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IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

FIRST APPELLATE DISTRICT

DIVISION FIVE

MARIA HARRISON,  
Plaintiff and Respondent,

v.

PHYLLIS H. SMITH,  
Defendant and Appellant.

A114436

(San Mateo County  
Super. Ct. No. 436239)

In a personal injury action arising from a rear-end collision, the defendant offered expert testimony that the change in velocity of the plaintiff's vehicle caused by the collision was insufficient to cause the plaintiff's injuries. The trial court excluded the evidence under *People v. Kelly* (1976) 17 Cal.3d 24 (*Kelly*). We affirm.

BACKGROUND

On December 10, 2003, Maria Harrison sued Phyllis H. Smith for injuries she allegedly incurred when Smith rear-ended her car while she was stopped at an intersection. Harrison's treating physicians diagnosed her with the following injuries that they said resulted from the accident: a herniated disk in her neck, superimposed on a pre-existing degenerative spine, chronic neck and back pain, and headaches. Smith retained two experts to testify that the accident could not have caused those injuries because the change in velocity ("delta v") in Harrison's car as a result of the collision was below a minimum threshold for causing such injuries.

Harrison moved to exclude or limit the testimony of the defense experts, Jeffrey Lotz, Ph.D. and Paul Mills, M.D. She argued that the proffered opinions were based on “junk science” that was “taken directly from the ‘playbook’ followed increasingly by the insurance industry in personal injury litigation across the country.” Because the “delta v method” was not generally accepted in the scientific community, the proffered testimony based on that technique was inadmissible under *Kelly, supra*, 17 Cal.3d at page 30. She also argued that Lotz and Mills were not qualified to render the opinions they proffered. Smith opposed the motion.

The trial court ruled that Smith had failed to meet her burden of establishing that the delta v method was generally accepted within the scientific community. The court excluded all expert testimony based on that method.

The case was tried to a jury, which returned special verdicts finding Smith was negligent and her negligence was a substantial factor in causing harm to Harrison. The jury awarded Harrison \$79,000 in past economic losses, and \$70,000 in past pain and suffering, but nothing for future losses. The court entered judgment March 15, 2006. Smith moved for a new trial on April 7, 2006, based in part on the exclusion of the experts’ testimony. The court denied the motion on May 18, 2006. Smith appeals from the judgment and the order denying her motion for a new trial.

#### DISCUSSION

Expert testimony based on a new scientific technique is admissible if (1) the reliability of the method is established, usually by expert testimony; (2) the expert is qualified to give an opinion on the subject; and (3) correct scientific procedures were used in the particular case. (*People v. Leahy* (1994) 8 Cal.4th 587, 594 (*Leahy*), applying *Kelly*.) The testimony is deemed reliable if the scientific technique on which it is based is “ ‘sufficiently established to have gained general acceptance in the particular field in which it belongs.’ [Citation.]” (*Leahy*, at p. 594.)

The reason for the *Kelly* general acceptance standard is that “[l]ay jurors tend to give considerable weight to ‘scientific’ evidence when presented by ‘experts’ with impressive credentials. We have acknowledged the existence of a ‘. . . misleading aura of certainty which often envelops a new scientific process, obscuring its currently experimental nature.’” (*Kelly, supra*, 17 Cal.3d at pp. 31-32.) Although this approach delays the admission of evidence derived from valid new scientific techniques during “an undefined period of testing and study by a community of experts,” it assures that judges and juries with little or no scientific background will not attempt to resolve technical questions on which experts cannot even reach a consensus. (*Leahy, supra*, 8 Cal.4th at pp. 601-603; see also *Kelly*, at p. 31.) The *Kelly* rule also promotes uniformity of decision. (*Leahy*, at p. 595.) “[O]nce a trial court has admitted evidence derived from a new technique and the decision is affirmed on appeal in a published opinion, it will become precedent controlling subsequent trials,” and each trial court need not confront the issue de novo. (*Id.* at pp. 595, 603.)

“ ‘Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized . . . .’ ” (*Kelly, supra*, 17 Cal.3d at p. 30.) The proponent of the evidence bears the burden of establishing general acceptance in the relevant scientific community, not necessarily the scientific reliability of the technique. (*Leahy, supra*, 8 Cal.4th at p. 611.) On appeal, general acceptance is a mixed question of law and fact subject to “limited de novo review.” (*People v. Reilly* (1987) 196 Cal.App.3d 1127, 1134.) Our review is not limited to determining whether a finding of general acceptance is supported by substantial evidence; rather, we undertake “a more searching review—one that is sometimes not confined to the record.” (*Ibid.*) We consider not only the expert testimony that was presented in the trial court, but scientific literature and decisions from other jurisdictions on the question of consensus, “bearing in mind that the needed consensus is that of scientists, not courts.” (*Id.* at pp. 1134-1135.)

We must consider both the quality and the quantity of the evidence supporting or opposing the technique. (*Leahy*, at p. 612.)

I. *The Delta V Method*

We first set forth the proffered expert testimony. At his deposition, Lotz testified that he planned to express the following opinions at trial:

1. The change in velocity for Harrison's vehicle as a result of the collision was between three and four miles per hour.

2. An accident of that magnitude produces forces on the lumbar spine (low back) that are within the range of those incurred in activities of daily living, do not cause excessive movement or stress on the lumbar spine, and would not be consistent with any acute injury to the lumbar spine.

3. The range of motion of the cervical spine (neck) in a rear-end accident of this magnitude is not exceeded and consequently the risk for hyperextension or injury to the disks of the cervical spine is not exceeded in this accident. The lowest change of velocity that could cause disk herniation to the cervical spine was eight miles per hour.

4. The acceleration forces produced in a rear-end accident of this magnitude are comparable to those of activities of daily living and would not be consistent with a concussion or post-concussive syndrome (head injury).

In summary, it was not likely that Harrison suffered injury other than temporary muscle strain as a result of the accident. "[H]ead, neck and low-back injuries are not likely to occur because of the reasons we have discussed."

Similarly, Dr. Mills averred that he would testify about "the likelihood of injury, for a person of average physiology, resulting from a 3-5 m.p.h. collision. In my opinion, Ms. Harrison suffered no physiologic injury from which she would not be expected to recover with or without treatment in a matter of 3-4 weeks."<sup>1</sup>

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<sup>1</sup> Mills testified at his deposition that his opinion was based on his training and experience as an orthopedist, professional meetings, textbooks, and literature regarding the typical course of events after rear-end collisions. The trial court ruled that Mills could not testify about the relationship between delta v and medical causation. He was

Lotz testified that his opinions were based on “studies which relate certain injuries or symptoms to accidents of this magnitude.” He specifically cited his own research into the mechanical factors that produce disk injury, biomechanical tests performed on cadavers or animals to help define injury tolerance, studies of human volunteers who experienced rear-end accidents, studies of movements and acceleration forces in the heads of occupants of rear-ended vehicles, and data collected in anthropometric dummies in staged rear-end collisions that focused on head accelerations and low back forces. He explained that based on his review of Harrison’s medical records and information he had about her accident, “I don’t see anything that creates a reason that she would be different from the literature, or her tolerance for injury would be significantly different. [¶] So I would be comfortable saying that it’s more likely than not, from a biomechanical standpoint, that the forces would not have produced an injury in the plaintiff.”

We shall refer to the scientific technique described by Lotz as “the delta v method”: a method of determining the probability from a low-speed rear-end collision based on the change of velocity in the target vehicle, using data collected in studies of the effects of similar impacts on human volunteers, test dummies, and cadavers.

## II. *Applicability of Kelly Test*

For the first time at oral argument, Smith argued that the trial court should not have subjected the delta v method to a *Kelly, supra*, 17 Cal.3d 24, general acceptance test. Smith did not raise this argument in the trial court or in her opening or reply briefs

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permitted to testify, and he did testify at trial, regarding his professional opinion as an orthopedist regarding the extent of Harrison’s injuries and whether they were caused by trauma.

on appeal. The issue is forfeited.<sup>2</sup> (*Ward v. Taggart* (1959) 51 Cal.2d 736, 742; cf. *REO Broadcasting Consultants v. Martin* (1999) 69 Cal.App.4th 489, 500.)

In any event, it appears that *Kelly* was the appropriate standard. *Kelly* applies only to new scientific techniques. (*Leahy, supra*, 8 Cal.4th at p. 605.) The method is “new” within the meaning of *Kelly* when it “ ‘is new to science and, even more so, the law.’ ” (*Ibid.*) The court will look to whether the technique has been the subject of “repeated use, study, testing and *confirmation* by scientists or trained technicians.” (*Ibid.*, italics

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<sup>2</sup> Smith argues that Dr. Lotz’s testimony based on his own studies should have been admitted without a showing of general acceptance. She cites cases holding that expert testimony based on personal evaluations of a patient or the subject matter of the expert’s testimony are not subject to the *Kelly* test for admissibility. (*Wilson v. Phillips* (1999) 73 Cal.App.4th 250, 254-256 [psychologist’s testimony, based on evaluation of plaintiffs who claimed based on repressed memories that they were sexually molested as children, that plaintiffs’ profiles and testimony were consistent with persons who recover repressed memories was not subject to *Kelly* test]; *Arreola v. County of Monterey* (2002) 99 Cal.App.4th 722, 749-750 & fn. 9 [geologist’s testimony regarding the likely water flows at the site of a levee that failed during a rainstorm was not subject to *Kelly* test].) These cases are inapplicable here. Dr. Lotz’s personal studies did not involve Harrison or the particular circumstances of Harrison’s accident. Rather, they were general studies on “how movement of the spine and forces that are distributed amongst the disks and the facet joints during movement are altered by disk replacement” in order to design devices to replace intervertebral disks; studies of mechanical and other factors influencing disk degeneration based on animal models; studies of how loading influences disk degeneration; studies of compression-induced disk degeneration; a series of studies of tissue properties of the disk relevant to hyperextension or hyperflexion injuries; and studies measuring forces on anthropometric dummies in staged car crashes. The studies are simply part of the body of scientific literature on which the delta v method is based. Smith cites no authority that expert testimony based on the expert’s own research into a new scientific technique would be admissible even without a showing of general acceptance. Such a result would contradict the rationale of *Kelly*, that scientific techniques that are still in a stage of experimentation and scientific debate should not be presented to a jury. (*Leahy, supra*, 8 Cal.4th at pp. 594-595.)

Further, Smith suggests, without developing the argument, that the court should have allowed Lotz to testify, at least, to the speed of the vehicle. This suggestion was never made in the trial court, nor has Smith established here that this, more-narrow technique passes a *Kelly* analysis.

added.) The method is “scientific” because it is based on an experimental process whereby theories are proposed, tested and refined. (See *Whiting v. Coultrip* (2001) 324 Ill.App.3d 161 [755 N.E.2d 494, 498], quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579, 590 (*Daubert*); *Leahy*, at p. 607.)

Here, the delta v method is relatively new to the law, as we discuss in more detail in section V below. As Lotz testified, the studies on which he relied employed the scientific method. Finally, Lotz’s testimony raises the dangers the *Kelly* test is designed to prevent: it is cloaked in scientific terminology such as “delta v” and “g forces” and bolstered by references to scientific studies the jury has no way to evaluate. (See *Leahy*, at pp. 606-607.)

### III. *Smith’s Showing in the Trial Court*

Smith did not meet her burden of proof in the trial court of establishing that the delta v method is generally accepted in the relevant scientific community. Indeed, Smith barely presented any argument on the issue.

Harrison challenged both the general acceptance of the delta v method and the qualifications of Smith’s experts in her motion to exclude or limit the experts’ testimony. In her opposition to the motion, Smith responded only to the argument regarding her experts’ qualifications. It is true that in the context of defending Lotz’s qualifications Smith argued that “[b]iomechanical causation is not ‘junk science.’ ” However, she never stated that the delta v method was generally accepted in the scientific community; she cited no evidence tending to show general acceptance; and she did not cite the governing legal standard established in *Kelly*. Indeed, she cited no legal authority whatsoever in her opposition to Harrison’s motion. At the hearing on the motion, the trial court invited defense counsel to cite legal authority supporting Smith’s position, but counsel responded that he could not. The court also asked whether Smith had cited

scientific literature showing the delta v method was generally accepted. Defense counsel responded by discussing a single article that had been submitted by Harrison.

Having failed to address the general acceptance argument, discuss any relevant legal authority, or cite expert testimony or scientific literature regarding the general acceptance of the method, Smith cannot reasonably contend that she met her burden of proof. Because she did not meet the argument in the trial court, Smith has forfeited her claim on appeal. Nevertheless, we will review the expert testimony and scientific literature in the record on the general acceptance of the delta v method as well as the state of the case law on the issue. These sources also fail to demonstrate that the method has achieved general acceptance in the scientific community.

#### IV. *State of the Evidentiary Record*

It appears from the record that many studies have been conducted to measure forces that are created in low-speed rear-end automobile collisions on an occupant of the struck vehicle and to assess what injuries those forces can cause in the human body. However, it does not follow that Lotz's proffered testimony is based on a scientific technique that is generally accepted in the scientific community.<sup>3</sup> First, as discussed in greater detail below, the purpose and focus of most if not all of these studies is to design car seats and head restraints and not to rule out to a high degree of probability whether a particular injury was caused by a particular automobile collision. Second, the studies, insofar as they are described in the record, do not indicate that the scientific community has come to a consensus on the correlation between change in velocity in a target vehicle and the probability of injury to an occupant of that vehicle.

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<sup>3</sup> In his deposition testimony, Smith said the delta v method was generally accepted in the scientific community because it was based on the scientific method. As explained in Section II above, this fact brings the method within the rule of *Kelly* and does not in itself establish general acceptance.

Lotz averred that “[t]here are over 700 articles in the peer-reviewed medical literature that report studies on forces generated within the spine, define the biomechanical strength of spinal tissues, and describe techniques to estimate the body’s ability to resist acute musculoskeletal injury.” He stated that delta v “is a well accepted standard metric for accident severity.” However, he never states that it is generally accepted in the scientific community that these studies provide a reliable foundation on which to assess the probability of injury to an occupant of a vehicle struck in the rear based on the change in velocity of the target vehicle.

Lotz does not provide enough information about the studies to allow us to determine if they establish general acceptance of the delta v method in the scientific community. He does not identify the 700 studies (or a subset of them) or provide copies of them. He acknowledges that many of the studies were generated for different purposes, “such as to develop techniques to prevent and evaluate risk for age- and occupation-related injuries, design medical implants, help surgeons develop treatments for back pain, and help the automotive industry design safer vehicles.” At his deposition, Lotz provided a list of 17 studies he claimed supported his opinion, but Smith did not submit copies of those studies to the trial court. His general reference to these studies does not satisfy Smith’s burden.

The five published studies that were submitted to the trial court by Harrison also do not demonstrate general acceptance of the delta v method. Instead, the studies, which were conducted for a variety of purposes, suggest that the research into the relationship between change in velocity and injury is in a stage of ongoing experimentation and has *not* reached a stage of general acceptance. The 1998 Cappon study,<sup>4</sup> for example, discusses the *development of testing methods* (primarily a dummy) to assess the

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<sup>4</sup> Cappon et al., “A New Test Method for the Assessment of Neck Injuries in Rear-End Collisions,” 16th International Technical Conference on the Enhanced Safety of Vehicles (1998) vol. 2, paper #242.

protection offered by seat and head restraint systems in rear-end collisions. The paper presents only preliminary findings and specifically states that further study is needed. The 2001 Shimamoto study<sup>5</sup> also discusses the development of a dummy to assess cervical behavior in low-speed rear-end collisions. The conclusion states, “We conclude that the [new model] holds *great promise* as a tool for exposing the mechanism that causes neck injury . . . .” (Italics added.) The 1996 Krafft study<sup>6</sup> states that whiplash “injury as well as the mechanism of the injury are still in many ways unknown. [¶] The purpose of this article is to add different factors that contribute to the knowledge of the origin of this injury.” The 1999 Lee study abstract<sup>7</sup> criticizes the “ ‘one size fits all’ ” and “ ‘hard threshold’ ” approaches often adopted in biomechanical analysis of injury causation and proposes a more comprehensive approach that takes into account “the wide variability in biomechanical data.” The 2005 Freeman study<sup>8</sup> compares roller coaster injury data with “*contemporary efforts* to define a lower limit of acceleration below which no significant spinal injury is likely to occur.” (Italics added.) The study concludes that “there is no established minimum threshold of significant spine injury.

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<sup>5</sup> Shimamoto et al., “Developing Experimental Cervical Dummy Models for Testing Low-Speed Rear-End Collisions,” National Highway Traffic Safety Administration RDW, Amsterdam 2001, paper 98-S9-O-10.

<sup>6</sup> Krafft et al., “Whiplash Associated Disorder—Factors Influencing the Incidence in Rear-End Collisions,” The Fifteenth International Technical Conference on Enhanced Safety of Vehicles (1996) paper 96-S9-O-09.

<sup>7</sup> William E. Lee III, “Biomechanical Analysis and Injury Causation: An Individual-specific and Incident-specific Approach,” Association for the Advancement of Automotive Medicine, 43rd Annual Proceedings (1999).

<sup>8</sup> Freeman et al., “Significant Spinal Injury Resulting from Low-Level Accelerations: A case Series of Roller Coaster Injuries,” Arch Phys Med Rehab Vol 86 (2005).

The greatest explanation for injury from traumatic loading of the spine is individual susceptibility to injury, an unpredictable variable.”

The scientific literature in the record, therefore, does not demonstrate that there is general acceptance in the scientific community of a particular correlation between change in velocity and probability of human injury. Rather, it appears that the relationship between these factors is currently the subject of experimentation and debate within the scientific community. It may be that the current studies are valid and the correlation will one day gain general acceptance in the community. However, until that occurs, expert testimony based on the experimental data is not admissible at trial.

#### V. *State of the Case Law*

Court decisions from other jurisdictions on the admissibility of expert testimony based on the delta v method or similar biomechanical methods fail to demonstrate that the methods have gained general acceptance in the scientific community.<sup>9</sup>

First, all of the decisions that have come to our attention have been published in the last 12 years,<sup>10</sup> which alone suggests that the investigation into a correlation between change of velocity and the possibility of injury is a relatively recent undertaking. Because it takes time for a scientific method to gain general acceptance, the short life of the methodology tends to support a determination that the methodology has not yet achieved general acceptance in the scientific community.

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<sup>9</sup> There are no published California opinions on this issue. In *People v. Roehler*, the court held that expert testimony based on a biomechanical study (but not the delta v method) was admissible under *Kelly*, but the case is distinguishable because the study was specifically designed and carried out to reflect the actual conditions of the case on trial. (*People v. Roehler* (1985) 167 Cal.App.3d 353, 387-390.)

<sup>10</sup> The earliest case is *Tittsworth v. Robinson* (1996) 252 Va. 151 [475 S.E.2d 261] [evidence excluded].

Second, we have reviewed the decisions for discussions of scientific literature on the reliability of the delta v method and have found no indication that the literature reflects general acceptance of the method. Rather, we found commentary to the contrary. A Colorado appellate court, affirming a trial court's finding that scientific studies failed to establish general acceptance of the delta v method, wrote that " 'there is no agreement, far from it, in the engineering field or in the automobile industry concerning whether there is such a threshold [of injury].' " (*Schultz v. Wells* (Colo.Ct.App. 2000) 13 P.3d 846, 852.) A Georgia appellate court wrote, "We find limited evidence in the record that the field of biomechanics includes a technique of determining if specific injuries result from specific accidents, let alone that the technique has reached a scientific stage of verifiable certainty. Simply mentioning that there have been 'cadaver tests' or that volunteers have been filmed in low-speed accidents does not answer the question." (*Cromer v. Mulkey Enterprises, Inc.* (2002) 254 Ga.App. 388 [562 S.E.2d 783, 787].) A New Jersey court that reviewed 17 studies submitted in support of an expert's testimony wrote: "The record does not establish that experts in the field 'accept the soundness of the methodology, including the reasonableness of relying on this type of underlying data and information.' [Citation.]"<sup>11</sup> (*Hisenaj v. Kuehner* (2006) 387 N.J. Super. 262 [903 A.2d 1068, 1077] (*Hisenaj I*), reversed on other grounds by *Hisenaj v. Kuehner* (2008) 194 N.J. 6 [942 A.2d 769] (*Hisenaj II*); see also *Eskin v. Carden* (Del. 2004) 842 A.2d 1222, 1231.)

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<sup>11</sup> The court in *Hisenaj* also commented that the record "contains no evidence that the seventeen studies are generally recognized and relied upon in the scientific community as authoritative. There is no evidence that they were peer reviewed. . . . The record is barren of any evidence that the seventeen studies are fairly representative of the prevailing results for these kinds of tests. The record contains no evidence that the size of the data base, 203 subjects over a thirty-four year period, is sufficient to be scientifically and statistically significant." (*Hisenaj v. Kuehner, supra*, 903 A.2d at pp. 1074-1075.)

Other courts that have reviewed studies submitted in support of the method have concluded that the studies were facially unreliable. A New York trial court found that four studies cited by an expert were facially unreliable because they were based on small samples, they involved human volunteers who were associated with the authors or sponsors of the studies, and they inappropriately attempted to “boot-strap” data from other studies using similar but different control variables and methodology in order to overcome the inadequate sample sizes. (*Clemente v. Blumenberg* (1999) 705 N.Y.S.2d 792, 795 & fn. 2 [183 Misc.2d 923].) A New Jersey court similarly criticized studies that had been described by the expert because they were performed on cadavers or military personnel under controlled conditions dissimilar from an automobile accident and did not support a conclusion that the particular accident in question could not cause the particular plaintiff’s particular injuries. (*Suarez v. Egeland* (2002) 353 N.J. Super. 191 [801 A.2d 1186, 1193]; see also *Hisenaj I, supra*, 903 A.2d at pp. 1075-1077.)

Third, two of three decisions applying a legal standard comparable to the *Kelly* general acceptance standard<sup>12</sup> deemed expert testimony based on the delta v method inadmissible. (*Clemente v. Blumenberg, supra*, 705 N.Y.S.2d 792, 795 & fn. 2; *Whiting v. Coultrip, supra*, 755 N.E.2d 494.)<sup>13</sup> We find the third decision, which deemed the testimony admissible, unpersuasive. Although the reviewing court purported to make a

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<sup>12</sup> Each of these decisions applies the legal standards of *Frye v. United States* (D.C. Cir. 1923) 293 F. 1013, on which *Kelly* was based. (*Kelly, supra*, 17 Cal.3d at p. 30; *Leahy, supra*, 8 Cal.4th at p. 594.)

<sup>13</sup> Although *Valentine v. Grossman* also refers to the *Frye* standard, the basis for the trial court’s admission of the evidence and the court of appeal’s reversal was the *relevance* of the testimony. (*Valentine v. Grossman* (2001) 724 N.Y.S.2d 504, 505-506.) *Valentine* does not rule on the general acceptance of the scientific technique underlying the expert’s testimony.

general acceptance determination, it actually conducted a review of the expert's qualifications. (*Ma'ele v. Arrington* (Wa.Ct.App. 2002) 45 P.3d 557, 560.)<sup>14</sup>

Fourth, two decisions from New Jersey extensively examined evidence produced in support of the delta v method and concluded expert testimony based on the method was inadmissible under a standard similar to the *Kelly* and *Frye* standards: "scientific evidence is admissible in a civil case if 'it derives from a reliable methodology supported by some expert consensus.'" (*Suarez v. Egeland, supra*, 801 A.2d at p. 1189; *Hisenaj I, supra*, 903 A.2d at p. 1073.) Although *Hisenaj I* was reversed by the New Jersey Supreme Court, the reversal was based on the standard of review. (*Hisenaj II, supra*, 942 A.2d at pp. 779-780.) The supreme court held that the appellate court erred by augmenting the appellate record with copies of the studies cited by the expert, which had not been admitted into evidence in the trial court, and by not deferring to the trial court's exercise of its discretion. (*Ibid.*) The court specifically stated that it was not disagreeing with the appellate court's assessment of the reliability of the expert testimony or its underlying methodology: "[W]e recognize that the relationship between the studies and literature on which [the expert] relied and [the expert's] opinions in this matter could be attacked as tenuous. . . . However, we are compelled to restrict ourselves to the record made before the trial court." (*Id.* at pp. 779-780.)

Finally, several other decisions applying standards different from the *Kelly* and *Frye* standards have held that expert testimony based on the delta v method or similar methods was inadmissible because the methods had not been established as a reliable

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<sup>14</sup> "Tencer has been studying low-speed impacts for five years. His conclusions have been 'pretty much' accepted. [ ] He teaches at the University of Washington Medical School, he has received a federal grant for his research, and he has written a number of articles about the likelihood of injuries in low-speed accidents. Although [ ], a chiropractor, testified differently about the forces involved in low-speed collisions, other researchers around the world have reached conclusions similar to Tencer. The trial court did not err in ruling that Tencer's work on low-speed collisions is generally accepted in the scientific community." (*Mae'le, supra*, 45 P.3d at p. 560.)

foundation for an expert opinion on whether a particular plaintiff's injuries were caused by a particular accident. (*Tittsworth v. Robinson, supra*, 252 Va. 151 [475 S.E.2d at p. 263] [general standards for admission of expert testimony]; *Smelser v. Norfolk Southern Ry. Co.* (6th Cir. 1997) 105 F.3d 299, 301, 303, 305 [applying standard of *Daubert, supra*, 509 U.S. 579]; *Davis v. Martel* (La.Ct.App. 2001) 790 So.2d 767, 771-772 [applying *Daubert* standard]; *Eskin v. Carden, supra*, 842 A.2d at p. 1231 [applying *Daubert* standard]; see also *Schultz v. Wells, supra*, 13 P.3d at pp. 851-852 [exclusion was not an abuse of discretion]; *Cromer v. Mulkey Enterprises, Inc., supra*, 254 Ga.App. 393 [562 S.E.2d 783, 787] [same]; *Martin v. Sally* (2003) 341 Ill.App.3d 308 [792 N.E.2d 516, 522-523] [testimony not relevant because it addressed generalities derived from studies, not plaintiff's particular circumstances].) There are also decisions holding such evidence admissible under these different standards, with the courts often commenting that it should be left to the jury to decide how much weight to give the evidence. (*Fussell v. Roadrunner Towing and Recovery* (La.Ct.App. 2000) 765 So.2d 373, 377 [applying *Daubert* standard; "Any alleged failure . . . in the analysis or conclusion provides a basis for attack by plaintiffs' cross-examination"]; *Reali v. Mazda Motor of America, Inc.* (D.Me. 2000) 106 F.Supp.2d 75, 77 [admitted in part under *Daubert*; criticisms "go to credibility, not admissibility"]; *Valentine v. Grossman, supra*, 724 N.Y.S.2d at pp. 505-506 [relevance]; *Wilson v. Rivers* (2004) 357 S.C. 447 [593 S.E.2d 603, 605-606 & fn. 5] [applying abuse of discretion standard and clarifying that court had not addressed reliability of expert's methodology].) The California Supreme Court has expressly rejected such an approach. (*Leahy, supra*, 8 Cal.4th at pp. 601-604.)

DISPOSITION

On the record before us, we find no error in the trial court's refusal to allow appellant to present evidence of the delta v method. The judgment is affirmed. Harrison shall receive her costs on appeal.

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REARDON, J. \*

We concur:

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JONES, P. J.

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SIMONS, J.

\* Judge of the Superior Court of Alameda County, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.