



Outside Counsel

Testimony of Biomechanical Engineers in Low-Speed Impact Cases

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The prosecution of a personal injury lawsuit stemming from a vehicular collision today requires that counsel become familiar with a number of fields, some old and some new.

Traditionally, attorneys had to be versed in various areas of medicine, such as orthopedics, neurology, and radiology. A knowledge of the laws of physics became important with the advent of accident reconstruction expert witnesses. This merging of physics and medicine produced a new kind of expert witness: the biomechanical engineer.

Initially, biomechanical expert witnesses gave testimony with respect to the use and efficacy of seat belts. But their latest role in vehicular litigation is that of expert witness on the causation of injuries. More specifically, biomechanical engineers are typically used by the defense in cases involving a low-speed impact - where the change in speed (known as the delta V) is less than 5 mph - to testify that the plaintiff could not have sustained a serious injury.

It is here that such testimony has crossed the Rubicon of legitimate expert testimony into the morass of junk science. This article explores the law concerning the preclusion of biomechanical expert witnesses in such accident litigation.

Precluding the Expert

The first step that must be taken to preclude the proposed expert witness from testifying is to make a timely objection and request a hearing pursuant to *Frye v. U.S.*, 293 F. 1013 (D.C. Cir. 1923), to determine whether the testimony has a reliable scientific foundation and may be admissible.

The failure to make a timely objection and request a *Frye* hearing in the lower court will result in a waiver of counsel's right to strike the objectionable testimony before an appellate court.^[1]

The basis of the attack at such a hearing on the proposed testimony must be based on the methodology of the expert, pursuant to *Clemente v. Blumenberg*, 183 Misc. 923, 705 N.Y.S.2d 792 (Sup. Richmond 1999).

Unless the proffered expert has virtually no credentials, counsel will probably be unsuccessful in seeking to exclude the witness on the basis of lack

of expertise alone.

Where the court excludes the testimony on the basis of relevance only, the court may commit reversible error.^[2]

The decision in *Clemente*, by Justice Joseph J. Maltese, is a virtual roadmap of how to exclude junk science from the courtroom, and is required reading for any attorney seeking to preclude such testimony.

In *Clemente*, the court noted that a trial judge's role as a gatekeeper of evidence is not a role created by *Daubert v. Merrill Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993) and rejected by the Court of Appeals; it is an inherent power of all trial court judges to keep unreliable evidence ('junk science') away from the trier of fact regardless of the qualifications of the expert. A well-credentialed expert does not make invalid science valid merely by espousing an opinion.^[3]

With respect to biomechanical engineers and the injuries caused by low-speed impacts, the court noted that [u]sing repair costs and photographs as a method for calculating the change in velocity of two vehicles at impact is not a generally accepted method in any relevant field of engineering or under the laws of physics.

The court further noted that in this case, the defendant's expert could not render certain opinions because the source of his data and the methodology employed by him in reaching his conclusion is not generally accepted in the relevant scientific or technical community to which it belongs, and was not technically valid.

The court specifically found that a biomechanical engineer lacks the training and experience to testify that the plaintiff did not sustain 'serious injuries' as a result of this accident.

Literature Review

Justice Maltese also reviewed the literature used by the defendant's expert as a basis for his testimony, and found it lacking in that it was not independent or reliable, and was based on inadequate data. Moreover, the court noted that the various authors improperly mixed and matched data from other studies using similar, but different, control variables and different methodology.

Additionally, some of the studies utilized crash dummies with sensors to measure the force upon a potential occupant. While 'crash dummies' of various sizes are widely used by automobile designers, they do not indicate that a potential oc-

cupant cannot sustain serious cervical or lumbar injuries, the court said.

While not expressly stated in the published decision, a review of the literature that formed the basis for the defense expert's opinions reveals that it was not published in journals subject to peer review.

Clemente has recently been followed in New Jersey in *Suarez v. Egeland*, 353 N.J. Super. 191, 202, 801 A.2d 1186 (App. Div. 2002), and has been cited with approval by courts in other jurisdictions.^[4]

Virtually every other court that has addressed the issue has similarly held that there is no reliable scientific foundation in biomechanical studies for an expert opinion that a low-speed impact automobile accident cannot cause a herniated disc or other serious injury.^[5]

Plaintiff's counsel must make a timely objection to the defendant's biomechanical expert witness and be prepared to cross-examine the witness to show the flaws in his or her methodology in order to preclude the witness, and exclude junk science from the courtroom.

As the adage goes, there is no such thing as a simple car accident case. Counsel should be prepared to address all technical and legal issues in order to prevail at trial and obtain fair compensation for the client.

FN[1] *Cocca v. Conway*, 283 A.D.2d 787, 788 725 N.Y.S.2d 125, 127-128 (3rd Dept. 2001), lv. to app. den., 96 N.Y.2d 721, 733 N.Y.S.2d 373 (2001).

FN[2] *Valentine v. Grossman*, 283 A.D.2d 571, 572-573, 724 N.Y.S.2d 504, 505-506 (2nd Dept. 2001).

FN[3] 183 Misc. 2d 923, 932, 705 N.Y.S.2d 792, 799.

FN[4] See *Salerno v. Tudor*, 2002 WL 120608 (Cal. App. 1 Dist 2002); *Whiting v. Coultrip*, 324 Ill. App. 3d 161, 167, 755 N.E.2d 494, 499 (2001); 2001 WL 1082317.

FN[5] See, e.g., *Smeiser v. Norfolk Southern Ry. Co.*, 105 F.3d 299, 305 (6th Cir.), cert. den., 522 U.S. 817 (1997); *Schultz v. Wells*, 13 P.3d 846, 851-52 (Colo. Ct. App. 2000); *Cromer v. Mulkey Enter., Inc.*, 562 S.E.2d 783, 785-88 (Ga. Ct. App. 2002); *Brock v. Artis*, No. 45CO1-9602-CT-0034 (*Lake Cty. Cir. Ct.*, Ind. July 16, 1998); *Yaremchak v. Cornman*, No. 97-SU-00701-01 (*York Cty. Ct. Com. Pl.*, Pa., August 8, 2000); *Tittsworth v. Robinson*, 475 S.E.2d 261 (Va. 1996); *Mayse v. Kidd*, No. 98-C-129 (*Lincoln Cty. Cir. Ct.*, W. Va., June 8, 2000).