

**NOT DESIGNATED FOR PUBLICATION**

**JACK ADAIRE,  
INDIVIDUALLY AND ON  
BEHALF OF HIS MINOR  
CHILD, TERESE  
GUILLERMAN, AND STACEY  
SALCEDO**

\*       **NO. 2003-CA-0333**  
\*       **COURT OF APPEAL**  
\*       **FOURTH CIRCUIT**  
\*       **STATE OF LOUISIANA**

**VERSUS**

**RLI INSURANCE COMPANY,  
RLI TRANSPORTATION,  
BOBBY J. ARWOOD, AND  
PACKARD TRUCK LINES,  
INC.**

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APPEAL FROM  
25TH JDC, PARISH OF PLAQUEMINES  
NO. 47-217, DIVISION "B"  
Honorable William A. Roe, Judge

\* \* \* \* \*

**Judge Max N. Tobias, Jr.**

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(Court composed of Judge Joan Bernard Armstrong, Judge Michael E. Kirby, and Judge Max N. Tobias, Jr.)

Robert L. Manard, III  
Dennis P. Couvillion  
ROBERT L. MANARD, APLC  
1100 Poydras Street  
Suite 2610 Energy Centre  
New Orleans, LA 701632600  
COUNSEL FOR PLAINTIFF/APPELLEE

Nelson W. Wagar, III  
Jason P. Foote  
CHOPIN, WAGAR, COLE, RICHARD, REBOUL & KUTCHER

3850 North Causeway Boulevard  
Suite 900 Two Lakeway Center  
Metairie, LA 70002

COUNSEL FOR DEFENDANTS/APPELLANTS

**AFFIRMED.**

The defendants, RLI Insurance Company and Robert J. Arwood (“Arwood”), appeal the judgment of the trial court in favor of the plaintiff, Stacey Salcedo (“Salcedo”), for \$50,000.00. For the following reasons, we affirm the judgment.

On 24 September 2000, Salcedo was stopped at a stop sign in a 1999 Ford Mustang automobile when Arwood, while operating a tractor-trailer on behalf of Packard Truck Lines, Inc., inadvertently removed his foot from the brake pedal and rolled into the back of Salcedo’s vehicle. Salcedo’s baby niece was riding in the back seat in a child safety seat at the time of the accident. The accident caused minor property damage to the Mustang, and no property damage to the tractor-trailer. When the investigating officer arrived at the scene, neither Salcedo nor Arwood claimed any injuries and no citations were issued. Salcedo, however, subsequently complained of soft tissue injuries to her neck and shoulders as well as a knee injury, for which she ultimately underwent surgery.

Salcedo is small in stature at a height of only five feet three inches.

She testified at trial that when she drives the Mustang, she has to drive with the seat pulled forward as far as it will go. Further, Salcedo testified that although she was wearing her seatbelt, she had loosened the lap belt so that it would be more comfortable. She testified that she had her left foot on the brake pedal at the time of the accident. Photographs of Salcedo vehicle show that it has a somewhat cramped driving area. She claims that as a result of the accident, she was thrust forward such that the top and inside of her left knee struck the dashboard, causing a tear of the medial meniscus.

At the time of the accident, Salcedo was employed by a chiropractor, Dr. Steven Brower, as an office manager. The day following the accident, Salcedo complained to Dr. Brower of pain in her knee; he observed that her knee was swollen. Dr. Brower adjusted her low back and neck and instructed her to attend physical therapy. Dr. Brower also examined Salcedo's knee, taking x-rays and performing a battery of tests to evaluate her condition. He treated her conservatively, and ultimately recommended that she seek treatment from an orthopedic surgeon for her knee when his treatment was unsuccessful. He recommended that she consult with her attorney, and her attorney recommended that she see Vasclav Hamsa, M.D., an orthopedic surgeon, for an evaluation.

Salcedo began treatment thereafter with Dr. Hamsa, who ordered an

MRI of her knee and recommended surgery to repair a tear of the medial meniscus that he observed on the MRI films. Concerned with the expense of the proposed surgery, Salcedo decided to obtain a second opinion from another orthopedic surgeon, Michael Brunet, M.D. Dr. Brunet performed a second MRI and opined that Salcedo did not have a medial meniscus tear and recommended physical therapy for the strengthening of her quadriceps.

Salcedo did not wish to undergo physical therapy as recommended by Dr. Brunet, and sought a third opinion from another orthopedic surgeon, Richard Meyer, Jr., M.D., recommended by her attorney. Dr. Meyer examined Salcedo's knee and the MRI films taken to date. He opined that Salcedo suffered from a medial meniscus tear and a partial tear of the medial collateral ligament in her left knee. He recommended and subsequently performed arthroscopic surgery on her knee in December 2000. Dr. Meyer did not repair the medial meniscus tear, however; he testified at trial that the tear was so small that it would more properly heal on its own. He did observe synovitis in her knee joint and he removed some of the inflamed tissue during surgery. Dr. Meyer opined that the synovitis and the meniscal tears resulted from the accident at issue based upon her history of no prior knee complaints and the fact that she presented with edema within the medial collateral ligament, which evidences acute trauma.

Dr. John Muntz, M.D., an orthopedist, testified on behalf of the defendants. Dr. Muntz performed an independent medical evaluation of Salcedo approximately nine months following the accident, which was approximately six months after the surgery. He testified that he reviewed all of Salcedo's medical records, took an oral history from Salcedo, and examined her knee. He testified that a medial meniscus tear as small as the one in Salcedo's knee did not require surgery and would heal on its own. In fact, he noted that most individuals have a small tear in the medial meniscus of which they are not aware. Further, the synovectomy performed to remove inflamed tissue is not always necessary in cases of synovitis; he described alternate treatments such as anti-inflammatory medication and rest.

With regard to Salcedo's account as to how she injured her knee, Dr. Muntz testified that striking the dashboard with her left knee would not be expected to produce the normal mechanism for a medial meniscus tear. The normal mechanism for such an injury would be a twisting of the foot or some type of squatting injury. He opined that, more probably than not, the medial meniscus tear was not caused by a blunt trauma to the top of the knee.

The defendants called Martha Nichols-Ketchum, Ph.D. ("Dr. Ketchum"), a biomedical engineer, to offer expert testimony on the

mechanics of the accident and how they pertain to causation of Salcedo's alleged injuries.

Dr. Ketchum testified that she had earned a bachelor's degree, a master's degree, and a Ph.D. in biomedical engineering, with an emphasis in mechanics and mechanical engineering. She is a registered professional engineer in Louisiana, Iowa, and Florida. Dr. Ketchum described biomechanics as the application of engineering mechanics and mechanical engineering principles to a biological system, particularly to the human body. She testified that no court had refused to qualify her as an expert in mechanical engineering, biomechanical engineering, biomedical engineering, or accident reconstruction, although courts had disallowed her testimony on at least three occasions. She believed that on the occasions she was not allowed to testify, the court ruled that her testimony was not relevant. Dr. Ketchum was qualified as an expert in biomechanics by the trial court.

Dr. Ketchum testified that she was retained to offer an opinion as to the probability that the collision between Arwood's tractor-trailer and Salcedo's car caused Salcedo's knee injury. Dr. Ketchum authored a report that concluded that the Mustang experienced a forward movement of less than eight miles per hour and that given the minimal impact of the collision,

the height of Salcedo, and the dimensions of the vehicle, Salcedo's knee would not be expected to strike the dashboard. She further opined that the mechanics of the accident were not consistent with a medial meniscal tear. Dr. Ketchum based her conclusions on an examination of Salcedo's vehicle and performed a simulation with a similar vehicle and test subject. In the simulation, a female driver five feet two inches in height was placed in a 1999 Ford Mustang coupe and asked to adjust the driver's seat to a comfortable distance from the wheel. She was then photographed, and the distance from her left knee to the dashboard was measured and found to be 4.5 inches.

Dr. Ketchum admitted under cross-examination that she had never conducted any personal studies of passengers in automobiles striking the interior of automobiles to determine whether or not a particular injury was likely to occur. She testified that she relied upon a number of published studies that examined the causal relationship between the physics involved in specific types of accident and the possible types of injuries that may be sustained in those accidents in forming her opinion with regard to this case. She extrapolated the data and findings of those studies and applied them to the simulation performed with the 1999 Ford Mustang. She could offer no rate of error for those studies, but did relay that in none of the studies did an

individual's knee strike the dashboard of the test vehicle. Before she could testify regarding the specifics of those studies, however, the court questioned her specifically regarding her opinion regarding Salcedo's injury.

Court: Doctor, let me ask you something. In formulating your opinion in this case, did you assume that she struck her knee on the dashboard?

Ketchum: Did I assume she did?

Court: Yes.

Ketchum: No, sir.

Court: So, you are going to testify that you do not believe she struck her knee on the dashboard?

Ketchum: That it is unlikely that her knee would strike the dashboard. That is correct.

Court: So, she is going to testify that the plaintiff is lying.

Footnote: She is going to testify that it is more probable than not from a biomechanical aspect that the plaintiff would not have moved forward enough to strike her knee on the dashboard.

Court: So, she is going to testify that the plaintiff is lying.

The court allowed the examination to continue. Dr. Ketchum testified regarding the studies she relied upon and their ultimate findings. In particular, one study involved five individuals who were restrained by seatbelts in a 1999 Mustang similar to the one driven by Salcedo and whose movements following a rear end collision were studied. Of the five individuals, four moved forward less than one inch and the fifth moved forward two inches because she has slack in her seatbelt. The individuals knew that they were going to be struck from behind, but measures were



taken to ensure that they did not know when the collision would occur. Dr. Ketchum extrapolated the results of the study to opine that the physics of a rear end collision cause an individual to move backward into the seat, and not forward. Any forward movement is due to “rebound.” The court questioned Dr. Ketchum regarding rebound, which she testified refers to the elastic properties to the seat back that bounces the upper body forward. The court continued:

Court:Alright (sic). Let me ask you this. In all of these cases, the knees of the individuals in the test cases went forward to some degree?

Ketchum: To some degree. That is correct.

Court: All of them.

Ketchum: Yes.

Court:Well, I don't understand. Mr. Wager (sic) said that is against the laws of physics, that when you get rear ended, you go backwards. So, apparently in these studies, the laws of physics are differently (sic) than what Mr. Wager (sic) suggests, in that the knees of the individuals that were rear ended in minor collisions went forward, is that correct?

Ketchum: There was some forward motion of knees upon rebound. Yes, that is correct.

Court:Is it safe to assume that this lady's knees went forward to some extent?

Ketchum: Yes.

The Court went on to establish that Dr. Ketchum used the parameters of the simulation she performed to formulate her opinion.

Court:So, [the parameters were obtained from] a hypothetical situation and not a situation presented by the facts of this case.

Ketchum: Okay.

Court: That is what you did.

Ketchum: Yes.

Court: I [have] heard enough. She is not going to testify. You may step down, ma'am.

The court allowed the defendants to proffer Dr. Ketchum's testimony, as she had not been previously deposed in this litigation.

Following the trial on the merits, the trial court awarded Salcedo \$50,000.00, judicial interest and court costs. In its reasons for judgment, the court ruled that the defendants failed to rebut Salcedo's claim that she injured her knee in the accident, save for establishing the minor nature of the collision, which the court noted is "irrelevant to the determination of causation." The court cites *Pinkins v. Cabes* for the presumption that a plaintiff is injured in an accident if (1) the plaintiff was in good health before the accident; (2) the injuries and symptoms complained of were manifested shortly after the accident; and (3) the medical evidence shows "a reasonable convexity (sic) between the accident and the injury." *Pinkins*, 98-1803, p. 4 (La. App. 4 Cir. 1/27/99), 728 So. 2d 523, 525, citing *Conedera v. Musgrove*, 98-0589 (La. App. 4 Cir. 1/13/99), 736 So. 2d 219, 220 quoting, *Lacy v. ABC Insurance Co.*, 97-1182, p. 5 (La. App. 4 Cir. 4/1/98), 712 So. 2d 189, 193.

The defendants do not contest liability in this matter; rather, they

assert that the knee injury complained of by Salcedo was not possible given the minor impact of the collision and seek to overturn the trial court's judgment awarding damages for the knee injury. Specifically, the defendants take issue with the trial court's refusal to consider the testimony of Dr. Ketchum, which they contend disproves the testimony of the plaintiff regarding her knee injury. Should this court agree with the defendants regarding Dr. Ketchum's testimony, they request that we vacate the judgment of \$50,000.00.

A court may accept expert witness testimony "if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." La.C.E. art. 702. The "expert witness" may be qualified by "knowledge, skill, experience, training, or education." *Id.* Generally, a trial court has wide discretion in the determination of whether to qualify a witness as an expert under article 702. *Clement v. Griffin*, 91-1664, p.10 (La. App. 4 Cir. 3/3/94), 634 So. 2d 412, 424.

In the determination of whether the testimony or opinion of an expert witness passes muster, Louisiana courts are bound to consider the factors outlined in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed. 469 (1993). *State v. Foret*, 628 So. 2d 1116,

1123 (La. 1993). Under *Daubert*, a trial court must examine the expert opinion in question and evaluate it with regard to the testability of the expert's theory or technique; whether the theory or technique has been subjected to peer review and publication; the known or potential rate of error; and whether the methodology is generally accepted in the scientific community. *Young v. Logue*, 94-0585, p. 25 (La. App. 4 Cir. 5/16/95), 660 So. 2d 32, 50, citing, *Daubert*, 113 S.Ct. at 2796-97. Failure to satisfy one of the enumerated factors is not fatal to expert testimony, however; the trial court has the discretion to determine whether the expert opinion is relevant and whether it is "pertinent evidence based on scientifically valid principles." *Id.*, quoting *Daubert*, 113 S.Ct. at 2799.

In the present case, appellants argue strenuously that the four *Daubert* factors have been satisfied by Dr. Ketchum's testimony and opinion. With regard to the first factor, they argue that Dr. Ketchum utilized a clearly testable method of analysis. She examined all of the accident and damage reports, the deposition testimonies of Salcedo and the investigating officer, and Salcedo's medical records. She further conducted her own study using a purportedly identical 1999 Ford Mustang and a driver of similar height and weight to Ms. Salcedo. The defendants cite a number of cases in which biomedical engineers have used similar techniques in formulating opinions.

See, e.g., *Gunn v. Robertson*, 01-347 (La. App. 5 Cir. 11/14/01), 801 So. 2d 555; *Bass v. Allstate Company*, 32-652 (La. App. 2 Cir. 1/26/00), 750 So. 2d 460; *Courtney v. Williams*, 2001-0717 (La. App. 4 Cir. 8/21/02), 826 So. 2d 594.

With regard to the second *Daubert* factor, the defendants assert that Dr. Ketchum relied on four studies published by the Society for Automotive Engineers, which requires that the published studies be peer reviewed prior to publication. Dr. Ketchum testified that these studies have not been significantly criticized by any other sources, nor have there been any similar studies published to contradict them.

Dr. Ketchum could not provide the trial court with a potential rate of error for the studies on which she relied, but she did testify that the studies in question produced no knee impacts from rear end collisions. She further testified that although she could not quantify the error, the rate of error would be minimal.

The final *Daubert* factor involving whether the methodology is generally accepted in the scientific community is similarly satisfied. As previously noted, numerous courts have accepted testimony of biomechanical engineers in automobile accident cases involving similar issues.

The defendants rely on the decision in *Fussell v. Roadrunner Towing and Recovery, Inc.*, 99-0194 (La. App. 1 Cir. 6/23/00), 765 So. 2d 373, in which the trial court refused to admit into evidence the report of a biomechanical engineer retained by the defendant who would have opined that the plaintiff's alleged injuries were unlikely to have resulted from a collision at an extremely low speed. In *Fussell*, the appellate court reversed the trial court's decision to prevent the biomechanical engineer from testifying in a case involving a low-speed collision.

In a remarkably similar case, *Scott v. Byrd*, 2000-308 (La. App. 5 Cir. 8/29/00), 768 So. 2d 214, Dr. Ketchum was retained to testify regarding the biomechanics of a low impact accident. In *Scott*, the defendant driver was stopped behind the plaintiff's vehicle at a traffic light. The plaintiff pulled out and abruptly stopped, and the defendant's car slid into her vehicle. A report authored by Dr. Ketchum was admitted into evidence by the defendants, which report cited studies that suggested that rear end collisions at five miles per hour or less have a very small potential for causing injuries. *Id.* at 4, 768 So. 2d at 216. At trial, the court accepted Dr. Ketchum's report and considered it, ultimately determining that while her report indicated that injury potentials were small in low impact collisions like the one complained of, it did not conclude that injury was impossible. The trial court ruled that

the report was not sufficient to undermine the plaintiff's complaints of pain and testimony that she hit her head on the steering wheel as a result of the collision. On appeal, the Fifth Circuit affirmed the trial court's ruling, noting that "a trial court is not bound by expert testimony; rather, expert testimony is to be weighed the same as any other evidence." *Id.* at 4, 768 So.2d at 216, *citing, Shows v. Shoney's, Inc.*, 98-1254 (La. App. 1 Cir. 1/29/99), 738 So. 2d 724. Thus, a trial court is free to accept or reject any part of an expert witness' opinion. *Id.*

In the present case, the trial court did not believe that Dr. Ketchum's testimony and/or report were sufficient to controvert Salcedo's testimony that she injured her knee in the accident. While it was error for the trial court to refuse to admit into evidence Dr. Ketchum's testimony, it was harmless error, as Dr. Ketchum's testimony is not so persuasive that a reasonable factfinder could not find for the plaintiff. While Dr. Ketchum's testimony is that the knee injury complained of was unlikely in the accident, her testimony does not establish that injury was impossible, as even she admitted that all of the test subjects moved forward to some extent during the studies examined in her report. Further, although the simulation performed by Dr. Ketchum was not exact; it involved a driver that was shorter than Salcedo and it is unclear whether the driver's seat was adjusted

to the same degree as that of the plaintiff. Thus, although Dr. Ketchum testified that the simulation driver's left knee was no closer than 4.5 inches from the dashboard at rest would seem at first blush to contradict Salcedo's testimony, the rebound effect admitted to by Dr. Ketchum at trial and the number of variables that differ from the actual accident to the simulation lead us to conclude that it is entirely possible that the plaintiff did strike her knee on the dashboard. Simply put, Dr. Ketchum's testimony was not sufficient to materially change the outcome of the trial. That is, the judgment of the trial court is not manifestly erroneous or clearly wrong. Therefore, although we find that the trial court erred in failing to consider Dr. Ketchum's testimony, we cannot and decline to reverse the trial court.

The judgment of the trial court is affirmed.

**AFFIRMED.**