***Daubert* and the Five Criteria for Finding the Optimal Medical Expert Witness**

**Joshua Baron, MD**

*Daubert vs. Merrell Dow* is a 1993 U.S. Supreme Court case which crafted the standard for admissibility of expert testimony in legal proceedings.

The Plaintiffs in this case, the Daubert family, sued Merrell Dow in California state court, alleging that their minor children Jason Daubert and Eric Schuller were born with significant birth defects caused by their mother’s use of Bendectin, an anti-nausea medication, during the course of her pregnancy. Merrell Dow moved for summary judgment and presented the testimony of Steven Lamm, a physician and epidemiologist, who opined that none of the 30 or so published articles on the effects of Bendectin revealed a causative link with birth defects. The Plaintiffs offered the opinion of eight of their own expert witnesses, who testified that Bendectin is responsible for causing birth defects based on data from 1) animal and “test tube” studies, 2) pharmacological analyses of Bendectin revealing a structural similarity between the drug and other drugs which cause birth defects and 3) a meta-analysis of the data from the research presented by Lamm, which indeed showed Bendectin's ill effects upon a developing fetus.

The Plaintiffs’ expert testimony was discarded as inadmissible, quoting *United States vs. Kilgus* (1978), which held that expert testimony must be “sufficiently established to have general acceptance in the field to which it belongs.” The District Court found that the Petitioner’s expert testimony did not meet this criterion. Moreover, the reanalysis of the data from the studies Lamm presented was discarded because it had not been peer-reviewed or published. Merrell Dow’s motion for summary judgment was granted.

Upon appeal to the United States Court of Appeals for the Ninth Circuit, the lower court’s decision was upheld. The Appeals court cited the 70-year-old decision of *Frye vs. United States*, which established that scientific expert testimony is admissible only if the technique utilized is “generally accepted” as reliable in the scientific community. That is, “general acceptance” of a technique was, in that case, prioritized over adherence to proper scientific method.

The US. Supreme Court heard the case in 1993. The basis of the Plaintiffs’ argument was that the “Frye criterion” of general acceptance should be discarded for the purposes of assessing the legitimacy of scientific expert testimony and replaced by the criteria established by the Federal Rules of Evidence. The justices agreed with the Plaintiffs’ argument and subsequently vacated the Court of Appeals’ judgment, remanding the case for reconsideration.

In the opinion, Justice Blackmun referenced four criteria for the admissibility of expert testimony: relevance, reliability, use of scientific method and comprehensibility. While the intent of Daubert was not to dictate how the attorney should select medical expert witnesses, these four criteria can serve as guidelines for this very purpose. Pragmatically, in appealing to a judge and jury, a fifth criterion of “reputation” should be added to the analysis.

**Relevance**

Justice Blackmun discusses the importance of relevance when he quotes rule 402 of the Federal Rules of Evidence: “All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the Supreme Court pursuant to statutory authority. Evidence which is not relevant is not admissible.” As defined by Rule 401, “relevant evidence” is defined by “any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.” While Justice Blackmun notes that this is a “liberal” definition, it helps establish the starting point for selecting an expert witness.

The testimony provided must be relevant to the issues of the case at hand. By extension, the expert witnesses selected for a case must demonstrate, through their specific fields of study and practice, that they are competent to offer an opinion on the case’s issues. For example, a case involving a traumatic spinal cord injury is best handled by experts from “relevant” medical specialties such as neurology, neurosurgery and/ or neuroradiology. Experts from such fields can, through “knowledge, skill, experience, training or education” (Rule 702) opine on a plaintiff's injury including diagnosis, treatment, prognosis, and permanency, as well as the costs associated with such an injury.

Relevance in the selection of an expert witness also applies to the applicable standard of care. For example, the standard of care for the treatment of a diabetic ulcer in a rural setting is quite different from the standard within an urban academic medical center, due in large part to the discrepancy in resources available within each setting (e.g. the availability of a hyperbaric chamber within the urban, but not the rural, setting). A plaintiff’s expert from an academic medical center would not necessarily be relevant to a case involving a defendant from a rural setting when offering an opinion on the patient’s appropriate treatment. With that said, an expert witness from an urban center may very well complement the opinion of a rural expert, particularly with respect to causation or the underlying science of an injury.

The expert’s day-to-day experience must be relevant to the case. In most medical malpractice and personal injury cases, the demand for a clinician outweighs the demand for an expert who is primarily a scientist or has the bulk of his experience consulting for attorneys as a “hired gun.” While a scientist may help to augment the clinician’s opinion, particularly when basic research helps to inform the case, the primary medical opinion should not originate from someone who spends more time at the lab bench than in the examining room. Likewise, the testimony of a “hired gun” should be suspect, given a lack of clinical experience and the consultant’s possible desire to pander to an attorney’s needs. A simple question about the frequency and characteristics of the expert’s clinical sessions can help to address this issue.

**Reliability**

In Justice Blackmun’s opinion, he states, “... under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” Reliability applies not only to the methods of the science underlying the medical evidence ̶ namely that results obtained in one study must be consistent with other, similar studies ̶ but also to the reliability of an expert witness from one case to the next. It is not uncommon for an expert witness, particularly a “hired gun,” to contradict herself from one case to the next. While this can be difficult to discern without spending hours combing through an expert’s testimony in prior cases (a worthwhile, though time-consuming, endeavor), a well-informed conversation with potential expert witnesses can help to avoid what can become a significant gaff or missed opportunity. When interviewing potential expert witnesses, it is crucial not only to ask about an expert witness’s opinion, but also to seek out what scientific research, guidelines or published standard of care form the basis for the expert’s opinion.

**Use of Scientific Method**

In rejecting Frye’s rule of “general acceptance” as the primary criterion for admissibility, the Supreme Court emphasizes the importance of the scientific method in obtaining the knowledge underlying an expert’s opinion. Blackmun states, “The adjective ‘scientific’ implies a grounding in the methods and procedures of science. Similarly, the word ‘knowledge’ connotes more than subjective belief or unsupported speculation.” While the primary medical expert is usually a clinician, utilizing the testimony of the individual that performed research supporting the clinician’s position can be extremely powerful. The scientist will likely have knowledge not only of his own research, but of contradicting research. He is therefore in a position to explain why the opposing conclusions are invalid. Fortunately clinical research is often performed by experts, in academic medicine, who see patients and complete research. When possible, an expert who has performed research relevant to a case’s subject matter should be utilized. When not feasible, a clinician who has written review articles or book chapters on the topic should be utilized. She will have a broad understanding of the underlying science, dissenting opinions and contradictory conclusions and can make the difference between a win and a loss to the litigator.

Justice Blackmun goes on to state that “Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested.” The significance of Blackmun’s use of “scientific knowledge” is that it prioritizes opinions that are grounded in scientific research over opinions that are derived from organizational consensus or position papers. The latter are frequently developed by leaders agreeing upon a fixed algorithm, based upon experience but not necessarily sound research. In interviewing potential expert witnesses, it becomes important to establish the grounds for her opinion.

**Comprehensibility**

Throughout Justice Blackmun’s opinion, he makes frequent reference to Rule 702 of the Federal Rules of Evidence, which “requires that the evidence or testimony ‘assist the trier of fact to understand the evidence or to determine a fact in issue.’” While the intent of this quote is to assure relevance of testimony, the use of the word “understand” is an important component of Rule 702. The ideal expert witness should be able to express an opinion by patiently explaining what may be complex medical knowledge or research, in laypersons’ terms, in such a fashion that the judge and the jury will understand the disputed issue.

While an expert’s ability to explain complex information can be gleaned somewhat from a telephone conversation, there are several surrogate measures that can be used for screening. An expert who has a teaching position at a medical school is likely to be skilled at explaining complex topics to students. In particular, an expert who has received teaching awards is likely to have an exceptional ability to assist the trier of fact in understanding complex medical issues (these awards are often listed on a physician’s curriculum vitae).

Nowhere is the art of explaining complex medical topics to laypersons more important than in the clinical setting. Physicians are called upon on a daily basis to explain complex anatomy, physiology and pathophysiology to their patients. The patient experience is captured on numerous websites rating clinicians. These sites, including HealthGrades, Yelp and even AngiesList, are worth referencing. Given the importance of explaining disease processes to patients in the clinical setting, patients will tend to comment either positively or negatively upon whether their doctors are skilled in this regard. These same skills can be applied in litigation.

**Reputation**

The ability of an expert witness to appeal to and persuade a jury is dependent not only on knowledge, experience and explanations, but also on his reputation and how likable the expert is. In general, we are more likely to listen to and believe someone who is likable and reputable.

Flaws in reputation occur when a medical expert witness has been a defendant in a malpractice case or has received -- for whatever reason -- sanctions by specialty boards, state licensing boards or national organizations. As such, each potential expert should be vetted by an inquiry of the potential expert’s state licensing board and American Medical Association records and a search of the expert’s name on the National Practitioner Database and Lexis-Nexus or WestLaw. Unfortunately, any expert with professional sanctions is likely to be discredited by an opposing attorney, no matter how perfect the expert is, otherwise.

As in the section on comprehensibility, a reputation for likability, from the patient perspective, will be well-described on Internet ratings sites such as HealthGrades or Yelp. These sites should be used to guide selection of the expert witness. Similar ratings can be found in the “best docs” segment of local publications (e.g. Chicago Magazine’s yearly listing of Chicago’s best doctors, by field).

Other indications of likability include teaching awards from medical schools. Election to a leadership position in a local or national medical society (e.g. the president of the American Academy of Family Physicians) also suggests that a potential expert witness may be reputable and well-liked, in general.

Reputation also becomes a concern when experts will consult exclusively for defense attorneys or exclusively for plaintiff attorneys. This exclusivity implies a bias toward the protection or the castigation of a defendant and that the expert’s testimony is not reliable across case types ̶ i.e. defense vs. plaintiff cases. Such an expert may ignore more reliable data from medical research in favor of less robust data that favors the expert’s exclusive position. For example, there may be five peer-reviewed publications proving the superiority of laparoscopic appendectomy over open appendectomy, but only one publication in an obscure journal proving the superiority of open appendectomy. An expert working for the defense team may inappropriately cite the one study when helping to defend a physician who performed an unwarranted open appendectomy that resulted in complications.

Of course, there is no substitute in the assessment of reputation and likability for one’s “gut feeling” after having a conversation with a potential expert witness, which is a key element before selecting and hiring an expert.

**Conclusion**

In sum, Justice Blackmun’s opinion in the landmark case *Daubert vs. MerreII-Dow* gives us a framework for how one might find the optimal expert witness in each case. This search requires a multilayered approach and should fully assess issues of relevance, reliability, use of the scientific method, comprehensibility and reputation. While this can be a time-consuming endeavor, there are online forums which can help to find an appropriate expert, as well as medical-legal consulting firms which can take on this task, lessening the legal team’s burden.