



F19 Moving Toward New Requirements for the Admissibility of Evidence

Barry A.J. Fisher, MS, MBA*, 81620 Avenida Estuco, Indio, CA 92203

After attending this presentation, attendees will better understand how forensic science expert witnesses can offer their expert opinions meeting *Daubert* standards in subjects in which there are presently little or no statistics available upon which to base their conclusions, such as in cases involving pattern evidence.

This presentation will impact the forensic science community by providing lawyers and judges an understanding of the difficulties experts have in framing their expert opinions in cases in which they cannot rely on significant amounts of research with academic institutions or on probabilities to express the degree of certitude they are attempting to convey to the triers of fact.

Nearly 70 years after the *Frye* rule, the so-called general acceptance test, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, affirmed Rule 702, Federal Rules of Evidence, the *Frye* rule, and modified the admissibility requirements for scientific evidence.¹ In 1999, the Court published the *Kumho Tire Co. v. Carmichael* case and extended the rule to include both scientific and technical expert testimony.²

In *Kumho Tire*, the courts considered expert testimony in a case concerning tire manufacture and the resulting tire failure. The expert in *Kumho Tire* relied upon his experience in tire failure. The court noted that his examination did not meet the *Daubert* obligation. It went on to opine that all expert opinions, whether based on scientific and/or technical subject matter, are required to meet the same standards. (The expert grounded his opinion on observations made on the tire in question and testified that his opinion was based on his experience but did not give scientific or technical information to back up that opinion.) The court concluded that an expert's testimony had to demonstrate that the techniques used in the examination and subsequent testimony were reliable and met the same standards laid out in the *Daubert* case.

Thus, expert opinion testimony, whether scientific or technical, is subject to the same requirement as outlined in the Federal Rules of Evidence, Rule 702: (1) that the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (2) that the testimony is based on sufficient facts or data; (3) that the testimony is the product of reliable principles and methods; and, (4) that the expert has reliably applied the principles and methods to the facts of the case.

Embedded within the court's requirement to ensure the dependability of the forensic science laboratory's work and the expert's testimony is the notion of reliability. In *Daubert*, the court suggests that the following factors may be considered as a means to determine the admissibility of scientific evidence: (1) Has the technique been tested in actual field conditions (and not just in a laboratory)?; (2) Has the technique been subject to peer review and publication?; (3) What is the known or potential rate of error?; (4) Do standards exist for the control of the technique's operation?; (5) Has the technique been generally accepted within the relevant scientific community?; and, (6) Expert witnesses need to give consideration on how they might respond to such questions.

One particular subject for consideration is how experts express levels of certainty — how sure are they about their opinion? At one time, experts could state, with virtual certainty, that two items of evidence were unique and came from a common source. It was not uncommon for a fingerprint expert to state that two prints came from the same person, to the exclusion of anyone else. Today, a statement expressing that level of certainty is likely to be challenged. Probabilistic statements are viewed as the appropriate way to express levels of certitude.



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Here is a complication: how can we express the likelihood that two items came from a common source when their probabilities of occurrences are unknown? Given a shoe print with wear patterns and gouges in the heel and sole, we do not have a numeric probability value to suggest the uniqueness of those marks. It is not possible to testify when probabilities of occurrence are unknown. How are experts to express their opinions about the likelihood that two items came from a common source when statistics are not available and perhaps may never be available?

Indeed, opinions concerning the admissibility of scientific and technical expert evidence have a ways to go before these issues are fully dealt with. Until then, we may be faced with *ipse dixit* testimony (e.g., “based on my training and experience, it’s my opinion that the items are consistent with, or a match for, a common source!”) Will that be adequate?

Reference(s):

1. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786.
2. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137

Admissibility, *Daubert*, Probability