

The Expert Witness in Medical Malpractice Litigation: Through the Looking Glass

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Abstract

Neurologists have professional, ethical, and social obligations to ensure that expert witness testimony is reliable, objective, and truthful. In the past, an absence of professional regulatory oversight combined with immunity from civil litigation allowed the partisan expert to flourish. This is no longer the case. The expert witness unquestionably faces an increasingly perilous liability climate, and must be cognizant of the legal rules and procedures. The authors provide guidelines with risk management strategies for the neurologist serving as an expert witness.

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Expert Witness History

“If I got myself an impartial witness, I’d think I was wasting my money.” So said the trial lawyer known as the King of Torts, Melvin Belli.¹

Despite ethics codes, expert witness guidelines, and platitudes by the thousands about trials being the pursuit of truth and justice, a great many judges, jurors, and lawyers perceive expert witnesses on both sides as bias partisans.²

This perception is not new. For almost as long as expert witnesses have been called to the witness stand by the parties to the litigation, judges, jurors, lawyers, and the general public have bemoaned the fact that experts were shills, hired guns, prostitutes, mere actors on a stage, and other epithets. As early as the 19th century, after parties were allowed to call experts to support their arguments, observers criticized the use of experts pointing to the common perception that an “expert could be found who would testify to anything absurd.”³ In the 20th century in the United States, substantial discussion occurred about parties’ uses of experts, with one Yale professor likening lawyers’ manipulation of experts to playing the saxophone, the lawyer not only picking the tune but then manipulating the expert as if the expert were a musical instrument on which the lawyer sounded the desired notes.⁴

But experts were not always so vilified nor were they called by the parties to the litigation. The first use of an expert witness in a trial probably dates back to 14th-century England when judges called surgeons to court to provide opinions to assist the court.⁵ This use of an expert’s opinion was a radical departure from procedure. Traditionally courts required witnesses to testify to facts only, no opinions. The judge (later the jury) was required to draw inferences and form opinions based on the facts related by all of the witnesses.

This practice of the court calling on experts continued through the centuries as it slowly expanded to include not only

doctors but merchants and others considered by courts to have expertise bearing on the facts of a particular case. At the same time, English common law transformed away from a judge-dominated system and into an adversarial system. The practice of the courts calling on experts gave way to experts being called by the parties to the controversy. By the late-18th century this practice was well established in England⁶ as well as the United States, which for the most part adopted the English common law system of jurisprudence.

In the early English courts, suits against the medical practitioners of the day were among the first to use expert testimony to establish the standard practice that the defendant medical practitioner should have followed. The 1767 case of *Slater v. Baker & Stapleton* first established the concept of judging a surgeon by the professional standard as testified to by surgeons themselves.⁷ Slater filed an action against surgeon Baker and apothecary Stapleton for improper management of a leg fracture. Stapleton was to remove the bandages but called on Baker and together they “ignorantly and unskilfully [*sic*] broke and disunited the callous of the plaintiff’s leg after it was set.”⁸ Slater produced physician witnesses who testified that the defendants failed to follow standard medical practice. Lord Chief Justice Wilmot concluded that physicians and surgeons were to be judged by “the rule of the profession,” and awarded Slater £500.⁹ This basic concept of using expert testimony to

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establish claims against professionals matured over the centuries but the fundamental principle of *Slater* is the foundation for the modern Rules of Evidence followed in many countries today.

In the United States, medical malpractice suits were virtually unheard of before the late 1830s. In fact, there were only 216 reported appellate opinions from 1790 to 1900. Although trial courts could have tried other malpractice cases they were not appealed, and a small number of published opinions suggest the decided lack of cases requiring doctors to testify against other doctors.¹⁰ New York State seemed to be the exception. In the 1850s, the growing numbers of medical malpractice suits caused one physician to write about the spirit of persecution across the state where lawsuits were being filed without reason or grounds.¹¹ Following English law, physicians were called as expert witnesses by the parties much like they are today. The rules related to expert testimony became increasingly refined as more and more malpractice cases reached the courts, so that by the turn of the 20th century medical malpractice suits were being tried much like they are today.¹²

The use of expert witness testimony was not without considerable controversy in both England and the United States as the 20th century began.¹³ Controversy primarily revolved around the fear that judges, and in particular jurors, would succumb to the aura of paid experts who, with genuine solemnity, would be testifying about “science” that had little if any validity. A typical jury had no basis on which to distinguish legitimate science from quack theories. For that matter, judges, trained primarily in law, also had little basis on which to distinguish legitimate science. The problem was exacerbated because judges and jurors with no expertise in technical and scientific matters tended to give deference to well-credentialed experts or those associated with prestigious universities and institutions. Thus, experts with the aura of infallibility could overwhelm common sense, allowing the expert to offer untested or even invalid theories as proven science. The problem encompassed judges because under the rules developed in most federal and state courts they were expected to make an initial determination whether the expert’s testimony was relevant and reliable before allowing the jury to hear the testimony. The judge’s acceptance or rejection of the evidence oftentimes was outcome-determinative because a prestigious expert’s testimony once admitted made the jury’s decision a foregone conclusion. Evidence law in the federal and state courts provided little guidance to judges as to how to determine whether the science being offered was reliable or if the expert’s testimony was relevant. Most of the guidance that did exist was found in case-by-case determinations by various courts, with the predictable result that no meaningful bright line guiding principles emerged.¹⁴

Frye, Daubert, and the Federal Rules of Evidence

Early Criteria for Admissibility

Finally, in 1923 the famous *Frye v. United States* case was decided.¹⁵ *Frye* dominated scientific-medical testimony for the

next 70 years until mostly supplanted by *Daubert v. Merrell Dow* in 1993.¹⁶

Frye was a murder case. The defense attorney offered evidence of a “systolic blood pressure deception test,” an early version of the modern lie detector. The trial court refused to allow the witness to testify. On appeal, the DC Circuit Court confronted the conundrum of when a novel scientific procedure would be admissible in evidence. Stated otherwise, exactly when does experimental science cross over to become mainstream science? The court settled on the phrase “general acceptance in the particular field in which it belongs,” concluding that the blood pressure detection test had not gained such general acceptance in the scientific community and was therefore not allowed into evidence.

Although the general acceptance in the relevant scientific community principle seems simple enough, its implementation to individual cases and especially the explosion of scientific discoveries after 1923 confounded virtually every court. *Frye* was highly criticized but the reality was that for 70 years no court ever developed a workable alternative and the majority of American courts followed *Frye* albeit with some individual modifications. Essentially, the *Frye* rule required some minimal number of experts to have examined and generally accepted a particular scientific theory or technique. Proof of validity was not required, only general acceptance. In 1993, *Frye*’s reign ended with the Supreme Court’s *Daubert* opinion. *Daubert* did not totally abandon *Frye*’s “general acceptance” but, as we will see, added several factors to the *Frye* test, factors that federal courts and many state courts almost universally consider before allowing scientific evidence, including medical testimony, into a courtroom.

Ultimate Issues and Hearsay

Before looking at the *Daubert* admissibility rules, there are two important evidence rules affecting expert witnesses that all experts should know before giving testimony.

In the beginning, as has been noted, expert testimony was a radical departure from the rule that all witnesses were required to testify about facts only—that is, what they had perceived directly with their own senses of sight and hearing (although on occasion the other 3 senses might also have been involved). Nevertheless, despite the exception made for expert opinions, early courts were still reluctant to admit non-fact-based testimony. Thus, many common law procedures evolved in order to confine expert opinion testimony to a very narrow alley of admissibility. These procedures were strict rules of form that often excluded expert testimony because one or two magic words were omitted.

The first rule was that the facts on which an expert’s opinion was based had to be testified to by fact witnesses with personal knowledge before the expert opinion could be given. After all the facts were in evidence, the expert could be asked a hypothetical question that was required to subsume all of the “facts.” Then the expert could express an opinion. Hypothetical questions were not only boring and confusing, but they

were also complex, repetitive and time-consuming. As one commentator noted, "In a recent case . . . a typewritten hypothetical question which required 22 minutes to read was propounded with great seriousness to four consecutive medical witnesses . . . by noon the attorney had lost his voice, the judge was reading a brief in another case and the jury was mentally scattered between Yankee Stadium . . . and Malibu."¹⁷

Just as important, courts were very careful to prevent experts from "invading the providence of the jury" or, stated another way, giving opinions on the ultimate issues that the jury would be asked to decide. In a negligence case, for example, experts could not give an opinion on whether injuries were caused by an accident, or that a doctor's conduct was negligence or below the standard of care.

The second rule involved hearsay information obtained by the expert. Simply stated, hearsay is an out-of-court statement offered to prove the truth of the matter contained in the statement. The hearsay rule has as many exceptions as there are stars in the universe, but in general, as everyone knows, hearsay is inadmissible in a court. And experts were no exception. The hearsay rule prevented an expert from disclosing information obtained outside of court. For example, an obstetrician delivering a baby could have been told by the husband that his wife's water broke 2 days before coming to the hospital. The physician's decision to immediately do a cesarian section based on the information would seem reasonable. In court, however, the hearsay rule excluded this information and the doctor's decision appeared to jurors to be unsupported by the evidence.¹⁸

These problems faced by litigants using experts in court were not ameliorated until passage of the 1975 version of the Federal Rules of Evidence and the subsequent modernization of the states' evidence rules. Today, many states follow the federal rules or some variation thereof. The modern trend in both federal and state courts since 1975 has been to allow expert witnesses to express opinions directly on ultimate fact issues like negligence, proximate cause, damages, and almost all other fact issues that were formerly considered "invading the providence of the jury." Modern evidence rules also now allow an expert opinion to be based on facts or data made known to the expert at or before the trial. No more hypothetical questions. If the facts and data are of a type reasonably relied on by experts in the particular field, the facts or data need not be admissible in evidence. The expert may also disclose whatever hearsay is the basis for an opinion—not for its truth, but to allow jurors to evaluate the credibility of the opinion.¹⁹ These changes will be discussed in later sections. It should be noted that the liberalization of the evidence rules resulted in a modern-day cottage industry—expert witnesses—and was one of the factors ushering in the era of mega personal injury verdicts, as well as the medical malpractice crises of the 1970s, 1980s, and beyond.

Experts Dominate Modern Trials

In essence, under the modern evidence rules there are very few formalities of expert testimony. An expert can give opinions in any manner the trial court allows and the expert chooses, as

long as the opinion is relevant, reliable, and confined to the expert's field of expertise.²⁰ The states all have differences in their evidence rules and court procedures, but virtually all have updated their rules and procedures so that in litigation today expert witnesses dominate the courtroom as never before, in both civil and criminal trials. Studies have documented experts of some kind being called in more than 80% of civil cases, with an average of 4 experts per case.²¹ Expert domination should not be surprising given our complex society, the dominance of the civil and criminal court system for solving cultural problems, and the dominance of science and medicine in daily life. Entire new fields of expertise have been developed as a result of litigation—life care planners, accident reconstruction experts, forensic psychiatrists, and many others.

Even more important to our inquiry is physician courtroom testimony. Physicians of all specialties are a staple of trials of all kinds, but especially personal injuries, product liability, vehicle accidents, workers' compensation, medical malpractice suits, and even legal malpractice suits, because of the case-within-a-case requirement; even certain criminal cases (child abuse, sexual assault). All of these have a common element—medical evidence is essential. Surveys over the past two decades reveal that physicians or medical professionals comprise 40% to more than one-half of the testifying trial experts.²²

Liberalized expert evidence rules and the litigation expert witness proliferation, however, also ushered in the era of "junk science," a term made popular by the court decision that halted the golden age of unfettered expert opinions based on nothing more scientific than an expert's bare *ipse dixit*—trust me, I'm a doctor—*Daubert vs. Merrill Dow Pharmaceutical Company*. But *Daubert* did not come along until 20 years after the evidence rules were liberalized. In the interim, expert medical opinions proliferated exponentially, especially in the mass tort arena, where manufacturers were sued in multiple thousands of cases and paid billions in verdicts and settlements—breast implants,²³ Bendectin,²⁴ pertussis vaccine,²⁵ to name just a few—the common themes being flamboyant trial lawyers, self-promotion, multiple hundreds of millions of dollars in attorneys' fees, and expert witnesses willing to make the medical causation connections based more on expert witness fees to be earned than on science. And among the prime contributors to the junk science parade were Federal Rules of Evidence 702-705 and the corresponding equivalents in many states. These rules are today little changed from the original rules in 1975 and, except for the limits finally imposed by *Daubert* and its progeny, are still operational today. Any expert would benefit from at least a passing knowledge of these rules.

The Federal Rules of Evidence²⁶

Evidence rules or codes are a relatively new phenomenon in jurisprudence. Until the 1975 promulgation of the Federal Rules of Evidence, evidence rules were developed in appellate court decisions on a case-by-case basis. Evidence law is nothing more than a determination of what "facts" the judge will allow a jury to use to reach a verdict. Historically, the evidence

decisions reflected a marked distrust of juries and a fear that jurors would be unduly influenced by certain types of evidence—hearsay, prior criminal convictions, character evidence, religious beliefs. Primary among the fears, as we have seen, was opinion testimony, especially expert testimony.

In the 20th century, however, academic legal scholars began to protest the evidence restrictions, arguing that all relevant evidence should be admitted and the jury trusted to use the evidence appropriately. After protracted academic, legislative, and judicial debate, the Federal Rules of Evidence were formally promulgated in 1975. The states, free to adopt whatever rules they desired, almost all followed the Federal Rules of Evidence in whole or in part. Thus, no matter where an expert testifies, he or she should ask about a particular jurisdiction's rules on expert opinion testimony and how they differ from the Federal Rules of Evidence.

The essential rules governing expert opinions are the Federal Rules of Evidence 702-705. To summarize, these rules were a radical departure from centuries of prior evidence law. The new rules provide that a witness qualified by knowledge, skill, experience, training, or education can testify by opinion or otherwise about scientific, technical, or specialized knowledge if the testimony will assist the jury to understand the evidence (Rule 702); an expert can base an opinion on facts or data personally observed or that have been made known to him or her, and the facts or data can be evidence that is inadmissible as long as experts in the particular field would reasonably rely on the facts or data in forming opinions on the subject (Rule 703); an opinion is not automatically objectionable just because it embraces an ultimate issue (to be decided by the jury) (Rule 704); and an expert can state an opinion and give reasons for the opinion without first testifying to the underlying facts or data (on cross-examination, the expert could be required to disclose the facts and data) (Rule 705).

Liberalized evidence rules were no doubt noble in purpose, but crafty lawyers and expert witnesses quickly took full advantage of the new rules, especially in product liability, environmental, and mass tort cases, but also in ordinary medical liability and personal injury cases. Experts were unfettered in uttering opinions based on little more than personal beliefs and personal unpublished data untested by peer review and unrestricted by the scientific method. The breast implant litigation is perhaps the best of many examples of how billions of dollars were legally extracted from manufacturers based on newly modified evidence rules allowing judges to admit into evidence untested, erroneous expert opinions.²⁷

Although evidence rules appear black and white, they are anything but. In fact, the new rules made admission of evidence more dependent on a trial judge's philosophy than on empirical analysis. As so often expressed in court opinions, evidence decisions would not often be questioned because admission of evidence was within the sound discretion of trial judges. This attitude gave new meaning to the legendary litigator Roy Cohen's remark: "Don't tell me what the law is. Tell me who the judge is."

From this milieu came the Supreme Court's *Daubert* opinion. *Frye* was not working. More guidance was needed.

Daubert did not change the Federal Rules of Evidence on opinion testimony; it simply made judges into scientific gatekeepers or, as Chief Justice Rehnquist said in his *Daubert* dissent, amateur scientists, even though many lacked, in his opinion, the scientific literacy to do the gatekeeping job.²⁸

The *Daubert* Opinion

The most significant court decision involving expert witness testimony was decided by the United States Supreme Court in June 1993. The *Daubert* case applied only in federal courts, but in the 20 years since its publication, the gates that experts must now open before being allowed to testify have been adopted to a greater or lesser extent by most states, either by case law or by evidence code, so that no matter where in the country an expert appears to testify, he or she will face some *Daubert*-derived hurdles. Thus, every expert should have some familiarity with *Daubert* concepts before testifying and be informed on the particular state's variations of *Daubert's* criteria. In particular, every expert should know what makes up a state's *Daubert* challenge, a generic reference to the procedure used to "strike" an expert and prevent the expert from testifying in the case. It is now standard procedure to ask any expert during discovery depositions if they have ever been "struck" by a court in a *Daubert* challenge. If so, counsel opposing the expert will make every effort to use that against the expert. Being struck is something every expert wants to avoid. It can be a permanent stain. More about a *Daubert* challenge after looking at what *Daubert* did to expert evidence law.

The Essence of *Daubert*

Since *Daubert's* publication, millions of words have been written—in published opinions, law reviews, medical journals, magazine articles, and blogs—analyzing *Daubert's* application to expert testimony. To review all of these cases and articles would be impossible and futile. A brief review of *Daubert's* essence and how the expert testimony rules are generally applied today should provide an expert witness with some understanding of the preparation necessary before appearing to testify.

As we have seen, *Daubert* arose in an era when trial courts were allowing into evidence what critics were calling self-created litigation theories that were not scientific at all. The *Daubert* facts are a good example of what expert evidence was being offered as valid research. Jason Daubert and Eric Schuller had been born with serious birth defects. Their parents claimed Merrill Dow's nausea drug, Bendectin, taken by their mothers during pregnancy, was the cause. Merrill Dow cited the fact that there was no published scientific data or study demonstrating links between Bendectin and birth defects. The claimants, however, produced experts who had done in vitro experiments and in vivo animal studies, pharmacologic studies, and a reanalysis of published studies, all of which, they claimed, proved Bendectin caused birth defects. The trial court, based on *Frye*, said the experts' methodologies had not gained

acceptance within the general scientific community. The court also noted the fact that the experts had done their experiments and reanalysis primarily in preparation for litigating the Bendectin causation issue. Thus, the trial court would not allow the experts to testify. In the Supreme Court, plaintiffs argued that the 1975 Federal Rules of Evidence did away with the *Fyre* test and substantially expanded expert testimony admissibility such that their experts' conclusions and opinions should have been allowed into evidence.

The Supreme Court agreed that *Fyre*'s "general acceptance" test was no longer the prevailing test. The court, however, developed the series of tests now known by the *Daubert* name finding that the plaintiff's experts' evidence was unreliable and therefore inadmissible. In the process, the *Daubert* court made the phrase "junk science" famous. In essence, the Supreme Court made trial courts into scientific gatekeepers, holding that only reliable expert opinions should be admitted into evidence. Reliable evidence, according to the court, required some objective, independent validation of an expert's methodology. No longer would an expert's bare assurance that he or she had utilized generally accepted scientific methodology be sufficient. Nor would an expert's subjective belief or unsupported speculation be a substitute for real science.

The *Daubert* nonexclusive checklist for courts to use in assessing the reliability of proffered scientific expert testimony includes (1) whether the theory or technique can be tested—that is, whether the theory can be challenged in some objective sense, or whether it is instead a subjective, conclusory approach that cannot be assessed for reliability; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether the technique has a known or potential rate of error; (4) whether the theory enjoys "general acceptance"; (5) whether there are standards and controls used that have been established to be reliable; and (6) whether the method has been put to nonjudicial uses.²⁹ *Daubert* essentially held that *Fyre*'s general acceptance test was not adopted by the Federal Rules of Evidence, although general acceptance was among the criteria. In essence, the court wanted broader but flexible guidelines for what scientific evidence would be deemed reliable for the courtroom.

The *Daubert* decision today and its criteria are actually a trilogy of US Supreme Court cases. In 1997, the court added to the analysis in *General Electric Company v. Joiner* holding that expert testimony should be excluded when there is too great of an analytical gap—whether the expert unjustifiably extrapolated from an accepted premise to an unfounded conclusion.³⁰ In 1999, *Kumho Tire* applied the judge's *Daubert* gatekeeping function to all expert testimony, including non-scientific.³¹ Subsequent cases in both federal and state courts now provide an extensive legal framework for experts testifying in court. But the courtroom is not necessarily the only place a neurologist can act as an expert, nor is a judge or court the only authority to whom a neurologist could have to answer as a result of having provided expert testimony. Before looking at the current legal framework for expert testimony in court, all neurologists need to be aware that the American Academy of

Neurology has promulgated a broad definition of expert testimony, a definition going beyond the courtroom and with potential adverse consequences.

The American Academy of Neurology Defines Who Is an Expert

The American Academy of Neurology's definition of expert testimony goes beyond the usual thought of what constitutes expert involvement:³² (1) medical evaluation of a party to a legal proceeding, including personal interview and examination and/or review of medical records or other pertinent data (including laboratory tests and imaging studies); (2) formulating an expert opinion based on such evaluation; and (3) communicating such an opinion to attorneys, courts, licensing boards, peer-review bodies, or other agencies, whether in the form of testimony in court, deposition, answers to interrogatories, or affidavit.

By the American Academy of Neurology's definition, providing an affidavit stating that a fact situation indicates grounds for a malpractice lawsuit, as required in many states before a suit can be initiated, would constitute expert testimony, even though the neurologist had no intention of actually testifying in court.

The American Academy of Neurology also specifies 4 criteria that must be met before one qualifies as an expert witness, criteria that are far more strict than the qualifications required by the Federal Rules of Evidence or court opinions: (1) a valid, unrestricted license to practice medicine; (2) full training and a diplomate of a specialty board recognized by the American Board of Medical Specialties and qualified by experience or demonstrated competency in the subject matter; (3) if the expert is not active in clinical practice at the time of offering an opinion, the expert should be prepared to demonstrate competency to provide the opinion, and the competency may include active clinical practice, relevant publications, active teaching or supervision of medical students, residents, or fellows in an area relevant to the expert opinion during 3 of the 5 years immediately preceding the date on which the opinion is offered; (4) if the expert spends more than 20% of professional time in medical-legal activities (including testimony by deposition or interrogatory, or reviewing medical records at the behest of lawyers, performing independent medical examinations, publishing opinion letters or affidavits to lawyers), the expert should be prepared to demonstrate competency to provide an opinion that is objective, relevant, and not biased by financial considerations.³³

The American Academy of Neurology guidelines do not overtly restrict a neurologist from spending more than 20% of professional time in medical-legal activities. However, if a complaint was lodged against a neurologist who was spending more than twenty percent of his or her time in such activities, it might well be a challenging endeavor to prove that testimony being offered is objective, relevant and not biased by the proposed financial gain.

Finally, the guidelines end with what can only be regarded as a warning. Paragraph G reminds practitioners that litigation-related testimony produces a public record subject to peer review. That record, the paragraph notes, could be the basis for disciplinary action by court, licensing agencies, or professional organizations. The last sentence is even more pointed, warning practitioners not to allow their personal “disrespect” (read loathing, hostility, or animosity) of the legal process or lawyers to influence the nature or accuracy of their opinions.³⁴

Furthermore, although the American Academy of Neurology guidelines are instructive to an individual neurologist, they are not a substitute for an understanding of the legal framework of expert testimony when involved in a lawsuit. That legal framework is a combination of evidence rules and court opinions following *Daubert* and its progeny.

Legal Framework of Expert Testimony

Every expert must understand the legal framework that has grown up around expert testimony post-*Daubert*. The most important aspect of that framework is that every expert, no matter what the subject matter of his or her testimony, is potentially the subject of a *Daubert* challenge at some point during the lawsuit. In some courts, the challenge occurs before the trial begins. In other courts, the challenge occurs at trial. No matter when it occurs, however, a *Daubert* challenge is instituted by the opposition in order to keep the expert from testifying. The essence of the challenge is to prove that the expert has failed to fulfill one of the 3 foundations of expert testimony or the preliminary eligibility requirements of expert testimony. The point to remember is that if an expert fails to fulfill any of the 3 requirements, the end result of a *Daubert* challenge is that the expert is not allowed to testify. In other words, the expert is “struck,” a potential designation that could follow a witness into subsequent cases. As noted previously, asking experts whether they have ever been “struck” as a witness is now routine. Although being “struck” in one case is not necessarily a bar to testifying in another case, it creates an uncomfortable situation that must be explained. Suffice it to say that any expert wants to make sure he or she understands the initial legal framework and consults with the attorney proffering him or her as an expert to ensure his or her testimony meets the known *Daubert* criteria.

The 3 preliminary criteria making up the expert testimony legal framework differ from state to state. Therefore, the attorney requesting the expert’s testimony must fill in the peculiarities of the local rules for each jurisdiction. As a practical matter, however, virtually all courts apply some form of the following 3 criteria before allowing an expert to testify: (1) is there a relevant issue on which expert testimony should be permitted; (2) is the witness qualified as an expert; (3) is the proposed expert testimony scientifically reliable.³⁵ In essence, these 3 criteria are mandated by the Federal Rules of Evidence.

Criterion 1: Relevant Issue

Before even a highly qualified expert would be permitted to testify, the trial judge must determine that the issues are

complex enough to warrant expert testimony. This is a relevancy determination based on the Federal Rule of Evidence 702 that, as we have seen, provides that if scientific, technical, or other specialized knowledge will assist the jury to understand the evidence or to determine a fact in issue, then a witness qualified as an expert may testify. Recall that under older common law evidence tests, expert testimony was only admissible if an issue was completely beyond the kin of an average jury. The modern trend, however, is to admit almost any nonprejudicial testimony that has probative value. And as we have seen, modern evidence rules allow experts to state opinions on ultimate issues that jurors decide. Today, in most courts, little credence is given to the old stricture that experts should not “invade the providence of the jury.” Some jurisdictions still pay lip service to this doctrine. An expert unfamiliar with evidence rules in a particular court should inquire about the precise nature of conclusory opinions allowed.

The determination of whether an expert’s testimony is relevant to a particular issue on trial is one made by the trial court. The expert has little input into the court’s decision on criterion 1. The expert has considerable input into criteria 2 and 3.

Criterion 2: Is the Expert Really an Expert?

Federal Rule of Evidence 702 specifies that an expert must be qualified by reason of knowledge, skill, experience, training, or education in a field of specialized knowledge.³⁶ Although expert qualification is within the discretion of the trial court, it is helpful if the witness is prepared to discuss how his or her training and experience is applicable to the opinion being offered. Sometimes that is a difficult task, and sometimes it is not so difficult. Examples abound in case law where courts have declared witnesses to be experts even though they have a bare minimum of qualifications: a police officer was deemed an expert after 4 hours of training; a wildlife biologist, conservation officer, and a duck hunter were all qualified as experts to give opinions on the effect of power lines on duck hunting.³⁷ And so on.

A witness does not need to possess total knowledge of a subject—neurology, for example—simply knowledge of the discrete area of the testimony involved. Having qualified as an expert in another case does not automatically qualify him or her as an expert in every case. On the other hand, a person is not disqualified as an expert merely because he or she is not a specialist.

An expert must realize that merely because a court makes a preliminary determination that a person is an expert within the confines of criterion 2, that will not end the assessment of an expert’s qualifications. When the expert is introduced to the jury, expert qualifications become a major topic of importance. As the saying goes, a jury’s function is to determine the weight and credibility to be given to testimony. In almost every case, an opposing expert will be called by the other side. How does the jury decide which expert to believe in what essentially is an expert beauty contest? The answer is, we don’t know for sure, but every expert should realize that credentials are an important

part of convincing a jury that his or her opinion is the opinion to be given the most weight and credibility when deciding the verdict. Do not neglect credentials.

And, of course, expect to be cross-examined about credentials, your experience, how many times you have testified, and any prior testimony you have given in similar cases. These are usual cross-examination topics for any expert. If an academic degree is listed on an expert's curriculum vitae, expect that to be investigated. If a clinical or faculty appointment is listed, expect that to be investigated. Any discrepancy could elicit questions. Also be aware that past testimony in depositions and trials is collected by both plaintiff and defense organizations and today, in the computer age, it is easily retrieved. If an expert has ever testified in any other case, expect that the opposing lawyer has the transcript. Be prepared to explain any seemingly inconsistent statements, because past transcripts are fertile ground for what lawyers call impeachment of a witness's credibility.

In the usual medical malpractice case, qualification is not often contested by the court or opposing counsel if the expert's opinion is being offered in a field of medicine in which he or she practices or is certified. Qualification difficulties usually arise when a physician crosses over to testify about another specialty. For example, a neurologist testifying about the standard of care that should be exercised by an emergency department physician or vice versa. The question arises as to whether the two specialties overlap sufficiently so that a neurologist could testify to the standard of care of an emergency department physician. As many courts hold, not every physician is a qualified expert in every malpractice case.³⁸ However, neurologists have testified against other specialists.³⁹ There is neither a hard-and-fast rule nor any particular general principle that emerges from the many cases that have grappled with this issue. Suffice it to say that a witness should be prepared to justify crossing over into a field of medicine that overlaps with another medical specialty. Books, articles, guidelines, or anything in writing that helps support the crossover will be helpful in convincing the trial judge.

Another area where qualifications can be contested is causation. The courts generally now ascribe to the mantra that no medical doctor is automatically an expert in every medical issue merely because he or she graduated from medical school or achieved certification in a medical specialty.⁴⁰ Not so long ago, that was exactly the only qualification, but times change. An example of causation disqualification is *Broders v. Heise*, where the plaintiffs' expert, an emergency medicine specialist, was allowed to testify regarding the standard of care for treating an assault victim's brain injury, but was disallowed from any opinion regarding cause of death from the treatment of the injury.⁴¹ The court noted that the expert never testified that he knew from experience or study the effectiveness of brain injury treatments.

Criteria 3: Scientific Reliability

As we have seen, *Daubert* set forth a nonexclusive checklist for courts to use in assessing scientific expert testimony. An expert

trying to remember the essence of the Federal Rules of Evidence 702-705 as interpreted by *Daubert* et al need only remember 2 core concepts summarizing the foundation of an expert's testimony—relevant and reliable.

The specific factors explicated by *Daubert* and now inculcated in many evidence codes and court opinions in both federal and state jurisdictions are designed solely to focus on the principles and methodology the expert used to generate his or her opinion, not on the correctness of the opinion. The trial court is not charged with trying to determine if an expert's opinion is the sole right answer or even a right answer at all. The gatekeeper function as envisioned by *Daubert* was intended to screen the reliability of the expert's methodology in arriving at whatever conclusion the expert reached.⁴²

Subsequent opinions, especially *Joiner*, recognized that conclusions and methodology are not entirely distinct from each other.⁴³ Therefore, an added qualifier to the principle that courts are concerned with methodological reliability, not correctness of conclusions, is the analytical gap qualifier. That qualifier says that when an expert applies reliable principles and methods and yet reaches a conclusion that other experts in the field would not reach, then there is reason to suspect that the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion, leaving too great an analytical gap between the data and the proffered opinion.

As previously noted, it is impossible to summarize the thousands of court opinions applying *Daubert* to proffered expert opinions. A few precepts have emerged, however, that are important to medical experts in particular.

The first is that experts testifying about matters growing out of their own research generally must have done the research independently of the litigation and not for the purpose of testifying.⁴⁴ The expert must account for obvious alternative explanations; for example, he or she must exclude other possible causes of a claimant's injury other than chemical exposure.⁴⁵ An expert must be as careful in his or her paid courtroom analysis as in his or her regular professional work⁴⁶ or, as said in *Kumho Tire*, the trial court must ensure that the expert used the same intellectual rigor in the courtroom as the expert employs in his or her professional practice.⁴⁷ Also, a court must determine whether the expert's evidence is genuinely scientific, as distinct from being unscientific speculation offered by a genuine scientist.⁴⁸ And finally, the expert's discipline must be one that itself is based in reliable science. *Daubert*'s list of factors cannot give credence to a discipline that itself lacks reliability, "as, for example, do theories grounded in any so-called generally accepted principles of astrology or necromancy."⁴⁹ One can discern from the Supreme Court's example of astrology and necromancy that the Court has already ruled out expert testimony from psychics, mystics, and the results of séances.

Daubert and Medical Expert Testimony

"A review of the case law after *Daubert* shows that rejection of expert testimony is the exception rather than the rule."⁵⁰ The

primary reason seems to be rooted in the courts' belief in cross-examination, presentation of contrary expert evidence, and court instructions being the crucible by which truth most often emerges.⁵¹ And, as the courts often say, just because a court rules that an expert's testimony is reliable, that does not necessarily mean the opinion is correct or that contradictory expert testimony is unreliable.⁵² Fortunately, *Daubert* rulings on reliability are almost exclusively done outside the presence of a jury. Imagine explaining to a typical jury—with no medical training and little scientific discernment—that just because an expert's opinion has been ruled reliable, there is no reason to believe the opinion and no reason to reject the opposing expert's opinion that is the polar opposite of the opinion found to be reliable.

Perhaps an even more important fact for physicians becoming involved as medical experts in the typical personal injury or medical malpractice lawsuit is that the “admissibility of medical expert testimony after *Daubert* looks much like the admissibility of medical expert testimony before *Daubert*.”⁵³ In the medical arena, *Daubert* criteria have been applied primarily to toxic tort cases, product liability cases—drugs, vaccines, medical devices—and unique medical causation cases. An illustration of a novel medical causality application is *Moore v. Ashland Chemical*.⁵⁴ A pulmonologist's opinion that a claimant's exposure to toluene caused reactive airway disease was excluded. The physician admitted he had never treated a patient with toluene exposure, had done no research, and did not know the plaintiff's dose exposure level. Unique causation cases abound—cancer caused by contaminated milk,⁵⁵ talc causing sinus problems,⁵⁶ a fall causing fibromyalgia⁵⁷—and any expert's testimony making a unique connection will be challenged.

The contrary seems to be true when applied to expert testimony in medical malpractice cases, in particular to standard-of-care testimony. In fact, a few courts have addressed similar issues in the malpractice context, refusing to apply *Daubert* criteria to standard-of-care testimony.⁵⁸ As a practical matter, most medical malpractice lawyers have not used *Daubert* as a challenge to expert testimony (except for unique causation testimony), because they realize that the same arguments made to exclude the opponent's experts will often be made against their own experts. And where lawyers are representing both plaintiffs and defendants (there are a few areas of the country where this is common), the opinion they seek to exclude today they may be arguing is admissible next week. For the most part, however, the methods and procedures used by experts on both sides of malpractice cases are so similar that most lawyers simply use cross-examination to attack an expert's credibility, methodology, and conclusions, rather than asking for a ruling that may result in exclusion of their own expert.

Just as standard-of-care opinions are little challenged, neither are there challenges to the reliability of generally used diagnostic equipment or laboratory tests. In theory, a physician using computed tomography, magnetic resonance imaging or a laboratory test result, or a laboratory test result could be challenged to produce evidence of its reliability. That could be done, but the effort of producing books and articles, error rates,

and so forth would be excessive. Such challenges are simply not done. If, however, some new technology does enter into a standard-of-care or causation opinion, the expert must be ready to deal with a *Daubert* challenge.

Confronting Daubert

One of the first discussions an expert should have with the lawyer requesting the expert's testimony is whether a *Daubert* attack is expected on any part of the expert's testimony. Remember each state is different, and the rules in state and federal courts often change with one significant court opinion. What was true the last time the expert testified may no longer be true. If a challenge is expected, the expert should work with the attorney from the beginning to prepare to meet the attack. A summary of general criteria would be as follows:

- Rely on theories or techniques that have been time-tested;
- Use theories and techniques that are objective;
- Know the error rate or potential error rate for the methodology;
- Use only peer-accepted error rates;
- Produce peer-reviewed literature supporting the theories, techniques, error rates, and conclusions;
- Produce reliable scientific data proving methods, techniques, and conclusions are generally accepted in the scientific community;
- Produce evidence that the theories and techniques existed and were in use before the lawsuit began;
- Demonstrate that findings and conclusions have been and/or can be replicated by others;
- Avoid relying on a temporal relationship as a sole or substantial causation connection;
- Account for alternative explanations and causes; and
- Demonstrate the same care and professionalism used in regular professional work was used in arriving at litigation conclusions.

All of these factors are not only preparation for fending off *Daubert* attacks, but they also are the same factors that will likely be delved into on cross-examination and should be the factors any expert will want to cite to a jury during direct examination in order to convince jurors that the expert's opinion is mainstream and is not junk science.

Rule 702 vs. Rule 703

Recall that Rule 703 says that the facts or data upon which an expert bases testimony can be derived from three possible sources.⁵⁹ First, the witness's first-hand observations. These observations would be like a treating doctor's physical examination. Second, facts presented at trial. For example, an expert could be given a hypothetical question summarizing the testimony, as was done in the old days. On the other hand, experts can actually attend the trial, hear the testimony, and then testify basing their opinion on the testimony they have heard. Part of the problem with this technique is conflicting factual

testimony. Such conflicts could be handled under Rule 705. The third source, and the most common today, is data presented to an expert before trial, including opinions of other experts, provided it is the type of information reasonably relied upon by experts in the particular field in forming opinions. The information used need not be admissible in evidence and can even be disclosed to the jury to allow the jury to evaluate the credibility of the expert's opinion.⁶⁰

There is sometimes confusion over the relationship between Rules 702 and 703. Rule 702 deals with reliability and sufficiency of the expert's opinion. Rule 703 is concerned with the expert's information and data and its source. Rule 703 is a narrow inquiry. The rule allows the use of virtually any information or data provided the expert assures the court that other experts in the same field also reasonably rely on the same data. And experts should be prepared to prove the "reasonably relied on by other experts" requirement by means other than the expert's say-so if, in fact, that becomes an issue.

Rules 704 and 705

These rules primarily reflect the legal system's reaction to the old common law evidence rules previously discussed—expert opinions on ultimate issues, which are tantamount to invading the providence of the jury (Federal Rule of Evidence 704) and the expert being able to give an opinion and the reason for the opinion without first disclosing the facts or data underlying the conclusion (Federal Rule of Evidence 705). These rules do not so much affect an expert as they do the lawyer. What the expert needs to know is that merely because Federal Rule of Evidence 704 abolishes the ultimate issue rule, that does not automatically make all opinions admissible. The opinion is still subject to the "being relevant, reliable, and helpful" rule (Federal Rule of Evidence 702) and based on facts and data reasonably relied on by experts in the field (Federal Rule of Evidence 703). And, although Federal Rule of Evidence 705 allows opinions without disclosing facts and data, experts should remember that all facts and data could be the subject of cross-examination if the opposition so chooses. Thus, a prepared expert will have the facts and data organized and ready to persuasively discuss—if not on direct examination, certainly on cross-examination.

Paying an Expert Witness for Testimony. Ethical?

Yes. If an expert testified as an eyewitness to a car accident, it would be improper to pay the expert an hourly fee for the time spent in giving a statement or interview, giving a deposition, and giving trial testimony. Yet, when that same person is employed to provide expert opinions, payment of tens of thousands of dollars (by the hour, of course) is perfectly acceptable and ethical. The common law rule in most jurisdictions and current legal ethics rules permit occurrence witnesses to be paid for ordinary expenses incurred in testifying, but not for actual testimony. Experts, however, can be paid for expenses and their testimony as long as the fees are not contingent fees dependent on the litigation's outcome.⁶¹ Just to be certain, it

never hurts to consult with the retaining lawyer regarding any peculiar rules in a particular state. Likewise, the American Academy of Neurology prohibits contingency fees, and goes a step further by stating that compensation must be "reasonable in relation to time and effort expended."⁶²

An expert must remember that expert fees are always a subject of inquiry by the opposition. An expert will have to produce bills and payments as part of the deposition and trial process. Questions are always asked concerning hourly fees, with the veiled implication that the witness's real motivation is not an honest opinion, but rather an opinion for sale to the highest bidder. While that is sometimes true, it seems that most experts are interested in credible opinions. It does the expert little good to be offended by any opposing lawyer's implications that a profit motive, and not honesty, is motivating the expert's testimony. Rather, an expert witness should deal with such questions sincerely, remembering what the lawyer is forgetting—the lawyer's witnesses are also being paid.

Preparing the Lawyer for the Direct Examination

In articles and how-to books, this is usually written "preparing the expert to testify," with the advice to the lawyer to become expert in the expert's field. In any field of endeavor where expert testimony is appropriate, it is unlikely that most lawyers will ever become experts in that specialty. But the expert can and should teach the lawyer enough about the topic so that together the lawyer and the expert can figure out the optimum presentation techniques that will make the expert's opinion persuasive to a jury. This takes time and cooperative effort. The expert can greatly assist a direct examination by preparing a direct examination outline and working with the lawyer to make the testimony clear, effective, and persuasive. The lawyer, on the other hand, needs to prepare the expert for cross-examination and, in particular, for cross-examination by learned treatises.

Treatises, Periodicals, Pamphlets

Some who have had limited involvement as an expert witness may recall being given advice never to recognize a textbook or an article as "authoritative." This advice was given because the hearsay rule (an out-of-court statement offered to prove the truth of the matter stated therein) had an exception for textbooks and articles that could be used to cross-examine a witness, but only if the witness recognized the book or article as "authoritative." A conflict between the expert's opinion and what was said in a textbook or article would discredit or impeach the expert. As we all know, there is a textbook or article somewhere in the world with a statement directly contrary to almost every opinion. Or at least there is a statement that in a lawyer's mind is contrary to the witness's testimony—or at least the lawyer will try to convince a jury that it is contrary. Thus, to prevent the inevitable attempt at impeachment, the advice was given not to recognize books and articles as "authoritative." This nonacknowledgement worked quite well,

except for the expert witness who had written or edited the book or article.

Federal Rule of Evidence 803(18) has changed that strategy completely, and most states' evidence codes and rules follow 803(18). If there is any doubt, ask, because the current rule allows impeachment of an expert witness by showing that a basic textbook or treatise or article states a different conclusion than the one testified to by the witness. At common law, if a witness recognized the textbook as authoritative, and there was a different conclusion stated in a textbook, the law treated the inconsistent statement as impeachment only and not for truth. The new rule, however, creates an exception to the hearsay rule that not only permits the statement in the treatise or article to be introduced into evidence, but also allows the lawyer to argue that the treatise or article is more reliable than the expert who contradicts it. The rule says:

To the extent called to the attention of an expert witness upon cross-examination or relied upon by the expert in direct examination, statements contained in published treatises, periodicals, or pamphlets on a subject of history, medicine, or other science or art established as a reliable authority by the testimony or admission of the witness or by other expert testimony or by judicial notice [are admissible]. If admitted, the statements may be read into evidence, but may not be received as exhibits.⁶³

A learned treatise can be used to impeach if two requirements are met: (1) the treatise is established as a reliable authority and (2) the expert is confronted with the statement before it is read into evidence. Reliability, however, can be established by another expert or, conceivably, by judicial notice if well enough known. Judicial notice of a medical textbook or article, however, would be extraordinary.

The lesson to be gleaned from this rule is that if an expert intends to testify, he or she needs to be aware of the literature on the subject matter. If confronted with an article or textbook, the expert must focus on the context in which it is presented. Most often, the opposing lawyer is taking the statement out of context and it is quite simple for the expert witness to distinguish that statement from his or her testimony. The book or article may also be years out-of-date. If an expert is familiar with the literature, it will be rather simple to dispose of the attempted impeachment. If unfamiliar with the passage, the expert should study the context of the statement, because often a lawyer misinterprets the medical context in which a statement is made. Forewarned is forearmed.

Practice Guidelines

Standard-of-care arguments in the courtrooms of industrialized nations have recently begun to focus on evidence-based guidelines, also referred to as practice parameters. Evidence-based guidelines provide the legal standard in Dutch and French courts. In the United Kingdom, the *Bolam* test (enshrining the standard of care based on conformity to accepted practice), modified through the *Bolitho* holding that courts are not bound

by expert opinion, allows greater reliance on clinical guidelines in malpractice proceedings.⁶⁴ Arguments were recently advanced that deviation from guidelines should be proof of negligence.⁶⁵ Australia initially rejected the *Bolam* physician-based standard of care testimony in favor of court-determined concepts of negligence.⁶⁶ Subsequent legislation, however, restored physician opinions as the source of determination of negligence, thereby allowing discretion in acceptance of various evidence-based guidelines.⁶⁷ In New Zealand, the codified duty of reasonable care and skill incorporates but is not limited to the *Bolam* test; reasonable care can require a higher standard than currently accepted practice.⁶⁸ Moreover, physicians must comply with "legal, professional, ethical and other relevant standards," which includes practice guidelines.⁶⁹ Canada shares similar common law standards allowing consideration of practice guidelines.

In the United States, evidence-based guidelines have received increasing attention in the medical profession since first introduced to clinical medicine in the 1980s. Presently evidence-based guidelines are widely used in medical education, hospitals, clinics, and almost every aspect of clinical medicine. Evidence-based guidelines were a national concomitant of medicine's transition from experience-based anecdotal practices to scientifically guided treatments. Thousands of guidelines have now been published. Neurology is no exception. Dozens of evidence-based guidelines have been written and revised by the American Academy of Neurology. Searching the National Guideline Clearinghouse under "neurology" reveals 421 guidelines developed, reviewed or revised in just the last 5 years.⁷⁰

As would be expected when evidence-based guidelines began receiving attention from the medical profession, it was not long before lawyers were trying to use evidence-based guidelines to prove standard of care or that an evidence-based guideline was at least some evidence of standard of care. Thus, evidence-based guidelines came into the jurisprudential vocabulary but did so at such a snail's pace that it is still questionable as to how most courts will use them as evidence.

Commentators have argued many uses for evidence-based guidelines: as complete malpractice protection (and presumably complete liability),⁷¹ as a total replacement for expert opinion to adjudicate disputed courtroom medical causation issues as well as toxic industrial or environmental exposures,⁷² and as the primary but not the sole standard of care for medical malpractice actions.⁷³

As a practical matter, in most courts today testimony about evidence-based guidelines would be admissible for and against a physician. Whether a particular evidence-based guideline applies to a specific case is merely another argument for the experts, and ultimately the jury chooses whom to believe. In most courts, the actual guideline itself, in written form, would not be admissible evidence as an exhibit. It would fall into the category of learned treatises or medical journal articles—the witness can talk about the content of the book or article and be cross-examined about it, but the book or article itself is not admissible in evidence as an exhibit. The fact is that every

expert should expect to be asked about evidence-based guidelines in virtually every case. Thus, any defendant physician or expert witness should research the evidence-based guideline history for a particular procedure or disease involved in any case, and be prepared to accept it or reject it as part of the standard of care, or distinguish the particular evidence-based guideline as inapplicable to the patient's clinical scenario. In the United States, practice parameters and guidelines are admissible if qualified as authoritative, thereby avoiding the hearsay limitations. Some American courts have adopted a more liberal approach by admitting clinical guidelines as demonstrative aids, noting that such an extrajudicial statement "would only be classic hearsay if it was offered to prove the truth of the matter asserted therein."⁷⁴

A neurologist on trial for malpractice must also recognize that although evidence-based guidelines are not sacrosanct, any alleged transgression from a guideline represents a very powerful argument to a judge or lay jury unfamiliar with medicine. Any deviation from evidence-based guidelines should be fully documented.

Reasonable Medical Probability

A legal quirk undoubtedly confusing to physicians who deal with 95% confidence intervals, 2.0 relative risk, and the like is the phrase frequently uttered by lawyers while questioning medical experts: Is your opinion based on reasonable medical probability, or reasonable medical certainty, or is the result more probably than not?

The phrase "reasonable medical probability" and the various equivalents used by different opinions were the law's rather clumsy method of preventing experts from causation speculation. In 1966, for example, a physician testified that a certain trauma caused cancer. The court, looking for assurance in the physician's causation testimony, held that such causation connection must include "reasonable probability" to ensure that the causal connection is not based on speculation or conjecture.⁷⁵ In a similar case 2 years later in the same court, a radiation-caused-cancer case, the court insisted that an expert's causation connection include the term "reasonable medical probability," defined as more probable than not.⁷⁶ "More probable than not" is the essence of what most courts require as assurance that other causes have been ruled out and the cause the expert has selected has at least a 51% certainty.

"More probable than not" is a low hurdle indeed and is certainly not comparable to the far higher standard physicians use to diagnose and treat real patients. Nevertheless, low hurdle that it is, without it, an expert runs the very real risk that his or her causation opinion will be declared inadmissible as speculation or conjecture. It behooves an expert, therefore, to be certain of exactly what standard a particular court requires, because different courts emphasize the certainty requirement in different ways. For example, a Pennsylvania court ruled that a doctor's declaration that there was a 51% chance that a shoulder injury was caused by restraints, as opposed to a grand mal seizure, did not satisfy the "reasonable degree of medical

certainty" requirement because the context of his testimony indicated in reality that he was giving equal weight to both causes.⁷⁷ Some courts ignore context and simply focus on magic words. In Missouri, for example, a doctor testified he was 90% certain about causality, but he failed to use the phrase "reasonable medical certainty." The court ruled the testimony inadmissible because it lacked the reasonable certainty stamp of approval.⁷⁸ In Utah, another physician's testimony that "he had no reason to believe any other incident, other than the accident in question," caused the plaintiff's injury was deemed inadmissible because he neglected to state that his opinion was based on a "reasonable degree of medical certainty."⁷⁹

More recently, the modern trend is to focus on the substance of the expert's testimony, as was done in the Pennsylvania case, rather than requiring magic words. To be certain, however, any expert should consult the lawyer to see what phrase is necessary and determine the exact meaning of whatever phrase a court could require. Otherwise, the causation aspect of expert testimony runs the risk of exclusion even though it has passed the *Daubert* challenge.

Discovery of Expert's Opinions

A hired expert is subject to discovery in many courts, including providing written reports, giving deposition testimony, and, of course, preparing to give live testimony in court. But what about the neurologist seeing a patient in the emergency department after an automobile accident for the first and only time? When that physician is later served with a subpoena for a deposition or to testify at trial, does that mean he or she has to answer questions other than those actually related to the actual treatment, like causation questions, prognosis, or if another doctor has been sued for malpractice, standard-of-care questions? In other words, can a subpoena compel a physician against his or her will to be an expert witness?

First, if you are a paid expert retained by a party to be an expert, how can the other side discover your opinions? In federal court and in many state courts, discovery related to retained experts is governed by a procedural rule—the rules by which pre-trial and trial are conducted—setting forth what the expert must do and what the party seeking discovery must do. For example, the Federal Rules of Civil Procedure (Fed.R. Civ.P.) Rule 26 provides for a party to disclose the identity of any person who may be used at trial to present evidence under Rules 702, 703, or 705 of the Federal Rules of Evidence.⁸⁰ The disclosure must be accompanied by a written report prepared and signed by the witness. The report must contain a complete statement of all of the opinions that the witness will express, as well as the basis and the reasons supporting the opinion; must set forth the data or other information considered by the expert in forming the opinions; must produce any exhibits that will be used in support of the opinion; must set forth the qualifications of the witness, including a list of all publications authored by the witness within the preceding 10 years; must set out the compensation to be paid for the testimony; and include a listing of other cases in which the witness has testified as an expert at

trial or by deposition within the preceding 4 years.⁸¹ In addition to that required disclosure, the rules also provide that any person identified as an expert can be required to give a deposition concerning the opinions, and the party seeking discovery will pay the expert a reasonable fee for the time spent in responding.⁸² As a practical matter, however, parties often agree that they will pay their own expert witnesses for the preparation and time for giving a deposition.

Many states follow, to a greater or lesser degree, the federal civil procedure rules regarding disclosure of experts, expert depositions, and payment of expert fees and expenses. There are, however, many exceptions, alterations, and additions that make each state's rules unique. Again, if in doubt, one must ask.

What happens to our neurologist who saw the patient in the emergency room for 1, and only 1, consultation and who receives a subpoena for an oral deposition or trial testimony? Does that physician have to testify, and can the physician be compelled to give opinion testimony? The answer is, all fact witnesses do have to testify, no matter the inconvenience, but, as a general rule, experts cannot be compelled to give expert opinion testimony against their will. A word of warning: there are exceptions, and if you are subpoenaed, you should consult a lawyer familiar with the law in your state or the state in which you have been subpoenaed to testify.

The traditional common law rule in many federal and state courts is that an expert can be subpoenaed to testify to facts just as any person can be compelled to testify as to relevant facts of which they have knowledge. Thus, our neurologist could be subpoenaed to testify about the facts on the medical chart. If asked about opinions, then that becomes expert testimony, and the traditional rule was that an expert could not be compelled to divulge an opinion against his or her will. California and some other states have actually passed legislation ensuring a treating physician who is asked for medical opinions will receive expert fee payment. Other jurisdictions prohibit subpoenaing an expert witness altogether. There is great variation. Nevertheless, there does seem to be a general rule that a party cannot use a subpoena to get free expert testimony. Otherwise, of course, considerable abuse could arise if litigants were able to compel experts to testify to opinions.⁸³

The Medical Malpractice Expert Witness

Recent tort reform in many states, in particular with respect to medical malpractice lawsuits, has changed the medical malpractice landscape, in some instances radically. Some of these changes affect who can appear as an expert and the qualifications that expert must bring to the witness stand. The two categories affecting experts the most are the locality rule and the specialty rule. There are dozens of other changes too numerous to categorize, but when questions arise, the lawyer seeking your testimony should be consulted. The National Conference of State Legislatures and many other organizations maintain internet-available compendiums of all state medical liability and medical malpractice laws, updated periodically, and these can often provide a quick summary of current law in a particular state.⁸⁴

The Locality Rule

Medical malpractice law traces its roots to English common law and the development of the general law of personal injury negligence. Healthcare providers were not exempt from negligence lawsuits, but substantially different rules were developed that distinguished medical malpractice from all other negligence cases. The most important differences were court-made doctrines involving expert witnesses and the training, experience, and type of practice that qualified a physician as a plaintiff expert. For example, early physicians were divided into two basic camps—allopath and osteopath. As a result, the same school of practice rule was developed so that only allopaths could criticize an allopath, and so on.⁸⁵ The rule faded as the two schools of thought became closer in philosophies, teaching, and patient management. Another rule for experts was the locality or community rule originating with the Kansas Supreme Court in 1870. This rule limited any expert's criticism of a defendant physician's conduct to an expert of the same school of practice and who practices in the same locality or community.⁸⁶ That rule died in the 1960s and 1970s as courts exponentially expanded tort and medical malpractice law, holding that medical training was essentially the same throughout the country. The locality rule was almost uniformly abandoned.

The report of the locality rule's death was premature, however. As medical malpractice tort reform has emerged recently, there has been a legislative revival of a semi-locality rule. For example, Oregon has adopted a rule that experts must possess knowledge of what constitutes proper medical treatment in a similar community; otherwise, they are prohibited from testifying.⁸⁷ Idaho requires out-of-area experts to supply affidavits demonstrating their familiarity with the local standard of care and describing how they became familiar with the standard.⁸⁸ In a recent case, a plaintiff's emergency medicine expert testified the standard of care was the same in Boise as it was in the rest of the nation and that he knew this because he had numerous consultations with local Boise physicians. The court found the expert did not have a detailed enough understanding of local practice, disallowing the expert's testimony.⁸⁹ A North Carolina statute defines medical malpractice as failure to comply with the standards in "the same or similar community."⁹⁰ Applying this statute, the court ruled that a physician from a similar small South Carolina town was disqualified to testify regarding shoulder dystocia treatment in a small North Carolina town, rejecting the plaintiff's claim that obstetric care was uniform throughout the country.⁹¹

States are also enforcing a locality rule without labeling the statute a locality rule. Florida recently enacted a law requiring out-of-state physicians offering expert testimony to apply for a certificate to testify.⁹² If they provide "deceptive testimony," the Florida Medical Board can discipline them with all of the attendant Data Bank and reciprocal reporting required by medical boards.⁹³ In Mississippi, out-of-state experts can be enjoined from ever testifying in the state if found to have given deceptive testimony and are also subject to medical board discipline.⁹⁴ All in all, 31 states have similar legislation directed at

reducing fraudulent, misleading, or deceptive medical malpractice expert witness testimony. The American Medical Association also recently approved model legislation similar to the Florida rule requiring expert witness registration.⁹⁵

It can be expected that the legislation will probably get tighter and tighter in the future. Thus, every potential expert must evaluate the likelihood of being hometowned by local physicians angry because his or her testimony caused a verdict against them. The expert's testimony could be absolutely correct, and the battle won, but the out-of-state expert could well lose a war with a local medical board.

These statutes are obviously intended to intimidate out-of-state experts. The corollary is that patients hurt by genuine malpractice—and make no mistake, there is genuine malpractice that should be prosecuted—will be relegated to finding an expert in the state or community where the defendant practices medicine. How many of the defendant's colleagues will volunteer to be the patient's expert? It would seem that this locality legislation has transported us “back to the future” to the era when the common public perception was that doctors buried their mistakes and were not accountable for medical malpractice because their colleagues protected them by refusing to testify. Is this the public image the American Medical Association and other physician organizations want to project?

The Specialty Rule

As we have seen, the specialty rule was initiated because of different schools of medicine. In a similar vein, states have enacted statutes or, by court opinion, have required experts to practice in the same field of medicine as the defendant's physician. The cases and statutes were a reaction to the pre-tort reform liberalization of evidence rules wherein virtually any person with a medical degree could testify against any other physician regardless of the field of practice. Thus, a pediatric orthopedic surgeon could be criticized by a general practitioner, and so on.

The post-tort reform restrictions on specialty are much more reasonable than those on locality. Nevertheless, in small communities and areas of a state that are underserved, or simply geographically isolated, it can be extremely difficult for a patient to find an appropriate specialist willing to testify. Thus, back to the future we go, with the same concomitant public perception that physicians are protecting themselves and burying their mistakes.

Expert Witness Liability

Expert Witness Malpractice

Belief in expert witness immunity from suit is widespread. Today, however, that belief can be mistaken. The belief emanates from the centuries-old court-inspired doctrine called the litigation privilege. This privilege was designed to protect any communication in a judicial proceeding—from judges, jurors, bailiffs, lawyers, or witnesses—from libel and slander actions, regardless of negligence or malice with which the communication was made. The privilege was slowly extended from statements made in open court to protecting all statements, even in

pretrial proceedings, hearings, depositions, affidavits, and any other aspect of litigation.⁹⁶ Eventually, because expert testimony became important to the prosecution and defense of so many different kinds of cases, including medical malpractice, the absolute witness immunity doctrine was expanded to cover expert witnesses. The judicial thinking was that if an expert witness could be sued based on performance in the courtroom, his or her testimony might be distorted by a desire to avoid a lawsuit.⁹⁷ Arguments based on the fact that experts were paid to participate and a threat of liability would encourage experts to be more careful in their calculations and testimony were rejected in favor of the immunity policy, which was said to ensure frank and objective testimony.⁹⁸

Sometime in the 1980s, the absolute immunity concept slowly began to crack. Today, there has been a definite minority trend allowing suits against friendly but negligent experts. It is a trend that any expert will want to be aware of. An expert witness may also want to check to see if insurance is available to cover such potential liability.

The Trend in Expert Witness Liability

Expert witness liability or expert malpractice seems to fall into four fact patterns: (1) friendly expert liability—a client sues an expert retained to provide expert testimony for the client in underlying litigation; (2) adverse expert liability—a party sues the opposing expert; (3) court-appointed expert sued for negligently performing his or her duties; (4) the attorney hiring the negligent expert is sued.⁹⁹ The 2 situations of most concern here are friendly and adverse suits.

Friendly Expert Liability

The cases allowing a claim against a friendly expert are cases based on negligent rendition of expert services. The opinions do not represent a sea change in the litigation privilege so much as they represent a recognition that expert witnesses are a huge worldwide industry, and experts make mistakes that injure people, just like doctors, lawyers, architects, engineers, and other professionals do. Thus, there is really no need to protect experts from negligent suits just because they deliver their services in a litigation context. The difficulty had by courts in this area of law is that they must overcome their previous broad proclamations concerning litigation privileges—proclamations generally made before courts recognized that the expert witness industry is indeed an industry, just as are automobile manufacturing, steelmaking, and medicine, and should be just as accountable as those industries. Thus, the courts have had to engage in some semantical gymnastics both in order to retain witnesses' litigation communication privilege—which is essential to litigation—and to allow negligent claims against experts. The takeaway from the opinions allowing friendly expert negligence suits is that other states will most likely follow the reasoning of these early cases. Thus, if you are an expert and you negligently do your job, you will most likely have to pay for your negligence, no matter what state you are in.

Six states have allowed clients to sue friendly experts who were retained for litigation and negligently delivered their services: California, Connecticut, Louisiana, Massachusetts, Missouri, and Pennsylvania.¹⁰⁰ The Pennsylvania Supreme Court's opinion is perhaps the most well written and instructive—*LLMD of Michigan, Inc. v. Jackson-Cross & Company*.¹⁰¹

Wintroll, as LLMD, hired Jackson-Cross to calculate the lost profits Wintroll experienced in a breach of contract lawsuit against a financial institution. On cross-examination at trial, Cross admitted to a mathematical calculation error, rendering the lost profits calculation useless. Unable to correct the error, the Cross testimony was struck. Wintroll settled cheaply and sued Cross for negligence, claiming as damages the difference between settlement and Cross's correct lost profits figures. The trial court dismissed Wintroll's suit. The appeals court affirmed, holding that the witness immunity doctrine barred the suit against Cross. The Supreme Court, recognizing a difference between an expert's professional malpractice and an expert's witness communication immunity, allowed the suit to proceed. The court cautioned, however, that the holding was limited and that an expert would not be liable merely because his or her opinion is challenged by another expert or on cross-examination. Differing opinions, the court said, would not establish an expert's professional negligence.

Adverse Expert Witness Liability

A suit against a friendly expert would seem to be a natural exception to the litigation privilege. A suit against the other party's expert, however, is, in the gatekeeper's words to Dorothy, "the Horse of a Different Color you've heard about."¹⁰²

It would seem as if the litigation privilege was invented precisely to prevent the disappointed litigant from essentially continuing the lawsuit in the disguise of a different cause of action. Allowing such lawsuits seems a receipt for unbridled, endless litigation, which is part of the rationale for the litigation privilege. That, and the fear of witness self-censure if a witness thinks a suit by the losing party is a court-sanctioned possibility. Fortunately, the 3 cases often cited for the proposition that the losing party can sue the opposing expert do not actually stand for that proposition at all. The cases have been misread and misinterpreted.

The *James v. Brown* opinion did not authorize an exception to the common law adverse witness immunity rule.¹⁰³ Rather, the *James* court was interpreting a specific mental health code statute wherein the legislature specifically preempted common law immunity in cases where physicians negligently performed mental health commitment examinations. *Levine v. Wiss & Co.* did not involve an adverse witness at all.¹⁰⁴ Rather, *Levine* is a clear case of negligence by an expert retained by agreement by both parties to a divorce. If anything, *Levine* supports the proposition that friendly experts can be liable for negligence. It does not support a proposition that the opponent can sue an opposing expert.

Finally, the seemingly outlier opinion in the unfriendly expert saga is from West Virginia—*Davis v. Wallace*.¹⁰⁵ The fact situation was a suit by a convict against the state's forensic experts

in her criminal trial. She alleged negligence in the forensic testing that supported their criminal trial testimony. The unusual procedural posture of the case, however, allowed the West Virginia court to sidestep the suit against an opposing expert issue. While acknowledging the potential exception to the litigation privilege that the facts presented, the court specifically stated that it was not addressing the issue of witness immunity.¹⁰⁶

Currently, expert witnesses need only be wary of a negligence suit by the party hiring the expert. This exception is undoubtedly needed in view of the ubiquity of experts and the need to make them accountable just as other professionals are. As to suits by the opposition, those seem to be far in the future, if at all.

Sanctions by Medical Boards And Professional Organizations

As we have seen, concern over medical malpractice tort reform has heightened medical board regulation of out-of-state experts, as well as legislation emphasizing the locality rule and the same specialty rule. Just as important, but less emphasized, has been a trend toward expert witness discipline by state medical boards and professional societies.

Medical Board Sanctions

Each state regulates the practice of medicine through a medical practice act defining what constitutes the practice of medicine. The question arises, therefore, if providing expert testimony constitutes medical practice so that a medical board could discipline a physician for providing false or inaccurate medical malpractice testimony. A decade ago the answer was that no state specifically included expert testimony in the medical practice definition.¹⁰⁷ When medical boards began disciplining physicians for false or inaccurate medical testimony, physicians resisted and the resulting court decisions have left a confused landscape of contradictions. Washington State and other courts have held discipline acceptable,¹⁰⁸ whereas Missouri rejected discipline, concluding that if the legislature wanted the medical board to regulate expert testimony, it would have written the authority into the Medical Practice Act.¹⁰⁹

In reality, every medical board probably has inherent authority to discipline what they perceive as false, fraudulent, or inaccurate expert testimony under their authority to discipline a licensee for unprofessional conduct. That rubric often includes definitions such as in Washington State: "misrepresentation or fraud in any aspect of the conduct of a business or profession."¹¹⁰ Medical boards have recently begun to adopt some version of the Federation of State Medical Boards' model rules defining "unprofessional" to include giving false, fraudulent, or deceptive expert testimony.¹¹¹ Recently, the Federation's chief advocacy officer, commenting on a state board's ability to discipline unethical witness testimony, opined that most boards have that inherent authority.¹¹²

As a practical matter, however, state boards have not and are unlikely to engage in significant expert witness testimony

supervision. Medical boards are complaint driven and generally tightly restricted by budgets and personnel, as well as time. Unless there is a specific complaint, medical boards are not looking for experts to prosecute. When a complaint is filed, the logistics of evaluating testimony will be time-consuming, difficult, and highly subjective. A trial transcript or deposition is much more difficult to evaluate than is a medical record. Testimony's subtleties, the questions, the nuances of the answers in the context of the legal process, objections, and the like, make testimonial assessment difficult. Not only does the context of the legal process obscure the meaning of the words, but also the nuances of the precise questions asked and the exact words of the answer given provide significant interpretation difficulties. Most experts will be able to find much to defend themselves within the typical question-and-answer, give-and-take style of court testimony.

Professional Society Sanctions

Reports of outrageous expert medical liability testimony have circulated through the medical community probably almost as long as just after the first adverse verdict. This perceived problem with experts giving false, fraudulent, exaggerated, outrageous testimony against colleagues was much like the weather, however—everyone talked about it, but no one did anything about it. Until 1983. That is when the American Association of Neurological Surgeons instituted a review program for members suspected of dishonest testimony. Since the program's inception, the Association has taken 68 disciplinary actions, 45 of which were for improper witness testimony. Penalties included censure letters, suspensions, and expulsions.¹¹³

Other specialty boards followed the American Association of Neurological Surgeons example. Approximately 32 now have some ethical codes, guidelines, and/or review procedures regulating expert testimony.¹¹⁴ Disciplined members are undoubtedly the most unhappy and have raised objections in court. Commentators have also raised concerns that these self-regulation efforts have inherent conflicts of interest because of the organization's hostility to malpractice litigation and their goal of reducing malpractice insurance costs.¹¹⁵

Professional society disciplinary actions are reportable to the Data Bank. These actions can affect physician privileges and membership in other professional societies, as well as future appearances as an expert witness. Physicians have, therefore, taken such actions seriously, and a few have instituted court challenges to societies' discipline. The most recent trend, however, does not favor immunity for specialty society review of malpractice testimony.

The first such case and the most prominent involved the American Association of Neurological Surgeons.¹¹⁶ Austin, an American Association of Neurological Surgeons member, testified for a patient in a losing effort, and the defendant complained to the American Association of Neurological Surgeons. The society investigated and, following a due process hearing with Austin represented by counsel, concluded that Austin misrepresented his expertise, as well as the standard of care for the surgery involved.

Austin was suspended. In his suit against the American Association of Neurological Surgeons, Austin complained that the American Association of Neurological Surgeons never disciplined members testifying for defendants and that expert testimony review violated public policy by discouraging expert testimony and interfering with the civil justice system. The appeals court disagreed with Austin's arguments, finding that professional self-regulation furthered, rather than impeded, the cause of justice by preventing "shoddy" expert testimony. The *Austin* case is the leading opinion in the field of society discipline upholding an organization's right to discipline members as long as the organization's rules provide the member with essential due process.

The *Austin* opinion was published in 2001. Many observers read that opinion as giving professional societies immunity to review expert witness testimony and institute discipline. They were wrong. At least 2 state courts have held there is no peer-review immunity for testimony review, rejecting totally the *Austin* court's reasoning. In 2012, an orthopedic surgeon successfully obtained a jury verdict against the American Academy of Orthopedic Surgeons for false portrayal in an Academy publication detailing his discipline for testimony as a plaintiff expert.¹¹⁷ The details of that case are still obscure and are based on news reports, but undoubtedly this surgeon was relying on the 2 prior opinions holding that society physician testimony reviews were not protected by peer review, thereby exposing both the society and the physicians reviewing the court testimony to defamation-type lawsuits.

The first case to reject *Austin*'s holding was *Fullerton v. Florida Medical Association*, decided in 2006.¹¹⁸ *Fullerton* was licensed in California and Florida. He testified against several Florida physicians who, after successfully defending the case, sent a scathing letter to the Florida Medical Association's expert witness committee contending Fullerton presented false testimony supporting a frivolous lawsuit solely for financial gain. Fullerton sued the Florida Medical Association and the individual doctors for defamation. The defendants asserted peer review immunity under the Florida and Federal peer-review statutes granting immunity for peer review related to health care rendered by health service providers.¹¹⁹ The court rejected the defense, finding that rendering health care did not include medical malpractice expert witness testimony review. The court specifically acknowledged the *Austin* court's dicta that the Healthcare Quality Improvement Act did provide immunity for testimony review. The Florida court simply stated that it disagreed with the *Austin* court's reasoning and sent Fullerton's case back to the lower court for trial.

In 2010, an obstetrician-gynecologist, Halbridge, sued Higby, a fellow American Congress of Obstetricians and Gynecologists member, for defamation because of an ethics complaint Higby filed with the American Congress of Obstetricians and Gynecologists' grievance committee.¹²⁰ Halbridge and Higby were opposing experts in a medical malpractice case, and Higby alleged that Halbridge made false statements in the expert report written for the litigation. Higby asserted the medical peer-review committee privilege during his deposition to avoid answering questions involving his interaction with the American Congress

of Obstetricians and Gynecologists committee and their review of the complaint. The appeals court overruled Higby's peer review defense on the narrow ground that Higby failed to prove American Congress of Obstetricians and Gynecologists was a healthcare entity, as mentioned in the state peer review statute.¹²¹ A lengthy concurring opinion, however, much broader in scope, followed the reasoning of the *Fullerton* Florida court, declining to characterize American Congress of Obstetricians and Gynecologists' grievance committee as a medical peer-review committee and refusing to characterize expert witness testimony review as a peer-review communication related to patient care that would be entitled to immunity.

These 3 cases portend some significant difficulties for professional peer review of expert testimony. The primary problem is that immunity is largely dependent on the exact wording of individual state peer review statutes and how the courts will interpret those words. Perhaps the real lesson to be learned is that professional societies desiring to continue expert witness testimony review need to work with state medical associations to ensure that appropriate legislation protects those who participate in such reviews.

American Academy of Neurology Disciplinary Process

The American Academy of Neurology's Code of Professional Conduct¹²² promulgates physician expert witness qualifications and guidelines.¹²³ The Code states:

The neurologist called upon to provide expert medical testimony should testify only about those subjects for which the neurologist is qualified as an expert by training and experience. Before giving testimony, the neurologist should carefully review the relevant records and facts of the case and the prevailing standards of practice. In providing testimony, the neurologist should provide scientifically correct and clinically accurate opinions. Compensation for testimony should be reasonable and commensurate with time and effort spent, and must not be contingent on outcome.¹²⁴

The guidelines generally track the Code, but provide significant detail regarding the expert's role when testifying to the standard of care and causation.

The American Academy of Neurology's Disciplinary Action Policy addresses alleged violations of the Code or guidelines.¹²⁵ Members or nonmembers can file a complaint and, after a fair hearing process, the American Academy of Neurology Board of Directors Executive Committee can reprimand, suspend, or expel a member.¹²⁶ Between 2004 and 2009, there were 58 complaints: 22 alleged improper expert witness testimony; 4 members were disciplined, 2 of whom resigned in lieu of discipline.¹²⁷

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Notes

- Huber P. *Galileo's Revenge: Junk Science in the Courtroom*. New York, NY: Basic Books; 1991:18.
- Johnston JC. Neurological malpractice and nonmalpractice liability. *Neurol Clin* 2010;28:441-458.
- Taylor JP. *A Treatise on the law of evidence as administered in England and Ireland (1885)* (available in multiple U.S. libraries as well as on-line sellers).
- Langbein JH. *The German Advantage in Civil Procedure*. 52 *Univ. Chicago L.R.* 823, 835 (1985). http://digitalcommons.law.yale.edu/fss_papers/536. Accessed January 19, 2013.
- Sheppard I. Court Witnesses – a desirable or undesirable encroachment on the adversary system. 56 *Aust. L.J.* 234 (1982) [citing *Buckley v. Rice Thomas* (1554) 1 *Plowd* 118; 75 *ER* 182].
- Davis B, Wilkinson D. High noon for hired guns and charlatans. *Armstrong Davis Associates*. http://www.armstrongdavis.co.uk/downloads/ADA_high_noon_for_hired_guns.pdf. Accessed January 18, 2013.
- Slater v. Baker and Stapleton* (1767) 2 *Wils KB* 359.
- Id.* at 362.
- Id.*
- deVille KA. *Medical Malpractice in Nineteenth Century America: Origins and Legacy*. New York, NY: New York University Press; 1990.
- Id.*
- Id.* See also Annas GJ. Doctors, patients and lawyers—two centuries of health law. *N Engl J Med.* 2012;367:445.
- Hand L. Historical and practical considerations regarding expert testimony. 15 *Harv. L. Rev.* 40 (1901) (tracing the use of scientific testimony to the 14th century and proposing a contemporary resolution to the use of experts).
- Gonzales L. The admissibility of scientific evidence: The history and demise of *Frye v. United States*. 48 *U Miami L. Rev.* 371 (1993).
- Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).
- Daubert v Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993).
- Houts M. 3 *Courtroom Medicine* §8.05 (1981).
- Lane F, Lane S. *Lane Goldstein Trial Technique*. 3rd ed. *Opinion Evidence and Expert Witnesses* 2011; chap. 14.
- Expert witness and opinion testimony is generally covered in the Federal Rules of Evidence, Rules 702-705. The Rules are amended from time to time and court opinions interpret the Rules' meaning beyond what the words on the page may mean.
- Panford JA. *The Trial Process: Law, Tactics and Ethics*. *Expert Witnesses* 2002; Chap. 8.
- Id.* at fn 1.
- Federal Judicial Center, National Research Council Reference Manual on Scientific Evidence, Reference Guide to Medical Testimony. 3rd ed.; 2011:687-745. [see 2nd ed. 439-484 (2001) for earlier surveys].

23. Angell M. *Science on Trial: The Clash of Medical Science and the Law in the Breast Implant Case*. New York: Norton; 1997.
24. Green MD. *Bendectin and Birth Defects: The Challenge of Mass Toxic Substances Litigation*. Philadelphia: University of Pennsylvania Press; 1998.
25. Offit PA. *The Cutter Incident: How America's First Polio Vaccine Led to the Growing Vaccine Crisis*. New Haven, CT: Yale University Press; 2005. (Trial lawyers alleged the pertussis vaccine caused mental retardation, epilepsy, learning disorders, Reye syndrome, sudden infant death syndrome, and a host of other childhood maladies, all supported by testimony of medical experts and all of which has been proven false. The mega verdicts being returned against the pertussis vaccine manufacturers in the 1970s and 1980s resulted in the 1986 Federal National Childhood Vaccine Injury Act establishing a program designed to protect manufacturers from baseless lawsuits and compensate children and families quickly and fairly. It also severely limited trial lawyer fees.)
26. All references are to the Federal Rules of Evidence which can be found at numerous places on the internet. One helpful site is Cornell University Law School's open access site which has the Rules along with the advisory committee's notes. <http://www.law.cornell.edu/rules/fre>. Accessed January 18, 2013.
27. Angell, *supra* note 23.
28. *Daubert v. Merrell Dow Pharmaceuticals, Inc.* 509 U.S. 579, 600-601 (1993) (dissenting opinion of Chief Justice Rehnquist).
29. *Daubert*, *supra* note 16.
30. *General Electric Co. v. Joiner*, 522 U.S. 16 (1997).
31. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).
32. American Academy of Neurology. Qualifications and guidelines for the expert witness. www.aan.com/globals/axon/assets/2687.pdf. Accessed January 19, 2013.
33. *Id.*
34. *Id.*
35. Panford, *supra* note 20.
36. *Id.*
37. *Id.*
38. E.g., *Mankoski v. Briley*, 137 N.H. 308, 627 A.2d 578 (1993); *Gilman v. Choi*, 185 W.Va. 177, 406 S.E.2d 200 (1990).
39. *Bella v. Turner*, 30 S.W.3d 892 (Mo. 2000) (neurologist permitted to testify against cardiologist regarding heparin use); *Gartland v. Rosenthal*, 850 A.2d 671 (Pa. Super. 2004) (Superior Court reversed trial court holding that neurologist could not testify against radiologist).
40. E.g., *O'Conner v. Commonwealth Edison Co.*, 807 F.Supp. 1376, 1390 (C.D. Ill. 1992), *aff'd*, 13 F.3d 1090 (7th Cir. 1994).
41. *Broders v. Heise*, 924 S.W.2d 148 (Tex. 1996).
42. *Daubert*, *supra* note 16 at 595.
43. *Joiner*, *supra* note 30 at 146.
44. *Daubert v. Merrell Pharmaceuticals, Inc.*, 43 F.3d 1311 (1995).
45. E.g., *Claar v. Burlington N. R.R.*, 29 F.3d 499 (9th Cir. 1994). See *Ambrosini v. Labarraque*, 101 F.3d 129 (D.C. Cir. 1996).
46. *Sheehan v. Daily Racing Form, Inc.*, 104 F.3d 940 (7th Cir. 1997).
47. *Kumho*, *supra* note X.
48. *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 318 (7th Cir. 1996).
49. *Kumho*, *supra* note 31 at 151.
50. FRE 702, Notes of advisory committee on Rules 2000 Amendments (2011). http://www.law.cornell.edu/rules/fre/rule_702. Accessed January 18, 2013.
51. *Id.*
52. *Id.*
53. Agency for Healthcare Research and Quality. Much ado about little: the effect of Daubert, Joiner, and Kumho Tire on claims of medical expertise. <http://www.ahrq.gov/clinic/jhpl/shuman2.htm>. Accessed December 23, 2012.
54. *Moore v. Ashland Chemical, Inc.*, 151 F.3d 269 (5th Cir. 1998) (*en banc*).
55. *Nat'l Bk. of Commerce v. Associated Milk Producers, Inc.*, 22 F.Supp. 2d 942 (E.D. Ark. 1998).
56. *Westberry v. Gummi*, 178 F.3d 257 (4th Cir. 1999).
57. *Black v. Food Lion, Inc.*, 171 F.3d 310 (5th Cir. 1999).
58. Agency for Healthcare, *supra* note 53.
59. FRE 703 bases of an Expert's Opinion Testimony (2011). Notes of advisory committee on Rule 703. http://www.law.cornell.edu/rules/fre/rule_703. Accessed December 26, 2012.
60. Panford, *supra* note 20.
61. American Bar Association, Model Rules of Professional Conduct, Rule 3.4 (b) and comment [3] (2012).
62. American Academy of Neurology. Qualification and guidelines for the physician expert witness 2005; §III.F.
63. FRE 803 (18).
64. *Bolam v. Friern Hospital Management Committee* (1957) 1 WLR 583 (doctor not negligent if acting in accordance with a practice accepted by a reasonable body of medical practitioners); *Bolitho v. City & Hackney HA* (1998) AC 232 (HL), (1997) 4 All ER (if expert opinion does not withstand logical analysis, judge is entitled to find it neither reasonable nor responsible).
65. Wasseem J, Mehil J, Upile T. English law for the surgeon II: clinical negligence. *Head Neck Oncol.* 2011;3:52. <http://www.headandneckoncology.org/content/3/1/52>. Accessed January 18, 2013.
66. *Rogers v. Whitaker* (1992) 175 CLR 479 (HCA) (whether conduct is negligent is ultimately a matter for court).
67. Civil Liabilities Acts reinstating the *Bolam* principles.
68. §4(1) The Code of Patients' Rights.
69. §4(2) The Code of Patients' Rights.
70. <http://www.guideline.gov>. Accessed February 10, 2012.
71. Orzag P. Malpractice methodology. *New York Times*, October 20, 2010, 39. <http://www.nytimes.com/2010/10/21/opinion/21orszag.html>. Accessed December 2, 2012.
72. Davidson T, Guzelian CP. Evidence-based medicine (EBM): The only means for distinguishing knowledge of medical causation from expert opinion in the Courtroom. 47(2) Tort, Trial and Insurance Practice Law J. 741 (Winter 2012).
73. Tucker J. A novel approach to determining best medical practices: Looking at the evidence. 10 Hous J Health L and Pol'y 147 (2010).
74. *Hinlicky v. Dreyfuss* (2006) 848 N.E.2d 1285 (carotid endarterectomy guideline serves as a "demonstrative aid for the jury in understanding the process" that defendant followed in caring for patient).
75. *Insurance Co. v. Myers*, 411 S.W.2d 710, 713-714 (Tex. 1996).
76. *Parker v. Employers Mut. Liab. Ins. Co.*, 440 S.W.2d 43, 47 (Tex. 1969).

77. *Griffen v. Univ. of Pittsburgh Med. Ctr.-Braddock Hospital*, 950 A.2d 996 (Superior Ct. Pa. 2008).
78. *Bertran v. Wunning*, 385 S.W.2d 803 (Mo. Ct. App. 1965), *appeal after remand*, 417 S.W.2d 120 (Mo. Ct. App. 1967).
79. *Beard v. K-Mart Corp.*, 2000 UT App. 285, 12 P.3d 1015, *cert. denied*, 20 P.3d 405 (Utah 2001).
80. Fed.R.Civ.P. 26(a)(2)(A).
81. Fed.R.Civ.P. 26(a)(2)(B).
82. Fed.R.Civ.P. 26(b)(4)(a) and 26(b)(4)(C).
83. Miller MR. The Reluctant Expert, Bench & Bar of Minnesota (1999). <http://www.mnbar.org/benchandbar/1999/ju/99/expert>. Accessed December 27, 2012; Panford, *supra* note 20 at 347; Note, Compelling Experts to Testify, 44 U.Chi.L.Rev. 851 (1977).
84. National Conference of State Legislatures, Medical Liability/Medical Malpractice Laws. <http://www.ncsl.org/issues-research/banking/medical-liability-medical-malpractice-law>. Accessed December 28, 2012.
85. E.g., *Bowles v. Bourdon*, 148 Tex. 1, 219 S.W.2d 779, 782 (1949).
86. Purdue J. The Law of Texas Medical Malpractice §2.04 (1985).
87. Ore. Rev. Stat. §677.095 (2003).
88. IC §§ 6-1012, 6-1013. <http://legislature.idaho.gov/idstat/Title6/T6CH10.htm>. Accessed January 21, 2013.
89. *Dulaney v. St. Alphonus Regional Med. Center*, 137 Idaho 160, 45 P.3d 816 (2002). See also *Suhadolnik v. Pressman*, 151 Idaho 110, 254 P.3d 11 (2011).
90. N.C. Gen. Stat. §90.21-12 (1999).
91. *Henry v. Southeastern OB Gyn Associates*, 550 S.E.2d 245 (N.C. Ct. App. 2011) (*aff'r per curiam*, 557 S.E.2d 530 (N.C. Sup. Ct. 2001)).
92. Gallegos A. Expert witness on trial. Amednews.com (August 1, 2011). <http://www.ama-assn.org/amednews/2011/08/01/prsa0801.html>. Accessed December 28, 2012.
93. *Id.*
94. *Id.*
95. Jordan CM. States enact expert witness legislation for medical injury actions. *ABA Litigation News*, October 19, 2011. <http://www.apps.american.org/litigationnews/topstories/101911-medical-malpractice-expert-witness-florida.html>. Accessed December 28, 2012.
96. Prosser W. Handbook of the Law of Torts §114 (4th ed. 1971).
97. McDowell CM. Authorizing the expert witness to assassinate character for profit: a re-examination of the testimonial immunity of the expert witness, 28 U.Mem.L.Rev. 239 (1997).
98. *Bruce v. Byrne-Steven & Assoc. Engineers*, 776 P.2d 666 (Wash. 1989).
99. Grossman M, McCutchen B. Demolishing expert witnesses and expert witness malpractice, Trial.Com keys to litigation management success (2011). <http://www.trial.com/c/e/materials/2011-Ca/grossman.pdf>. Accessed December 28, 2012.
100. *Id.*
101. *LLMD of Michigan, Inc. v. Jackson-Cross Co.*, 740 A.2d 186 (Pa. 1999).
102. Baum LF. *The Wonderful Wizard of Oz*. London: HarperCollins; 1900.
103. *James v. Brown*, 637 S.W.2d 914 (Tex. 1982).
104. *Levine v. Wiss and Co.*, 478 A.2d 397 (N.J. 1984).
105. *Davis v. Wallace*, 565 S.E.2d 386 (W.Va. 2002).
106. *Id.* at 391.
107. Cohen FL. The Expert Medical Witness and Legal Perspective. 25 *J Legal Med.* 2004;25:185, 188.
108. *Deatherage v. State of Washington Examining Bd. of Psychology*, 948 P.2d 828 (Wash. 1997); *Joseph v. District of Columbia Bd. of Med.*, 587 A.2d 1085 (D.C. 1991).
109. *Missouri Bd. of Registration Healing Arts v. Levine*, 808 S.W.2d 440, 443 (Mo.Ct.App. 1991).
110. RCW 18.130.180.
111. Federation of State Medical Boards 2010 (12 ed.), §IX, D., 14. http://www.fsmb.org/pdf/GRPOL_essentials.pdf. Accessed April 2, 2012.
112. Gallegos, *supra* note 92.
113. Gallegos, *supra* note 92.
114. Hodge SD, Cohen AJ. *The Physician as Expert Witness. The Practical Litigator*, January 2010. <http://www.ali-cle.org/index.cfm?fuseaction=publications.issue&issued=14240> OR www.proedgroup.com/.../Hodge-Expert%20Witness%20find.pdf. Accessed December 28, 2012.
115. Kesselheim AS, Studdert DM. Role of professional organizations in regulating physician expert testimony. *J Am Med Assoc.* 2007;298:2907-2909.
116. *Austin v. Am. Ass'n of Neurological Surgeons*, 253 F.3d 967 (7th Cir 2001).
117. Gallegos A. Medical societies authority to discipline expert witnesses faces a challenge. Amednews.com (June 25, 2012). <http://www.ama-assn.org/amednews/2012/06/25/prca0625.htm>. Accessed December 28, 2012.
118. *Fullerton v. Florida Med. Ass'n*, 938 S.2d 587 (Fla.Dist.Ct. Appeals [1st Dist.] 2006).
119. Fla. Statutes 766.101(3)(a); 42 U.S.C. §§11101-11152 (HCQIA).
120. *In re Higby*, 325 S.W.3d 740 (Ct.App.-Houston [1st Dist.] 2010) (orig. proceeding).
121. Texas Health & Safety Code §161.031 (2010); Texas Occupation Code §151.001 (2009).
122. American Academy of Neurology. Code of professional conduct. *Neurology.* 1993;43:1257-1260. Current version (December 2009). <http://aan.com/globals/axon/assets/7708.pdf>. Accessed April 2, 2012.
123. American Academy of Neurology. Qualifications and guidelines for the physician expert witness. *Neurology.* 2006;66:13-14. <http://www.aan.com/globals/axon/assets/2687.pdf>. Accessed April 2, 2012.
124. American Academy of Neurology. Code of Professional Conduct. § 6.4, December 2009.
125. <http://www.aan.com/globals/axon/assets/6945.pdf>. Accessed April 2, 2012.
126. Disciplinary Action Policy §E. <http://www.aan.com/globals/axon/assets/6945.pdf>. Accessed April 2, 2012.
127. Hutchins JC, Sagsveen MG, Larriviere D. Upholding professionalism: the disciplinary process of the American Academy of Neurology. *Neurology.* 2010;75:2198-2203.