

By Robert M. Tessier

"In a low impact case, opting against retention of a biomechanical engineer will empower your theme of "junk science" and focus the jury on the desperate and disingenuous measures the defense will undertake to win..."

# To hire or not to hire a biomechanical engineer

"A witness cut loose from time-tested rules of evidence to engage in purely personal, idiosyncratic speculation offends legal tradition quite as much as the tradition of science." Huber, Galileo's Revenge: Junk Science in the Courtroom (2d ed. 1993) p. 204, quoted in *People v. Johnson* (1993) 19 Cal.App.4th 778, 790 [23 Cal.Rptr.2d 703, 711].

# Case Number 1

Your client is stopped at a red light in her SUV when suddenly a rich lawyer on his cell phone crashes into her from behind. Photographs of the vehicles reveal some, but not significant, property damage. Diagnostic films show mild degenerative disk disease (typical for a woman of her age). Subsequent MRI films reveal a herniated disk. A board-certified orthopedic surgeon is prepared to testify that the collision is a substantial factor in causing the damage to plaintiff's cervical spine.

Your client promptly takes her SUV to the body shop suggested by her insurance company, and it is repaired. Very poor photographs are taken of the undercarriage and structures. The estimate documents three hours of repair to the frame members.

The defense designates experts. On the list is a biomechanical engineer. The declaration states simply that the expert will address "the issues of occupant movement and causation of injury." This designated expert has never examined the vehicle or the injured plaintiff.

#### **Case Number 2**

Your client is traveling to Las Vegas in her SUV on I-15 when a single vehicle rollover occurs. She is airlifted from the scene in full C-Spine precautions and subsequent diagnostic films reveal a fracture at C5-C6. Your client will never walk again.

The defense designates experts. On the list is a biomechanical engineer. The declaration states simply that the expert will address "the issues of occupant movement and causation of injury." The vehicle has been preserved in its post-collision condition and has been thoroughly inspected by all parties.

# Welcome to the world of biomechanics!

The above scenarios illustrate the extremes in the use and misuse of biome-

chanical engineers. While each attorney is ultimately responsible for many judgment calls in preparing and trying his or her case, the decision to hire or not to hire a biomechanical engineer is a crossroads with strategic implications. This article will present the case against the retention of the biomechanical engineer in the low to moderate speed impact case.

There can be no doubt that in Case Number 2, a biomechanical engineer is not only recommended, but likely a *sine qua non* of success. The reasons extend beyond the purview of this article.

However, in Case Number 1, the choice is not so clear. Opting against retention of a biomechanical engineer will empower your theme of "junk science" and focus the jury on the desperate and disingenuous measures the defense will undertake to win at the expense of the truth. Hiring a plaintiff's biomechanical engineer, especially when a credible and articulate medical doctor is prepared to give cogent causation testimony, guts this theme. It turns the case into a battle of experts spewing pseudoscience, thus reframing the case in favor of the defense.

Preparation is the key to persuading the judge and jury successfully that the "junk science" defense is not worthy of belief. A three-pronged attack against the proffered evidence is necessary. One, elicit deposition testimony discrediting the general acceptance of the methodology of the biomechanical engineer's analysis. Two, lay the foundation for favorable scientific and medical materials for use later at trial. Three, lay the foundation for collateral impeachment. This article will incorporate actual deposition testimony from defense experts to illustrate how to attain each of these goals.

# Discrediting the methodology

An engineer who only looks at photographs of property damage is not using a generally accepted scientific methodology to determine either delta-v or injury causation. "The expert whose testimony is not firmly anchored in some broader body of objective learning is just another lawyer, masquerading as a pundit." Huber, Galileo's Revenge: Junk Science in the Courtroom (2d ed. 1993) p. 204, quoted in *People v. Johnson* (1993) 19 Cal.App.4th 778, 790 [23 Cal.Rptr.2d 703, 711].

Returning to Case Number 1, the only evidence documenting the extent of property damage and physical evidence is a few Polaroid photographs, a property damage estimate and a police report. From these scraps, the defense experts are paid to opine that no injury occurred in the crash.

If one's gut reaction to this position is that it is impossible to opine that a person was uninjured with so few pieces of evidence, then is it also not equally true that attempting to proffer a biomechanical expert to review the same scant evidence to opine the plaintiff was injured is based upon the same razor-thin reasoning? The lynchpin of the biomechanical analysis is that there is a connection between the extent of property damage visible from a Polaroid and the injury causing potential of the crash. But is this fundamental premise scientifically sound? Wouldn't it be great if the burden could be shifted to force the defense to prove that this method is an accurate and accepted one?

It can. The burden is on the party proffering the opinion that there is 1) a scientific consensus supporting the methodology used by the expert; 2) the expert is qualified in the field; and 3) the procedures used are scientifically valid. People v. Kelly (1976) 17 Cal.3d 24, 30 [130 Cal.Rptr. 503, 507]; People v. Dellinger (1984) 163 Cal.App.3d 284, 292 [209 Cal.Rptr.503, 507]. The seminal case of Frye v. United States (D.C. Cir. 1923) 293 F. 1013, 1014, requires the court to inquire about the methodology: "[W]hile courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction was made must be sufficiently established to have gained general acceptance in the particular field in which it belongs."

Therefore, pre-trial efforts must focus on gathering pertinent medical and scientific literature, and focusing on the lack of *See Tessier, Next Page* 

# "Unfortunately, deposing a biomechanical engineer is not unlike shoveling smoke."

consensus and lack of validity of the scientific method proffered by the expert. Then, an Evidence Code section 402 hearing has the real possibility of success.

Unfortunately, deposing a biomechanical engineer is not unlike shoveling smoke. However, the time to shovel the smoke, or more correctly, the time to allow the biomechanical engineer to shovel whatever he wants to shovel, is in deposition. You ought to get some basics, such as, the definition of his discipline, the work actually done, the materials considered and reviewed, and the materials he considers authoritative. Here are some examples: **Q:** What is a biomechanics analysis?

A: Biomechanics is basically looking at the type of collision, looking at the occupant kinematics, reviewing the medicals, looking at the types of injuries, evaluating the accident severity and comparing that to human volunteer testing.

So far; so good? But what does this really mean? Isn't the true thrust of the testimony your opponent hopes to elicit at trial the claim that the collision was not forceful enough to cause injury? What is the scientific method or formula that this "scientist" is going to use to proffer an opinion?

Q: Did you do an independent analysis of the delta-v?

A: I looked at the damage and did my own assessment.

Q: Did you do any mathematical calculations?

A: No.

Often, the biomechanical engineer will require the support of an accident reconstruction expert to provide data to him. Ironically, this means that undermining the accident reconstruction expert will cause the entire defense to fall.

Q: In order for you to do your analysis, you needed to have that delta-v calculation from Mr. [accident reconstructionist]?

A: Right. Well, I didn't — He was providing it to me.

**Q:** Did you do an independent analysis of the delta-v?

A: I looked at the damage and did my own assessment.

Q: Did you do any mathematical calculations?

A: No.

Q: So you looked at the pictures and assessed the delta-v yourself? A: Yeah.

Q: Based upon your eyeballing of the photographs, that was within the range of what you thought the delta-v was too?

#### A: Yes.

What credible scientist would "eyeball" a copy of a photograph, do no mathematical calculations, review no other property damage information and state an opinion to a reasonable engineering probability about anything? Thus, your cross examination at deposition should go something like this:

**Q:** As an engineer, in your education and non-litigation experience, how often would you rely solely on photographs of the vehicles in performing an engineering analysis? A: Well, now, typically, we only have the photographs to work with. So, in probably 80, 85 percent of the cases we work on, we're working with photographs; we don't have the vehicles themselves.

**Q:** Well, are you aware of any industry, not related to litigation, where engineers rely only on photographs to come to engineering conclusions about forces of impact? A: I don't understand the question.

**Q:** I am looking for any information you have, not related to the business of litigation, where engineers are called upon to look at photographs

to come to conclusions about forces of impact. A: I am not aware of any others.

Q: Have you seen crash tests from General Motors, Ford, Chrysler, and the other auto manufacturers?

A: Yes, I have.

Q: And you're aware of the fact that part of the Federal Motor Vehicle Safety Standards requires crash tests to be performed in order to have vehicles sold in the United States?

A: Yes.

Q: And you have seen those crash test videos?

**A:** I have seen some of those, yes.

**O:** And you're aware that the vehicles are instrumented?

A: Yes.

Q: And the Hybrid III or other dummies

in the vehicles are instrumented?

A: Yes, I am aware of that also.

**Q:** Have you ever heard of an engineer for an automotive manufacturer who looks at pictures of a crash test to come to conclusions about forces of impact?

A: I have not.

Your adversary's expert has just conceded that there is no other industry, no other group of scientists or engineers, who utilizes this "method" of determining the forces of impact, other than those who are paid (quite handsomely) by the insurance industry to help defend lawsuits brought by injured plaintiffs in traffic collisions. What can be done with this information? Evidence code section 402 hearing

Challenge the bogus methodology by way of a Kelly/Frye hearing under Evidence Code section 402. California law, and the law of other states that follow the Kelly/Frye analysis, support the exclusion of such "expert" testimony when the method used by the expert cannot be established as reliable. People v. Kelly, supra, 17 Cal.3d at 30 [130 Cal.Rptr. at 148]; People v. Dellinger, supra, 163 Cal.App.3d at 293 [209 Cal.Rptr. at 508]. In People v. Dellinger, a biomechanical engineer threw a dummy down a flight stairs in an attempt to prove that a child was murdered by being pushed. The biomechanical engineer was unable to provide the court with any other similar experiments by any other experts in a controlled, scientific setting. Moreover, only the biomechanical engineer testified that her method was accepted in the scientific community.

The court excluded the opinion because the reliability of the method was not sufficiently established. This methodology is not unlike the biomechanical engineer who, with a couple of colleagues who take turns in the driver's seat, goes out on a Saturday morning to a parking lot to crash cars to see if anyone gets neck pain. It is flawed methodology, and it is insulting to science.

This flaw underscores the fundamental problem with biomechanical analysis in these types of cases: There is no "unified theory" of injury because there are too many variables, which produce nonrepeatable and inconsistent results. Each individual is unique, each vehicle is unique, and each collision is unique. For example, even in a more "traditional" biomechanical analysis, the range of possible answers is so broad as to make the conclusion meaningless.

A radius bone will break when a compressive load of between 484 and 1,760 pounds is applied according to biomechanical textbooks. How is this data helpful, with so broad a range? Would we feel safe on a bridge in a 10-ton truck if an engineer states he eyeballed it, and it will hold between eight and 36 tons? Engineers justifiably take pride in the precision of their calculations and their work product. Do any biomechanical engineers take pride in looking at photocopies of photographs and eyeballing their conclusions?

Recently, courts in other states have See Tessier, Next Page been barring the biomechanical engineer, even the impressively qualified biomechanical engineer, because there is no support for this type of methodology in the scientific community. In the case of Peacher v. Cohn, No. CI-96-6122 (Fla 9th Cir. Ct. September 25, 2003), in a Florida trial court, a Frye motion was brought to preclude the testimony of Thomas M. McNish, M.D. concerning his injury causation analysis in a rear-end collision case. The trial court astutely noted that although there is nothing new or novel about the field of biomechanics or engineering, there is indeed something new or novel about "injury causation analysis," which is essentially the expert acting as a pseudo advocate and concluding a lack of injury potential without scientific basis. The court reasoned as follows:

"This Court finds that the use of that methodology [injury causation analysis] to study and determine the causes of physical injuries in a given case, based upon a comparison to injuries sustained to a limited group of dissimilar human occupants subjected to collisions involving unidentical forces in a controlled environment, is a new and novel science. This is particularly true where the scientific calculations involved were derived in significant part by proportions determined from photographs of the vehicle.

"This Court finds nothing in the literature provided by Defendant that used photographs of the vehicles to calculate the delta V for purposes of ascertaining the forces applied to the vehicles and its occupants in the injury causation analysis."

Other state and federal courts have excluded biomechanical testimony in rearend, minor property damage accidents as unreliable as a matter of law. *Tittsworth v. Robinson* (1996) 252 Va. 151 [475 S.E.2d 261]; *Smelzer v. Norfolk & Western Railway Company* (6th Cir. 1997) 105 F.3d 299; *Yorston v. Bailey* (1997) (CV 95-17659, Ariz.Super.Ct); *Pinsker v. Cohen* (1997) (CV 95-12419, Ariz.Super.Ct.); *Clemente v. Blumenberg* (Sup. 1999) 705 N.Y.S.2d 792; and *Schultz v. Wells* (Colo.App. 2000) 13 P.3d 846.

Beware: this reasoning is applied equally against the plaintiff. In another Florida case, *Etienne v. Staples*, No. 01-2000-CA-2695 (Fla. 8th Cir. Ct. Sept. 12, 2003) the plaintiff's attempt to proffer expert testimony of injury causation based solely upon photographs, repair estimates and crash studies, was unsuccessful.

#### **Biomechanical engineering qualifications**

There is another fundamental reason why the biomechanical engineer's testimony concerning injury causation is improper. A biomechanical engineer who is not a medical doctor is not qualified to proffer unsubstantiated opinions on the subject of injury causation in California. Under California law, medical testimony is required to prove injury causation. Salasguevara v. Wyeth Laboratories, Inc. (1990) 222 Cal.App.3d 379 [271 Cal.Rptr. 780]. At best, a properly qualified biomechanical engineer using generally accepted methodology can corroborate, but not independently establish, medical causation. People v. Roehler (1985) 167 Cal.App. 3d 353, 388-390 [213 Cal.Rptr. 353, 376-378]. Consider whether a biomechanical engineer, who is not a medical doctor or chiropractor, violates Business & Professions Code section 2052 when he opines on the issue of causation or the nature and extent of injury suffered in a crash:

"2052. Practice without certificate

"(a) . . . any person who practices or attempts to practice, . . . or who diagnoses. . . any ailment, . . . injury, or other physical or mental condition of any person, without having at the time of so doing a valid, unrevoked, or unsuspended certificate as provided in this chapter . . . is guilty of a public offense, punishable by a fine not exceeding ten thousand dollars (\$10,000), by imprisonment in the state prison, by imprisonment in a county jail not exceeding one year, or by both the fine and either imprisonment."

<sup>^</sup> The term *diagnose* is defined as "to determine the type and cause of a health condition." Mosby's Medical Dictionary (5th Ed.1998) p. 480.

Surprisingly, some biomechanical engineers do not understand the law, and arguably violate the Business & Professions Code with regularity. Consider this exchange in deposition with a biomechanical engineer:

**Q:** Let me ask you about the word "evidence." Opinion testimony, the way I look at it, is evidence. Is that how you look at it? **A:** No.

**Q:** So the doctor that opines that a disk herniation is related to the trauma under that scenario [delta-v of 6 to 7 mph] is wrong?

**A:** I would say he is incorrect in his understanding of the kinematics of the body and

the biomechanics of the spine.

**Q:** And then his opinion is incorrect because of his lack of understanding.

**A:** I am saying that maybe he just doesn't understand the kinematics. He is going under the Hippocratic oath.

**Q:** And you're not bound by that oath? **A:** No.

**Q:** So, in that range, is that the time when you would defer to the medical doctor in terms of causation, or no?

**A:** I don't know what you mean by "causation."

**Q:** Whether or not the traumatic event in question caused the injury to the person's cervical spine.

**A:** Well, Î am saying you can have transient cervical complaints. I think you're talking about nature, extent, and duration, which is typically something that will be more discussed by medical doctors.

Here we have a biomechanical engineer who does not understand opinion evidence, the word causation and who disagrees with medical doctors on a subject that only medical doctors are competent to render testimony. Such testimony is properly excluded.

#### Foundation for scientific studies

Lay the foundation for favorable scientific studies and discredit defense-oriented studies. "The expert witness is the only kind of witness who is permitted to reflect, opine, and pontificate, in language as conclusory as he may wish . . . ." Huber, Galileo's Revenge: Junk Science in the Courtroom (2d ed. 1993) p. 204, quoted in *People v. Johnson* (1993) 19 Cal.App.4th 778, 790 [23 Cal.Rptr.2d 703, 711].

It is inherently unreliable to "eyeball" photographs of property damage and conclude anything to a reasonable degree of scientific probability. No peer-reviewed scientific publication endorses such a method. But peer-reviewed scientific data is available that concludes there is not only no correlation between the amount of crush damage to a vehicle and the extent of potential injury to the occupants, but also, that in some cases, the less the collision damage the greater the injury potential. For example, the author in the SAE Technical Paper 970494 "Lack of Relationship Between Vehicle Damage and Occupant Injury" notes:

"The amount of crush or damage received by a motor vehicle in a collision is an indication of velocities involved when

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the stiffness of the motor vehicle and object or objects is known. However, the crush damage does not relate to the expected occupant injury, i.e., the more vehicle damage, the more chance that the occupant is injured, is not a conclusion that can be made. In fact, it is more likely the reverse. If the occupant is decelerated over a greater time/distance due to a large crush/arresting distance, then the likelihood of injury is reduced."

This analysis is most persuasive when dealing with solid bumper chassis, such as the SUV or pick-up truck.

"Classically, we see this in the case of pickup trucks or all-terrain vehicles that are traditionally fitted with a solid bumperto-bumper chassis. Many of these types of vehicles are subjected to relatively severe impacts with little or no resulting damage to their bodies and bumpers . . . . Motor vehicle bodies with bumper-to-bumper chassis offer little or no crushing effect on arresting obstacles when impacted; thus, relatively high G forces can be experienced by occupants when rear-ended, resulting in whiplash injury. The use of stiff motor vehicle bodies and chassis will also produce a spiked G force loading to occupants, even if little damage occurs to vehicle body or chassis.'

Other studies document the inherent difficulty in attempting to make a blanket statement relating delta-v to crush damage to vehicles to injury causation due to the myriad of variables. In a scientifically controlled study of low-impact rear-end collisions, the authors of SAE paper 973341 "Head/Neck Kinematic Response of Human Subjects in Low-Speed Rear-End Collisions" reported significant variance in peak head acceleration, which correlated with gender differences, and the importance of headrest position. Of course, the most complex variable of all, the individual's unique tolerance level, confounds any valid scientific attempt at a one-size-fits- all conclusion on injury causation. These are variables no one can know without instrumentation and controlled conditions. This paper is also instructive about how to perform scientifically valid experiments.

Moreover, the author of "The Guide to Low Velocity Whiplash Biomechanics," Body-Mind Publications, 1997, identifies these variables that all affect the injury potential and injury severity of any particular crash:

• Angle of Collision

- Body Position
- Body Size
- Braking
- Bumpers

• Gender (Females are at a much higher risk of injury from rear-end collisions than men)

- Level of Preparedness
- Pre-existing condition
- Seat Belts
- Secondary Impacts

In deposition, take the defense expert through each of these variables. The more "I don't know" answers, the better to establish a lack of scientific methodology. Move from the general to the specific back to the general:

**Q:** You have heard of the phrase "garbage in, garbage out"?

A: Yes, I have.

**Q:** You put an erroneous number into your equation, you'll get an erroneous conclusion?

**A:** Yes, that's correct.

**Q:** So you looked at Xerox copies of the photographs to come to your conclusions. **A:** Yes, I did.

**Q:** You didn't look at the original pictures. **A:** That's correct.

**Q:** Did you get any exemplar vehicles and line them up to see what part of the van would strike what part of the mini van?

A: No, I didn't.

**Q:** Did you observe or measure the seat back?

A: No.

**Q:** The headrest?

**A:** No.

**Q:** How tall is [the plaintiff]?

A: I don't know.

**Q:** How much did he weigh on [the date of the collision]?

A: I don't know.

**Q:** Did he know if a collision was imminent?

A: I don't know.

- **Q:** Did he brace for impact?
- A: I don't know.

**Q:** Did you do any crash testing as part of your work in this case?

**A:** No.

- Q: Did you go to the scene of the accident
- in this case?
- **A:** No.

**Q:** Did you inspect the [plaintiff's] vehicle?

**A:** No.

Q: Did you look at exemplar vehicles in

this case? A: No.

**Q:** Are you familiar with the term known as a "crash pulse"?

A: Yes.

**Q:** What is that?

**A:** Typically, you're looking at the time frame of the crash itself, and it's generally about milliseconds, one-tenth of a second. **Q:** Do different vehicles have different crash pulses, in your experience?

**A:** All vehicles, because they are designed and built differently, are somewhat different.

**Q:** Do you know what the crash pulse profile is on [plaintiff's] vehicle?

A: No, I don't.

**Q:** That profile is important when you're evaluating the forces applied to the occupants of the vehicle. Would you agree with that?

A: It can be.

**Q:** Ideally, to protect occupants, you want to have a gradual slope upward of the crash pulse. Would that be a fair statement? **A:** Yes, that's correct.

**Q:** And a vehicle that has a crash pulse that tends to be more parabolic has more energy applied to the occupant of the vehicle. Would you agree with that?

A: Yes.

**Q:** And that would be an important piece of evidence that someone would need to have to determine what forces are applied to the occupant of a vehicle in a collision. **A:** It could be important, yes.

All hope of the defense couching its expert's opinions in the shroud of "science" should now be gone. This "scientist" gathered virtually no information specific to the case, did no testing, reviewed no peer reviewed articles. He cannot answer even the most basic questions related to the specifics of this case, and admits to the obvious fact that erroneous data to start results in erroneous conclusions. Most importantly, he has conceded that no other scientist in any other industry he can name uses this supposed "scientific method." Press on to the helpful data that you want to use against him at trial:

**Q:** You're a member of the Society of Automotive Engineers?

A: Yes, I am.

**Q:** Do you find the Society of Automotive Engineers' printed materials, peer review articles, to be authoritative in their field?

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"It is inherently unreliable to "eyeball" photographs of property damage and conclude anything to a reasonable degree of scientific probability."

A: For the most part, I do, yes.

**Q:** Are you a subscriber? Do you get journals from SAE?

A: Yes, I do.

**Q:** Did you rely on any SAE papers in formulating your opinions and conclusions in this case?

A: No, I didn't.

**Q:** Did you do any literature research in that area?

**A:** Not in the SAE, no.

Do not be afraid to take a fishing expedition with the expert in deposition on this issue. Note here that the questioner had no idea about the answers he was going to get.

**Q:** Are you aware of any SAE papers where the subject was discussed about the margin of error and delta-v calculations based upon using pictures and not a hands-on examination of the actual vehicles?

**A:** I think I recall some article on that a while back. But I don't remember the specifics of that.

 $\dot{\mathbf{Q}}$ : Was the tenor of the article that using photographs is much less accurate than using actual, hands-on, eyeballing of the crash vehicles?

A: Yes.

**Q:** Do you remember ever giving any seminars to any trial lawyer organizations where you had indicated that it's always better to look at the vehicle, see it firsthand, than to look at photographs of it? **A:** I know I have given talks before and indicated that, yes, the preference would be to actually look at the vehicle.

**Q:** And the preference is based upon the fact that your conclusions would be more sound if you had access to the actual vehicle as opposed to just the photographs. **A:** Yes.

Evidence Code section 721, subdivision (b)(3), permits the reading of articles to the jury once it has been established as a reliable authority, whether or not the expert actually considered it. However, most savvy experts will become wary of the direct questions.

# Foundation for collateral impeachment

"This is the Golden Rule: He who has the gold, makes the rules!" (Unknown comedian.)

A cottage industry of engineers for hire has blossomed in the world of automobile personal injury litigation. The powers that be in the insurance industry have made a business decision that it is more cost-effective to pay engineers several thousand dollars per case to testify in court than to pay claims. Plenty of professionals are now available to belly up to the trough, even though not a single peer-reviewed article exists validating the use of photographs to establish delta-v or injury potential based thereon.

It is imperative to obtain the expert's statements under oath concerning the following:

• The amount of the expert's professional time devoted to litigation versus non-litigation matters;

• The amount of income generated in litigation related matters;

• The percentage of time the expert is hired by the plaintiff versus the defense;

• The names of plaintiff's attorneys who have hired the expert;

• The number of times the expert has been retained by the defense firm or specific defense attorney;

• The number of seminars, symposiums, or educational meetings the expert has attended with insurance companies or their interests.

Moreover, in the notice of taking the expert's deposition, documents can be requested. Ask for documents related to these collateral impeachment questions. Note however, that while Code of Civil Procedure section 2034 contains a procedure that requires opposing counsel to produce a retained expert for deposition without a deposition subpoena, it does not provide for production of the expert's documents and things without a subpoena. Absent an agreement with opposing counsel for production of experts' documents and things at deposition, issuing a deposition subpoena to the opposing expert is the surest way to obtain production at the expert's deposition of the collateral impeachment documents.

Finally, go to O'Brien's Evaluator, or a similar service, and get verdict sheets documenting the cases in which the expert has actually provided testimony at trial. Rarely do the numbers the expert gives in deposition match the number of reported cases. Because you do not have an expert in the same field, the collateral impeachment related to the often exorbitant sums of money received by experts can have a significant impact on the jurors and is consistent with your theme of junk science being used to distort the truth.

#### Conclusion

The decision to hire or not to hire a biomechanical engineer is a strategic decision that must fit into your overall case theme. If a treating doctor is ready and willing to testify about injury causation, is fully prepared, and the vehicle is not available for inspection in its post collision condition, it is often the correct course to forego the temptation to hire a biomechanical engineer. Instead, the junk science theme is the strongest and best counter to the defense position. Prepare a motion to exclude the expert, remind the court that it is the defense burden on the motion, and be prepared to show the court that the expert has not used a generally accepted method.

Robert M. Tessier is in sole practice in Calabasas. He has had significant experience in cases involving spinal injuries in motor vehicle collisions. He is a member of Consumer Attorneys Association of Los Angeles, Consumer Attorneys of California, and the Association of Trial Lawyers of America.