. Any opinion that the sleeper cab access door was the portal of any alleged ejection;
3. Any opinion regarding the mechanism of injury to Mr. Bullock;

4. Any opinion regarding any alleged defectiveness of the sleeper compartment access door or restraint system in the tractor.

Def.'s Lewis Mot. at 15.

Although Daimler appears to criticize the basis of Mr. Lewis' first opinion, regarding the cause of Mr. Bullock's death, Daimler has not requested that the Court exclude it.<sup>1</sup> Daimler's first, second, and third requests relate to Mr. Lewis' second and third reported opinions. Daimler's fourth request – to preclude Mr. Lewis from testifying regarding defectiveness of the sleeper compartment access door or restraint system in the tractor – is not ripe. Mr. Lewis has not offered a formal opinion on the defectiveness of the access door or restraint system, nor is there any indication that he intends to do so. Despite this fact, Daimler persists in its request for an order directing Mr. Lewis not to discuss the topic. Rule 702 serves a limited purpose as a gatekeeping mechanism for expert opinions. It is not mechanism by which a party may mount a preemptive strike against all manner of testimony. Therefore, the Court will not rule on this question unless and until it appears to be in actual controversy in the case. This portion of Daimler's motion is denied.

**Opinion No. 2: “Mr. Bullock’s chest and abdominal trauma which resulted in his death occurred as a result of his body’s full ejection from the sleeper cabin of the Freightliner and interaction with the ground/environment . . . none of the extensive chest, abdominal, and possible head injuries which**

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<sup>1</sup> The issue presented in Mr. Lewis's first opinion – the type rather than the source of the injuries which caused Mr. Bullock's death – may be implicated in Mr. Lewis' second and third opinions. However, because Daimler admits that “[t]he fact of Mr. Bullock's death being the result of multiple traumatic impacts is not in dispute,” the Court does not need to address this issue.

**resulted in his death occurred as a result of his body's interaction with the interior of the sleeper cab/vehicle structures prior to being ejected"**

Daimler first challenges Mr. Lewis' credentials to opine about the manner and cause of Mr. Bullock's injuries. Daimler notes that Mr. Lewis is not a doctor, has not worked in a hospital, "has never been qualified to render a binding opinion regarding the cause of death in any court," and has not completed a death certificate. Def.'s Lewis Mot. at 11. Ms. Bullock, in her response, states that

Lewis is a highly qualified biomechanical and biomedical engineer with substantial experience in the investigation and analysis of automobile/heavy truck accidents, especially accidents with fatalities or serious injuries. Lewis has a Master of Science in Biomedical Engineering from the University of Alabama Birmingham (1995). His undergraduate degree is a Bachelor of Science in Industrial Engineering from the University of Alabama, Tuscaloosa, Alabama (1991). His course of study for his undergraduate degree included numerous mechanical engineering courses. He served a two-year internship in forensic pathology at the Office of the Medical Examiner, Metropolitan Atlanta, Georgia (1996-1998). From 1991 to 1998, he worked as a consultant in injury causation, occupant kinematics (body movement), accident reconstruction, and vehicle testing. Since 1998, he has worked as a forensic investigator and biomechanical engineering consultant. He has been involved in the investigation of approximately 3000 vehicle accidents with fatality or significant injuries since 1995. Lewis' CV lists 15 manuscripts to his credit in the field of vehicular accidents and injuries, several presentations and lectures on biomechanical and biomedical issues in accidents, and 15 professional development classes, seminars, and symposiums. Lewis' extensive testimony history over the past five years is attached as Exhibit 3.

Lewis has published articles and presented papers about the dynamics of accidents with a particular focus on the reaction of the body to different types of force. Lewis has conducted on scene and follow up investigation of traffic fatalities, homicides, suicides, and natural death. Lewis has conducted post-mortem examinations, autopsies and exhumations of victims to determine cause and manner of injuries and/or death. He has researched and prepared technical support issues regarding injury causation, prevention and control, occupant kinematics and accident

reconstruction. He has membership in five professional engineering organizations.

Def.'s Lewis Mot. at 6-7 (citations omitted).

Based on these facts, the Court finds that Mr. Lewis is sufficiently qualified to testify on the manner and cause of Mr. Bullock's injuries. "[A]s long as an expert stays within the reasonable confines of his subject area, our case law establishes a lack of specialization does not affect the admissibility of the expert opinion, but only its weight." *Ralston v. Smith & Nephew Richards, Inc.*, 275 F.3d 965, 970 (10th Cir. 2001) (quoting *Compton v. Subaru of Am., Inc.*, 82 F.3d 1513, 1520 (10th Cir.1996)) (quotation marks and alteration marks omitted); see also *Zuchowicz v. United States*, 140 F.3d 381, 387 (2d Cir. 1998) ("[D]isputes as to the strength of his credentials, faults in his use of differential etiology as a methodology, or lack of textual authority for his opinion, go to the weight, not the admissibility of his testimony.").

Daimler also questions Mr. Lewis' methodology. In his report, Mr. Lewis states that he utilized the "Scientific Method of Analysis" to arrive at his opinions, which he describes as follows:

The Scientific Method requires the following: 1) A statement of the problem, 2) An orderly review and course of study involving the collection of facts, data and information concerning the problem to be addressed, 3) The formation of an opinion or hypothesis based on the evaluation of the above, 4) Testing the validity of the hypothesis. Such testing may take numerous and varied approaches and does not necessarily require some physical or mechanical test procedure, and 5) Consideration for the potential for error in the conclusions and opinions stated.

Pl.'s Resp. to Lewis Mot., Ex. 1 at 44. The Court agrees with Daimler that merely stating that one applied an appropriate scientific methodology is not the same as

demonstrating that one's opinions are the product of such methodology. However, in regard to Mr. Lewis' opinion that Mr. Bullock's chest and abdominal trauma were caused by his ejection from the sleeper cabin and resulting impact with things outside the vehicle, his report demonstrates an appropriate methodological basis. Plaintiff explains the process by which Mr. Lewis formed his opinion that Mr. Bullock's injuries resulted from the ejection from the sleeper cabin:

he was unable to find any evidence of occupant interaction with interior components of the sleeper cabin during his vehicle inspection that would indicate Mr. Bullock had any major impacts with them in a significant injurious manner. The spectrum of Mr. Bullock's injuries, specifically the massive chest and abdominal trauma, are unlike those which would be expected to occur to an occupant contained within a laterally rolling vehicle. Referencing his own database of thousands of rollover cases that contain specific injuries for ejected occupants, Lewis explains that Mr. Bullock's injuries are consistent with what are expected to an ejected occupant.

In his inspection, Lewis found that the interior sleeper compartment area was well maintained and not collapsed to the extent to crush an occupant while contained within the interior of the vehicle. The interior is also padded, even more so than most automobile interiors, such that it would reduce the energy of impacts to the interior. Lewis notes that Norman Ritchie, a representative of Freightliner also inspected the truck and found that the interior of the sleeper cab had survivable space, measuring the space between the roof in the interior of the cab and the mattress was 18 inches and that space was enough for Ritchie to fit in there while inspecting the area. The driver of the vehicle who was contained within the vehicle sustained minor injuries consisting of abrasions, bruises, etc, and these are the types of injuries Lewis believes Bullock would have suffered had he been contained in the cab. Lewis also relied on extensive research of rollover incidents going back decades supporting his opinion that these injuries occurred outside the vehicle, the laws of force and motion, the kinematics of occupants in rollovers as studied for decades and described in literature, Lewis' own personal evaluation of over 900 individual rollover cases in which he has been the primary consultant as a forensic investigator, the testimony of automotive safety experts in numerous rollover cases and various sources on general kinematics cited in Lewis report on page 40.



Pl.'s Resp. to Lewis Mot. at 12-13 (citations omitted). Mr. Lewis relies, at least in part, on his own personal experience in evaluating and investigating hundreds of rollover cases. Thus, his expertise may be characterized as experiential as well as scientific. Experiential expertise is evaluated on "how [the expert's] experience leads to the conclusion reached, why [the expert's] experience is a sufficient basis for the opinion, and how [the expert's] experience is reliably applied to the facts." *United States v. Wilson*, 484 F.3d 267, 274 (4th Cir. 2007). The Court concludes that, to the extent that Mr. Lewis relies on his experience in order to opine on the source of Mr. Bullock's injuries, that experience is sufficient and is reliably applied to the facts of the present case. *Cf. Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1235 (10th Cir. 2005) ("Employing his experience and knowledge as a fire investigator, Boh observed the physical evidence at the scene of the accident and deduced the likely cause of the explosion. Although such a method is not susceptible to testing or peer review, it does constitute generally acceptable practice as a method for fire investigators to analyze the cause of fire accidents.").

Daimler claims that Mr. Lewis' opinion is flawed because he did not eliminate the truck's dashboard as a potential object inside the truck that could cause traumatic impact injuries. Daimler is correct that Mr. Lewis does not specifically discount the dashboard as a potential cause of Mr. Bullock's fatal injuries. Instead, his report is fairly read to discuss only injuries that may have been caused by the interior of the sleeper compartment. The Court finds that this omission does not constitute such a serious methodological flaw as to exclude Mr. Lewis' opinion. As with the fire investigator

allowed to testify in *Bitler*, 400 F.3d at 1235, Mr. Lewis' opinion regarding Mr. Bullock's ejection from the vehicle is not dependent on reasoning to the best inference. On the other hand, Mr. Lewis will not be allowed to offer opinions at trial excluding structures in the cab of the trailer as possible causes of Mr. Bullock's injuries.

Mr. Lewis opines that Mr. Bullock was ejected from the vehicle through the sleeper compartment door. There is nothing in either his report or his deposition that provides an adequate basis for Mr. Lewis independently to conclude that Mr. Bullock was ejected from the sleeper compartment hatch. His report does not discuss that issue and his deposition merely states his opinion without any explanation for how he reached it. He does, however, indicate that he assumed, for purposes of his report, that the accident occurred as described by Michael McCort, plaintiff's accident reconstruction expert. To the extent that he relies on Mr. McCort's conclusion that Mr. Bullock exited from the sleeper compartment door, Mr. Lewis may testify in that regard. See Fed. R. Evid. 703 (allowing experts to rely upon facts "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject"). Thus, while Mr. Lewis may not offer Mr. McCort's accident reconstruction opinions as his own, he may base his own opinions regarding Mr. Bullock's ejection from the vehicle upon Mr. McCort's reconstruction.

**Opinion 3: "[H]ad Mr. Bullock's body been contained in the subject vehicle through the sleeper cabin door remaining closed throughout the accident sequence, he would not have received the massive chest and abdominal injuries resulting in death."**

In defense of the third formal opinion of Mr. Lewis – that if Mr. Bullock had been contained in the subject vehicle through the sleeper cabin door remaining closed

throughout the accident sequence, he would not have received the massive chest and abdominal injuries which resulted in his death – plaintiff makes the following assertions:

Much of the support for this opinion is similar to that described in opinion #2, including the well padded interior which contained survivable space for Mr. Bullock in the sleeper cab. Lewis notes that statistical analysis of rollover crashes indicates ejections are the most harmful events and that occupants contained within an overturning vehicle have a 93% probability of not sustaining a life threatening injury or fatal injury. Lewis references the fact that as a consultant and forensic investigator who has reviewed over 900 individual rollover cases involving at a minimum 1,500 occupants he has had the duty to evaluate crash reconstructions performed by plaintiff and defendant experts. The medical records for almost all of the occupants in these cases is contained in his database that he has used to rely on for his opinions in this case. Lewis relied on this data in his opinions.

Head and neck injuries are the typical injuries which are fatal for occupants contained in a vehicle. Mr. Bullock sustained no injury to his neck and only a “potential head injury,” which was not responsible for his demise. In his entire database, Lewis says there are less than 40 cases in which a contained occupant sustained an AIS 3 or greater head injury and there are no cases in his database in which a contained occupant suffered a complete transection of the spleen, multiple rib fractures bruised lungs, and a pelvic fracture. Lewis says that his database of records is consistent with the NASS database and other databases referred to in the literature.

Pl.’s Resp. to Lewis Mot. at 13 (citations omitted). The basis of Mr. Lewis’ second opinion is relatively simple. Mr. Lewis opines that Mr. Bullock would not have suffered massive chest and abdominal injuries while inside the truck because there is no evidence of such injuries in hundreds if not thousands of similar accidents. According to Mr. Lewis, the details of these accidents can be found in his own database, as well as national databases. Defendant has not challenged the veracity of this report, veracity which could be tested by reviewing the databases in question. The Court finds that the methodology Mr. Lewis utilized in forming his third formal opinion is reliable and

scientifically sound. The conclusion in question follows reasonably and logically from the data. However, this opinion suffers from the same problem as Mr. Lewis' second opinion regarding the cause of Mr. Bullock's injuries, namely, that Mr. Lewis fails to take into account that the decedent may have been ejected through the cab and front passenger door. Once again, this omission does not constitute such a serious methodological flaw as to undermine the reliability of his conclusions that the interior of the sleeper compartment did not cause Mr. Bullock's fatal injuries, but it does prevent Mr. Lewis from offering an explanation for why he did not take into consideration the possibility that Mr. Bullock could have been ejected through the front passenger door.

The Court also concludes that Mr. Lewis' third opinion is relevant to the present case. By providing information regarding the cause of Mr. Bullock's fatal injuries, this opinion directly implicates essential components of plaintiff's case and Daimler's defense. Therefore, the Court finds that the necessary logical relationship exists between the opinion evidence proffered and the material issue that evidence is supposed to support. See *Bittler*, 400 F.3d at 1234. Having also found that Mr. Lewis' third formal opinion possesses the requisite relevance and reliability, defendant's Rule 702 motion with respect to this opinion is denied as well.

#### **IV. CONCLUSION**

Based on the foregoing, it is

**ORDERED** that defendant Daimler Trucks North America, LLC's Rule 702 motion to exclude certain testimony of plaintiff Amy Bullock's expert witness, Paul Lewis [Docket No. 190] is DENIED.

DATED September 30, 2010.

BY THE COURT:

s/Philip A. Brimmer  
PHILIP A. BRIMMER  
United States District Judge