FEATURE

Expert testimony in the silica cases: The fallacy of scientific objectivity—some observations

In 1993, the U.S. Supreme Court decided the case of Daubert v. Merrell Dow Pharmaceuticals establishing guidance for federal courts to permit the use of expert testimony under the Federal Rules of Evidence, specifically Rule 702. This and subsequent decisions require trial court judges to review expert testimony before a party puts expert testimony before the jury to assure that the expert's testimony is probative; i.e., that it is both reliable and relevant. When experts fail to follow accepted scientific methods and practices, the courts must reject the evidence as unreliable, ruling on such motions to exclude the experts' testimony in the pre-trial stage. In the case of *In re Silica*, the court's non-technical analysis showed how common sense and good judgment can help evaluate the soundness of a technical expert's testimony.

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Courts and administrative agencies often rely on expert testimony to assist the trier of fact in understanding technical and scientific issues. In product liability court cases, such testimony is commonly offered in court to prove causation – that is – to link the Plaintiff's injuries to the Defendant's actions. The Federal Rules of Evidence, specifically Rule 702, reflects the Supreme Court's holdings in the 1993 case of *Daubert v. Merrell Dow Pharmaceuticals*[1] and subsequent cases, which established guidance for courts to permit the use of expert testimony. These decisions, adopted in some but not all state courts and followed as yet in no administrative rulemaking proceedings, require trial court judges to review expert testimony before a party puts expert testimony before the jury to assure that the expert's testimony is probative; *i.e.*, that it is both reliable and relevant. In other words, will the expert's opinion assist the trier of fact (either a judge in a bench trial or a jury) to accurately understand complex technical issues so as to render a just decision.

In re Silica[2] is a lesson, not only for the doctors or lawyers among us, but for any scientist or technical expert considering giving or using expert testimony in a federal trial. In June of 2005, the District Court for the Southern District of Texas issued a 249 page opinion in which the judge found that the testimony relating to the alleged silicosis diagnosis of 9,000 plaintiffs was inadmissible because the experts had not followed an accepted scientific regimen in making the diagnoses. Among the practices criticized by the court were those involving law firms directing the medical examinations, the medical practitioners rendering "medical" opinions solely for the purpose of the litigation, and the use of screening firms that operated in the Gulf Coast area to perform the physical examinations, to take medical histories, and to process the claim forms. The court's ruling on motions to exclude the experts' testimony in the pre-trial stage is a recent example of the application of the legislative and judicial standards governing the use of expert testimony. The district court's analysis shows how the principles of the *Daubert* Case and Rule 702 and their application in *In re Silica* in a non-technical analysis can help evaluate the soundness of technical expert's testimony by applying common sense and good judgment.

It is the job of the trial judge to ensure that an expert's testimony "both rests on a reliable foundation and is relevant to the task at hand."[3] Federal Rule 702 provides that:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

The Supreme Court changed the generally accepted interpretation of the rule applicable in federal courts in the *Daubert* case. Before that decision, the so-called *Frye* rule held sway. Under *Frye*, expert testimony was admissible as long as it was "generally accepted" by the relevant scientific community.[4] After *Daubert,* it is now clear that the issue for the trial judge is whether the experts' technical or

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scientific opinion was reached by proper analysis or was otherwise reliable; if not, "any step that renders the [expert's] analysis unreliable renders the expert's testimony inadmissible."[5] In addition, the proffered testimony must also be relevant; there must be a close fit between the testimony and a disputed issue in the case.[6]

Under *Daubert* and its progeny, the trial judge evaluates the reliability of the analysis by considering whether "the expert's findings and conclusions are based on the scientific method," or "based on scientifically valid principles." Put another way, the Court must "[employ] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field" to determine if the proffered testimony is reliable.

The task of the judge is not to decide whether the testimony supports the plaintiff's allegations. That is left for the jury in the course of the trial. If the judge determines that the testimony is not reliable, then the jury will not hear it at all.

A number of different factors have been discussed in appellate court decisions after *Daubert* as the courts apply its principles and learn from the cases. The factors sometimes discussed include: (1) "whether the theory can be (and has been) tested;"[7] (2) "whether the theory ... has been subject[ed] to peer review and publication;"[8] (3) "the known or potential rate of error;"[9] and (4) whether the theory has been generally accepted.[8] Lower courts have also looked at (1) "whether the underlying research was conducted independently of litigation;"[10] (2) whether the expert unjustifiably extrapolated from an accepted premise to an unfounded conclusion;"[11] (3) whether the expert has adequately accounted for obvious alternative explanations[12]; (4) whether the expert was as careful as he/she would be in his/her professional work outside of litigation[13]; (5) "whether the field of expertise claimed by the expert is known to reach reliable results;"[14] and (6) whether the expert relied on anecdotal evidence.[15]

Ultimately, it is the job of the party seeking to have expert testimony admitted to prove to the trial judge by a preponderance of the evidence that the testimony is reliable.[16] *Daubert*'s admissibility principles do serve to allow a slightly broader swath of testimony than was previously admitted under the "general acceptance" standard; however, the trial judge maintains his role of "gate keeper," ensuring that the testimony is both relevant and reliable.[17]

In the silica litigation in 2005, thousands of plaintiffs filed cases alleging that a specific lung disease, silicosis, resulted from exposure to crystalline silica were consolidated under judicial rules governing multi-district litigation. As a result, Judge Janis Graham Jack of the Southern District of Texas had before her some 10,000 individual plaintiffs, each with a diagnosis purportedly of silicosis, and each claiming that the defendants' products or actions had caused the disease.[18]

As in any tort, a major element of a plaintiff's case is proof of injury. Here, the plaintiffs alleged that they had silicosis, and offered the testimony of the medical experts who had reviewed their cases and made those diagnoses. Judge Jack determined that the diagnoses themselves should be reviewed under the *Daubert* standard as expert testimony and, thus, she held hearings to examine the expert's methods and practices.

Twelve physicians were identified as having made diagnoses of silicosis in the plaintiffs.[19] The physicians were questioned as to which scientific methods were appropriate for a physician to use in making a diagnosis of silicosis, and what methods were used in the plaintiffs' cases. Moreover, the physicians were questioned about their views of their relationships with the plaintiffs and how they characterized the opinions contained in the diagnoses that were offered to support the plaintiffs' claims.

Before setting forth her decision regarding the quality of the experts' testimony, Judge Jack reviewed data from federal and state agencies, including the Centers for Disease Control and the National Institute for Occupational Safety and Health (NIOSH). She took note of the fact that the number of cases alleged would be an epidemic of massive proportions and that none of the agencies had made mention of these thousands of "diagnoses" in any of the routine reports that the agencies produced on the topic[20] In contrast, in 1988, CDC issued an outbreak alert for ten cases of silicosis. The Judge also asserted that, had the doctors been following any reasonable standard of medical ethics and responsibilities, they would have reported these thousands of diagnoses to a federal or state health agency.[21] Instead, the doctors had reported only to the lawyers who hired the screening companies.

Each plaintiff received a form detailing their diagnosis. Each form stated that "on the basis of the medical history review, which is inclusive of a significant occupational exposure to silica dust, physical exam and the chest radiograph, the diagnosis of silicosis is established with a reasonable degree of medical certainty." Despite this, in testimony, one doctor, who had allegedly signed and filled out over six thousand of the plaintiffs' forms, stated that he had not examined a single plaintiff. He believed that he was only performing a secondary check and that another physician had taken the original physical, history and occupational exposure, and would be the one making the diagnosis. Importantly, the physician did not even know the criteria by which a diagnosis of silicosis was made; the lawyers, instead of the doctors, had established the criteria for screenings.[22] Often he did not even read the plaintiffs' medical reports and in some cases, secretaries, receptionists, and typists filled out the diagnostic forms and selected the diagnosis by checking the respective box on the form.[23] Often, as little as four minutes were spent in reviewing a case and reaching the conclusion that a person had silicosis,[24] at a rate of 75 plaintiffs per day.

One physician admitted that, at best, the language on his forms overstated his role in the diagnostic process. Nonetheless, he gave permission to the attorneys to use the "diagnosis of silicosis" language on the medical forms. During testimony, it became clear that the plaintiffs' attorneys knew that many of the conclusions on the forms were overstated.[25]

Even in those situations in which physical examinations of the plaintiffs