

TESTIMONY BY EXPERTS

THE SEARCH FOR THE SIMPLE TRUTH

This is not a learned treatise,¹ a law review article², a leading case³, or even a website⁴. There are hundreds of each of these out there on this topic, and frankly, I don't consider myself uniquely qualified to produce the next one. What follows is a practical guide to helping you prove your case with admissible expert evidence. Most cases require some expert testimony – something relevant and reliable to help the jurors link the facts of your case with your theme, argument, and the instructions to be read to them by the trial judge at the end of your case.

Like so many things in the law when reviewed by a pragmatist like myself, I wonder why we lawyers make it so hard – so complicated. If you struggle with it and it's your case, the judge will probably struggle with it, and the jury will certainly struggle with it if it is allowed to do so by the judge. As I hope you will agree by the end of this article (if not before), admissible expert testimony should be anything but hard or complicated. To be understood, you must make it simple. To be admissible, it must be the truth. What we are searching for is the simple truth.

¹ See Steven Goode and Olin Guy Wellborn III, *Courtroom Handbook on Federal Evidence 2003*, Thompson-West.

² See Lorie S. Gildea, *Sifting the Dross: Expert Witness Testimony in Minnesota After the Daubert Trilogy*, 26 Wm. Mitchell L Rev. 93 (2000).

³ See *Goeb v. Tharaldson*, 615 N.W.2d 800 (2000).

⁴ See *Admissibility Of Scientific Evidence Under Daubert*, Dr. Tom O'Connor, North Carolina Wesleyan College last updated November 14, 2004; at <http://faculty.ncwc.edu/toconnor/daubert.htm>

We begin our quest with a brief history of the last 80 years of admissibility of expert testimony in the federal and Minnesota judicial systems. In 1923, the circuit court for the District of Columbia announced its landmark decision regarding the admissibility of expert opinion testimony on novel scientific procedures in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). Mr. Frye tried to prove his innocence by attempting to introduce expert testimony regarding the results of a deception test he had taken.

His lawyer claimed the test proved he wasn't lying when he denied killing the victim. The test was described as the systolic blood pressure deception test. If your blood pressure (as measured in your arteries when your heart is forcing blood through them) elevates when telling your story, you must be lying. If it stays level, you are telling the truth. The circuit court affirmed the trial court, which had ruled the evidence inadmissible, because the test was not "sufficiently established to have gained general acceptance in the particular field in which it belongs." *Id.* at 1014. Of course, lie detectors of any sort have never gained general acceptance in their particular field. Until the end of the twentieth century, the *Frye* "general acceptance test" remained the standard employed in Minnesota as well as the federal court system.

In 1975, the Federal Rules of Evidence were adopted. Rule 104(a) required judges to make a preliminary determination as to whether or not a witness could testify. In the case of an expert witness, Rule 702 required judges to determine whether the admission of such testimony would assist the trier of fact to understand evidence or determine a fact in issue. Rule 706 allowed the court at its discretion to procure the assistance of an expert of its own choosing. Finally, Rule 403 allowed judges to exclude

otherwise admissible evidence if its prejudicial effect would likely outweigh its probative value. In 1977, the Minnesota Rules of Evidence became effective. The Rules and Committee Comments for the Rules set forth above were the same in all material respects to the Federal Rules. Between 1975 and 1993, no one knew whether or not the Federal or Minnesota Rules of Evidence had superseded the *Frye* general acceptance test. Despite the more liberal nature of the new Rules, the more conservative general acceptance test was still followed, in Minnesota and elsewhere, as it had been for over fifty years. The United States Supreme Court attempted to address the continuing viability of *Frye* for federal purposes in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 2786 (1993).

In *Daubert*, two minor children were born with serious birth defects. The children and their parents sued Merrell Dow Pharmaceuticals claiming that the morning sickness drug Bendectin, which was manufactured by the defendant and taken by the mother when she was pregnant, caused her children's birth defects. Although more than 30 published studies involving over 130,000 patients had found that Bendectin was not a human teratogen, Plaintiffs presented eight impressively credentialed experts who concluded that Bendectin could cause birth defects. The California district court granted Merrell Dow Pharmaceutical's motion for summary judgment, concluding that scientific evidence is admissible only if the principle upon which it is based is "sufficiently established to have general acceptance in the field to which it belongs." 727 F. Supp. 570, 572 (S.D. Cal. 1989), quoting *United States v. Kilgus*, 571 F.2nd 508, 510 (C.A. 9 1978). Plaintiffs' proffered experts based their opinions upon reanalysis of previously

published epidemiological (human statistics) studies as well as pharmacological, test tube, and animal studies, but no new epidemiological data. Given the vast body of epidemiological data concerning Bendectin, and the original analysis and inferences drawn therefrom, the court held that expert opinion which was not based on epidemiological evidence published and subjected to peer review in the scientific community was not admissible to establish causation. No reanalysis allowed. Case dismissed.

The United States Court of Appeals for the Ninth Circuit affirmed. 951 F.2nd 1128 (1991). Citing *Frye v. United States*, 54 App. D.C. 46, 293 F. 1013, 1014 (1923), the court stated that expert opinion based on a scientific technique is inadmissible unless the technique is “generally accepted” as reliable in the relevant scientific community. 951 F.2d at 1129-1130. The court declared that expert opinion based on a methodology that diverges “significantly from the procedures accepted by recognized authorities in the field ... cannot be shown to be ‘generally accepted as a reliable technique.’” *Id.*, at 1130, quoting *United States v. Solomon*, 753 F.2d 1522, 1526 (C.A. 9 1985).

The United States Supreme Court agreed with the Ninth Circuit. *Daubert*, 113 S. Ct. 2786 (1993). However, the court held that Rule 702 did in fact supersede the *Frye* general acceptance test and provided a new standard for judges, appointing them judicial gatekeepers. The new approach consisted of two cornerstones needed for the admissibility of any evidence: reliability and relevance. Again, consistent with Rule 104(a), judges were instructed to engage in a “preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether

that reasoning or methodology properly can be applied to the facts at issue.” In addition, when determining scientific reliability, the trial judge should consider: (1) whether the scientific knowledge can be or has been tested, (2) whether the theory or technique has been subjected to peer review and publication, (3) the known or potential rate of error, and (4) whether the theory or technique has gained “general acceptance” in the relevant scientific discipline (the “*Daubert* factors”). *Daubert* at 2796-2797.

According to Dr. Tom O’Connor (see fn 4), 10 states currently accept *Daubert*, 14 states are sticking with *Frye*, and 12 states have their own tests (typically *Frye-plus* tests) including Minnesota. Minnesota adopted *Frye* in *State v. Kolander*, 236 Minn. 209, 221-22, 52 N.W.2d 458, 465 (1952). In Minnesota, *Frye* has survived despite its federal demise, albeit not unscathed. In 1980, when grappling with the dubious offering of testimony from a witness whose memory had been revived under hypnosis to prosecute a man for rape, the Minnesota Supreme Court added a second prong to the *Frye* general acceptance test. *State v. Mack*, 292 N.W.2d 764, 768-769, 772 (Minn. 1980). The *Mack* prong requires the particular evidence derived from a test to have a foundation that is scientifically reliable. The hypnosis produced testimony in *Mack* was excluded. See also *State v. Anderson*, 379 N.W.2d 70, 79 (Minn. 1985) (holding that graphology (handwriting analysis) “is accorded a low measure of scientific reliability in predicting character or state of mind and is not generally accepted in the scientific fields of psychology and psychiatry”); *State v. Jobe*, 486 N.W.2d 407, 419-20 (Minn. 1992) (affirming the district court’s admission of expert testimony based on DNA test results because the principles underlying forensic DNA testing are generally accepted, and the

laboratory complied with the appropriate standards and controls, thus rendering the results legally reliable); *State v. Moore*, 458 N.W.2d 90, 97-98 (Minn. 1990) (affirming the district court's admission of expert testimony on blood spatter interpretation where the district court determined that the theory was generally accepted and the theory's application was legally reliable).

Reliability is again the key, and the Minnesota Supreme Court explained “[w]e have rephrased the *Frye* standard to require that experts in the field generally agree that the evidence is reliable and trustworthy.” *State v. Schwartz*, 447 N.W.2d 422, at 424 (1989). Some commentators have said the more conservative Minnesota *Frye-Mack* standard is used because of fears *Daubert* may allow an undesired element of subjectivity to decision-making without its modified general acceptance test. Perhaps Minnesota and the other 26 states found *Daubert* less than helpful. Although no case in Minnesota has specifically rejected *Daubert*, the *Frye-Mack* general acceptance approach remains the prevalent standard in Minnesota. *Goeb v. Tharaldson*, 615 N.W.2d 800 (2000).

Criminal law, particularly DNA testing, has provided the cases to further flesh out the *Frye-Mack* analysis. Recently, in *State v. Traylor*, 656 N.W.2d 885 (Minn. 2003), the court held the first prong of *Frye-Mack* – general acceptability – was met by the PCR-STR DNA testing presented by the prosecution. “It is clear that PCR-STR technology, as a method of DNA typing for forensic identification, is generally accepted in the relevant scientific community.” The court renewed its continuing commitment to *Frye-Mack*, noting that the general acceptance test confers a significant benefit on the district court. It “ensures that the persons [namely, scientists] most qualified to assess scientific validity

of a technique have the determinative voice.” *Goeb*, 615 N.W.2d at 813. Such an approach avoids the problem that many commentators see as inherent in *Daubert*, namely, that such an approach “takes from scientists and confers upon judges *** the authority to determine what is scientific.” *Goeb*, 615 N.W.2d at 812. Finally, the *Daubert* approach, based as it is upon the evidentiary discretion of the district court, allows only for an abuse of discretion review at the appellate level. *See General Electric Co. v. Jointer*, 522 U.S. 136, 142-43 (1997). The *Frye-Mack* standard, in contrast, allows for more rigorous appellate review:

[U]nder the *Frye* prong of the *Frye-Mack* standard, the trial judge defers to the scientific community’s assessment of a given technique, and the appellate court reviews de novo the legal determination of whether the scientific methodology has obtained general acceptance in the scientific community. *Goeb*, 615 N.W.2d at 814.

The *Traylor* court next addressed the second prong of the *Frye-Mack* test – foundational reliability. In *Schwartz*, the court noted that “[r]eliability is particularly important in a criminal proceeding because a suspect may face the loss of liberty due to DNA identification.” 447 N.W.2d at 426. Moreover, it was recognized that “specific DNA test results are only as reliable and accurate as the testing procedures used by the particular laboratory.” *Id.* Thus, in determining the foundational reliability of a laboratory’s DNA testing methodology under the *Frye-Mack* standard, the court looked at “whether the laboratory conducting the tests in the individual case complied with appropriate standards and controls.” *State v. Roman Nose*, 649 N.W.2d 815, 819 (Minn. 2000). The district court in *Traylor* found that the standards of the DNA Advisory Board (DAB) superseded the previously recognized Technical Working Group on DNA

Analysis Methods (TWGDAM) guidelines and thus were the appropriate standards and controls a court should examine in determining foundational reliability. The district court further concluded that the BCA was in full and total compliance with the DAB standards. The Minnesota Supreme Court found no abuse of discretion by the district court admitting the evidence under the second prong of foundational reliability. DNA testing is the simple truth, but only if built upon a reliable foundation.

Even more recently, in *State v. Bailey*, 677 N.W.2d 38 (Minn. 2004), with six justices writing various opinions, the majority reversed the district court's findings as "insufficient to satisfy fully the second prong of the *Frye-Mack* standard for the admission of DNA results where the Bunsen burner technique has been used." The district court had allowed expert testimony on the Bunsen burner technique although troubled that the BCA had failed to conduct a validation test on it. The Minnesota Supreme Court remanded the case to the district court for a *Frye-Mack* hearing, finding:

The second prong requires proof of foundational reliability of the operating procedure as actually applied in the specific case. The district court did find the Bunsen burner technique was reliable, but that determination was tenuous because of the absence of validation studies and the reliance upon the state's claim of 10-15 successful uses, a claim that remains unsubstantiated. Further, the district court did not address the factual dispute concerning whether the DAB standards require validation studies for such an operating procedure. Finally, the district court's holding that "it would be pure speculation for the Court to conclude that the Bunsen burner was primarily responsible for the partial DNA profile obtained" (i.e., that it damaged the sample), improperly shifts the foundational burden away from the state.

Minnesota's concerns about foundational reliability are well-founded. According to Dr. Tom O'Connor:

The misuse of scientific evidence is a serious problem. Even the FBI laboratory is under suspicion. In West Virginia, a serologist falsified test results in hundreds of cases over a ten-year period, sentencing hundreds of defendants to lengthy prison terms. In Texas, a pathologist faked autopsy results, resulting in as many as 20 death penalty verdicts. A police chemist elsewhere falsified reports and sent hundreds of innocent people away to jail on rape charges. Most misuse of scientific evidence is pro-prosecution (see fn 4).

Due to the limited standard of review in federal court, it is important to note the trial court's decision to admit or exclude expert testimony will not be reversed unless the trial court abused its discretion. *Beech Aircraft Corp. v. United States*, 51 F.3d 834, 841 (9th Cir. 1995). The trial attorney should realize he must win at the federal trial level. Lose there, and your case is all but over. In Minnesota, by contrast, although foundational reliability is reviewed only for abuse of discretion (*Goeb*, 615 N.W.2d at 815), general acceptance is reviewed de novo. *Traylor, supra*.

In 2000, Rule 702 of the Federal Rules of Evidence was amended to add qualifiers relating to reliability, allowing testimony by experts only if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. Rule 702 of the Minnesota Rules of Evidence is now quite different from its federal counterpart in language, as well as construed by common law. Minnesota's Rule 702 remains unchanged from 1977 as of this writing.

No matter what test the court applies to determine whether or not your proffered expert testimony is admitted, consciously or unconsciously, the court will really be

searching for the simple truth. Whether using the original *Daubert* factors themselves or one of the many others used since, the quest remains the same. Within five years after *Daubert*, two cases by the United States Supreme Court gave federal district courts the freedom to develop additional factors as required to determine evidentiary reliability.⁵ Since then, courts have developed additional reliability factors.⁶

In summary, for appellate review, using the new Rule 702, federal trial judges are free to seek the simple truth under penalty of review for abuse of discretion only. Minnesota trial judges must be assured of general acceptance by the scientific community with de novo appellate review, although foundational reliability remains reversible only if they abuse their discretion.

Ensnared in different words, seeking guidance through its self-described “twilight zone”, the District of Columbia Circuit Court in 1923 was just afraid to buy into the systolic blood pressure deception test. Scientific evidence is not the only concept which causes the judicial system to head for the hills. For example, when faced with matters of national security, our courts become tremendously deferential to the executive

⁵ *General Electric v. Joiner*, 522 U.S. 136 (1997); and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999).

⁶ Whether the expert has adequately accounted for obvious alternative explanations, *Michaels v. Avitech, Inc.*, 202 F.2d 746, 743 (5th Cir. 2000), cert. denied, 531 U.S. 926, 121 S.Ct. 303, 148 L.Ed.2d 243 (2000). Whether the expert has employed the same care in reaching the litigation-related opinions as the expert employs in performing his or her regular professional work. *Sheehan v. Daily Racing Form, Inc.*, 104 F.3d 940 (7th Cir. 1997), cert. denied, 521 U.S. 1104, 117 S.Ct. 2480, 138 L.Ed.2d 989 (1997). Whether there is “too great an analytical gap” between the data and the opinion. *General Electric Co. v. Joiner*, 522 U.S. 136, 144, 118 S.Ct. 512, 519, 189 L.Ed.2d 508 (1997). The experience of the expert. *Pipitone v. Biomatrix, Inc.*, 288 F.3d 239, 247 (5th Cir. 2002). All these factors can be helpful means of assessing whether Rule 702 reliability tests have been met as well.

branch (and military) of our government. *See, e.g. Kiyoshi Hirabayast v. United States*, 320 U.S. 81 (1943). I believe this is what the founding fathers intended when they formulated the concept of balance of powers and codified it in our Constitution. However, science has no place in the law like our Constitution. Although both science and the law ultimately seek the truth, science works with nature and the law works with human nature, the former being much more reliable than the latter. In the course of discovering the truth in nature, humans are often baffled by theories which seem to explain something we desperately want explained. Wouldn't the law be simpler with a reliable lie detector? Of course it would. Unfortunately, science didn't have one in 1923, didn't produce one in 2004, and according to Gene Roddenberry, didn't even have one yet during the riveting trial of Christopher Pike in the two-part Star Trek episode: "The Menagerie."

We recently believed that playing chess was too complex to teach to computers, but chess is a simply the weighing of millions of alternatives, a job particularly well-suited to a computer. Although computers today can't beat all humans every time in chess, soon they will never lose to any of us. I submit that the concepts of truth telling

and lying are infinitely more complicated than playing chess. Therefore, the invention of a deception detector⁷ is justifiably met by any system of justice with skepticism. Hence, the *Frye* test of general acceptance was born.

There are similar problems encountered when searching for the simple truth through hypnosis revived memory, handwriting analysis, or the host of new product liability causation experts' unconfirmed theories about dangerous medical products. Science is providing us with new simple truths at a rate unimaginable when *Frye* was decided, like DNA testing, the intoxilyzer, paternity blood testing, and computerized fingerprinting (and soon iris photography). Simple truths are admissible, so long as the testing is reliable. However, because of the proliferation of junk science and junk scientists well aware of the high prices trial lawyers will pay for favorable expert testimony, judicial gatekeepers were born. There is a lot of expert testimony still being offered which is neither simple nor the truth to keep them busy.

When religion is allowed into the mix, the clash between science and religion as humans seek the simple truth makes a mockery of justice. In 1530, Nicolas Copernicus completed and gave the world his work *De Revolutionibus*, which asserted that the earth rotated on its axis once daily and traveled around the sun once yearly.⁸ At the time, it

⁷ Science continues its quest for a deception test, now proposing the “Silent Talker” developed at Manchester Metropolitan University in England, which uses “microgestures” of the face, and is said to be “80% accurate”, and using electrical brain wave responses, known as P300, with devices like the MERMER® (memory and encoding related multifaceted electroencephalographic response), at <http://www.brainwavescience.com/research.php>

⁸ Biographies, Nicolas Copernicus (1473-1543), at <http://64.70.157.91/Literature/Biographies/Science/Copernicus.htm>

was feared that believing Copernicus might lead humans to think they are part of nature and not made in the image of God, and the simple truth Copernicus discovered ran counter to the theories of the politically powerful churchmen of the sixteenth century. Giordano Bruno believed the simple truth of Copernicus and further suggested space was boundless and the sun and its planets were only one of many similar systems. For his blasphemy, Bruno was tried before the Inquisition, condemned, and burned at the stake in 1600. Galileo, another believer, was brought forward in 1633, but his life was spared after he renounced all belief in Copernican theories. He lived the rest of his life in prison. So much for the simple truth in the good old days. As Goethe concluded:

Of all discoveries and opinions, none may have exerted a greater effect on the human spirit than the doctrine of Copernicus. The world had scarcely become known as round and complete in itself when it was asked to waive the tremendous privilege of being the center of the universe. Never, perhaps, was a greater demand made on mankind – for by this admission so many things vanished in mist and smoke! What became of our Eden, our world of innocence, piety and poetry; the testimony of the senses; the conviction of a poetic-religious faith? No wonder his contemporaries did not wish to let all this go and offered every possible resistance to a doctrine which in its converts authorized and demanded a freedom of view and greatness of thought so far unknown, indeed not even dreamed of.

The simple truth known only to Copernicus 500 years ago is now understood and accepted by most American third graders. But with all of the simple truths thrown at our beleaguered trial judges in the names of science and the almighty dollar, is it any wonder we need gatekeepers?

Another example of the mockery made of justice when science and religion clash is evolution and The Scopes Monkey Trial. In 1925, Tennessee charged John Scopes with illegally teaching Darwin's theory of evolution. At the time, fifteen states banned

the teaching of evolution in their schools because it ran contrary to the biblical story of divine creation. Whether evolution is a simple truth is still debated today.⁹

So what is a hard-working trial lawyer trying to establish scientific causation with relevant and reliable expert testimony to do? First and foremost, don't make it up, help your expert make it up, or even tolerate any attempt by your expert to make it up. Although extremely practical and exceedingly simple in concept, the systolic blood pressure deception test didn't cut it. It wasn't the simple truth. Trying to get a machine to determine whether or not a human is telling the truth is like trying to imagine a machine lying; it doesn't fit, intuitively or logically, *2001 A Space Odyssey* notwithstanding.

Which brings me back to *Daubert*. I think it was the unpublished "reanalysis" of others' published studies with their epidemiological data which most troubled the courts. Using statistics to infer the conclusions we want was a mainstay of twentieth century science and politics, and shows no sign of abating soon. Pure mathematics is the simple truth. The science of statistics was spawned from mathematics, but it is malleable, and hardly the simple truth. I forget who said, "There are lies, damned lies, and there are statistics." Courts, and the attorneys who offer evidence to them, must be particularly vigilant when their experts rely on statistical evidence as a basis for their testimony.

It is no coincidence that reliability is a central concern of our system of justice. Proof is often an inference from something known or assumed. It answers the who? what? where? and how? for which we trial lawyers live. Often the revelation of the

⁹ See "Was Darwin Wrong?", National Geographic Magazine, November, 2004 (which concludes at p. 30, with respect to evolution, "the certainty that Darwin was right").

simple truth in a case is accompanied by a physical sensation - from warm fuzzies to an epiphany. No such emotions usually accompany an inference from statistical data. I view statistics as a crude, albeit useful, tool for the discovery of the simple truth. Statistics should be treated with healthy suspicion and skepticism, however, and our system of justice has always done so. Lie detectors? Reanalysis of someone else's data to fit the conclusions sought by your benefactors? I don't think so.

Britannica Online defines statistics as a "branch of mathematics dealing with gathering, analyzing, and making inferences from data." Statistics were originally associated with government data, like the census. Since *Frey*, data available for statistical analysis has grown exponentially. Most separate departments for statistics at major colleges are less than 50 years old. Despite their academic infancy, statistical applications are now an integral part of all the sciences. Statistical tools not only summarize past data but serve as predictors of future performance, though reliability varies greatly.

So when any part of your expert testimony relies on statistics, do your homework. Test your expert testimony using the reliability factors of Rule 702 of the Federal Rules of Evidence and the *Daubert* factors – the original four and all their progeny. Turn the tables on your opposition when expert testimony is offered against your client's case. The unreliability of statistical inference is the primary reason we need good cross-examiners as well as gatekeepers.

Daubert itself recognized the importance of whether the expert testimony is based on research the expert has conducted independent of the litigation. *Daubert v. Merrell*

Dow Pharmaceuticals, Inc., 43 F.3d 1311, 1317 (9th Cir. 1995), cert. denied, 516 U.S. 869, 116 S.Ct. 189, 138 L.Ed.2d 126 (1995) (*Daubert II*). In *Ambrosini v. Labarraque*, 101 F.3d 129, 139 (D.C. Cir. 1996), cert. dismiss'd, 520 U.S. 1205, 117 S.Ct. 1572, 137 L.Ed.2d 716 (1997), the court noted as a factor favoring admissibility that plaintiffs' expert witness had previously testified to his opinion regarding causation in a public hearing that had no connection to the plaintiffs' litigation.

Many other factors make expert testimony suspect, and ripe for rigorous cross-examination. You are paid \$1,500 per hour for your deposition testimony, doctor? And defense counsel has referred hundreds of patients to you for examination by you? And you have found no permanent injury suffered by any of the persons you examined referred to you by defense counsel? You get the idea.

Non-statistical expert evidence is somewhat easier to admit, as it should be. Calling an experienced, published, and impressively credentialed accountant or lawyer to testify against her peers automatically satisfies (2) and (4) of the *Daubert* factors, and (1) and (3) don't really apply. Pay careful attention to the three Rule 702 reliability factors and your expert testimony should be admitted. Accountants/economists/actuaries testifying about damages, or tradesmen, doctors, or other practitioners testifying about what they practice, can be evaluated by an old-fashioned general acceptance test. *Daubert* and *Frye-plus* standards have their genesis, and hence should have the brunt of their application, limited to science, particularly when statistics are relied upon.

So how have our courts been doing with admissibility of expert testimony the last ten years? According to the Rand Institute for Civil Justice:¹⁰

The RAND study found that in the initial years after *Daubert*, all five [sic] *Daubert* factors came up more frequently in judges' discussions of reliability. Over time, judges increasingly mentioned other factors in their decisions, such as the clarity and coherence of the expert's explanation of the theory, methods, and procedures underlying the evidence.

Because *Daubert* de-emphasized the importance of the testimony's "general acceptance" by the expert community, some legal observers initially expected the decision to increase the admissibility of "novel science" that was not yet widely accepted. The report's authors did not find this to be the case. They found that lack of general acceptance was as much a barrier to admission after *Daubert* as it was before. What's more, they found that general acceptance was no longer sufficient for evidence to be found reliable. After *Daubert*, judges began to find evidence unreliable even though it was generally accepted.

In the early years after *Daubert*, when there was uncertainty about whether the ruling applied to just "hard science" or all expert evidence, judges focused most of their increased scrutiny on evidence from the physical sciences. However, they gradually began looking more closely at all types of expert evidence. These changes predated the Supreme Court's 1999 decision in *Kumho Tire Co. v. Carmichael*, which affirmed that judges were to assess the reliability of all expert evidence.

Judges were not only more rigorous about assessing reliability of the evidence after *Daubert*, they were also more rigorous about assessing relevance and expert qualifications. Once judges began acting as more watchful gatekeepers, they examined all dimensions of the evidence more closely.

The RAND study also found challenges to expert evidence to be increasingly fatal to a case. However, the RAND study itself is flawed in its analysis and therefore unreliable. First, it studied changes since *Daubert* (1993) by "conducting a statistical

¹⁰ *Changes in the Standards for Admitting Expert Evidence in Federal Civil Cases Since the Daubert Decision*, by Lloyd Dixon And Brian Gill, see *The Rand Institute for Civil Justice Research Brief* at <http://www.rand.org/publications/RB/RB9037/>

analysis of data gathered from 399 federal district court opinions written between 1980 and 1999,” apparently with no explanation of its before and after methodology. Second, it added a fifth *Daubert* factor of unspecified genealogy: “the existence and maintenance of standards controlling the particular technique’s operation.” Caveat scriptor.

To us trial lawyers, it is clear our gatekeepers are taking their roles very seriously. Because juries are so conservative these days, do they even need gatekeepers? Isn’t the hype about ridiculous jury verdicts and fast food lawsuits enough? Perhaps gatekeeping is partially a response to the public perception that America is lawsuit crazy. Whatever your opinion, be mindful that just because your expert says it, doesn’t make it so. Although treatises, law review articles, cases, and websites will continue to attempt to define what constitutes admissible expert testimony, remember that the search for the simple truth should be guided by the feelings in your heart and gut as well as by the words you are following in your head.