

# The Industrial Hygienist as an Expert Witness - Admissibility.

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Merton Howard and Kymberli Nathan  
Hanson Bridgett Marcus Vlahos & Rudy LLP  
425 Market Street, 26th Floor  
San Francisco, California 94105  
Telephone: (415) 777-3200  
[www.hansonbridgett.com](http://www.hansonbridgett.com)

Expert witnesses have become fixtures in today's courts. From fiber comparisons to economic projections to psychiatric evaluations, the range of offered expertise covers the span of human knowledge. Hardly a case of any consequence goes to trial without expert testimony of some kind.

The industrial hygienist may be involved in legal proceedings as a witness, a consultant, and/or a testifying expert. When working as a consultant or a testifying expert, it is critical that the industrial hygienist consider the admissibility of his/her testimony during all phases of the case, including (a) retention, (b) defining the scope of work, (c) building a file, (d) preparing opinions, (e) drafting reports and/or declarations, (f) expert designation, (g) deposition, (h) analysis of the other expert opinions in the case, (i) preparation of demonstrative exhibits and other trial documents, and (j) trial presentation.

This paper provides an overview of the key legal issues that should be considered when expert testimony, including industrial hygiene testimony, is presented to federal and California state courts. Specifically, this paper is broken into the following broad categories: (1) qualification as an expert; (2) admissibility of general expert testimony; and (3) admissibility of scientific opinion testimony. The paper concludes by reviewing recent California state court decisions which suggest that California state courts are taking a harder look at expert testimony.

### **I. QUALIFICATION AS AN EXPERT**

#### **A. Federal Law**

Federal Rules of Evidence (FRE) Rule 702 provides:

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.

In federal court, the trial judge must make a preliminary determination as to whether proffered expert testimony satisfies the necessary foundational requirements under FRE Rule 702. *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579, 591; *Kumho Tire Co., Ltd. v. Carmichael* (1999) 526 U.S. 137, 141. An expert witness must be shown to possess scientific, technical or other specialized knowledge, skill, training or education on the subject matter of his or her testimony. The trial court must also assess whether the reasoning and/or methodology underlying the testimony is valid and can properly be applied to the facts in issue. *Daubert v. Merrell Dow Pharmaceuticals, Inc., supra*, 509 U.S. at 593. The court must also determine whether an expert's testimony will assist the trier of fact.

The expert's qualifications may be established through the witness' own testimony or any other admissible evidence. Neither a formal education nor a professional degree is a prerequisite for expert qualification; expertise is relative to the subject and any person who has special knowledge, skill, training, education or experience in any occupation, trade or craft may be qualified as an expert in his or her field. However, whether a particular person has sufficient expertise to testify as an expert witness depends on the facts of the particular case, the questions propounded to the witness, and the witness' specific qualifications.

#### **B. California Law**

California Evidence Code Section 720 provides:

- (a) A person is qualified to testify as an expert if he has special knowledge, skill, experience, training, or education sufficient to qualify him as an expert on the subject to which his testimony relates. Against the objection of a party, such special knowledge, skill, experience, training or education must be shown before the witness may testify.
- (b) A witness' special knowledge, skill, experience, training, or education may be shown by any otherwise admissible evidence, including his own testimony.

Section 720 addresses the qualifications necessary to accord a witness expert status in California. It is similar to FRE 702 in that a witness may qualify as an expert by reason of his or her knowledge, skill, experience, training, or education. Additionally, the issue of whether an individual is an expert may be related to the issue of the reliability of the basis for the "expert" opinion. If there is some question or doubt as to the reliability and acceptability of the basis for the individual's particular expertise or opinion, the Court may hold an evidentiary hearing pursuant to Evidence Code section 402, et seq. However, California Courts do not follow the Federal Rules and *Daubert*. Rather, the California *Kelly* test (described below) is applied only to certain types of expert evidence (e.g., new scientific devices or processes) (see *People v. Kelly* (1976) 17 Cal.3d 24). A new technique may be deemed scientific if "the unproven technique or procedure appears in both name and procedure to provide some definitive truth which the expert

need only accurately recognize and relay to the jury.” *People v. Stoll* (1989) 49 Cal.3d 1136, 1156. Moreover, California trial courts have often been quick to conclude that a flaw in an expert’s testimony may affect its weight or credibility, but is not enough to exclude the testimony completely.

## **II. ADMISSIBLE EXPERT OPINION TESTIMONY**

### **A. Admissibility of Expert Witness Testimony in Federal Court Generally**

Federal Rule of Evidence 702, which requires that the expert testify on a matter that is beyond the common experience of the jury, is similar to California Evidence Code Section 801(a) below. Although, the expert’s function under both rules is to “assist the trier of fact”, the federal rule was amended to codify the U.S. Supreme Court’s recent cases on scientific and technical expert witness testimony, which are discussed in Section III below. Under the Federal Rules of Evidence Section 702, expert testimony shall be allowed “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.”

#### **1. Bases for Expert’s Opinion**

Similarly, Federal Rule of Evidence 703 and California Evidence Code Section 801(b) both define the proper bases for the expert’s opinion. However, Federal Rule of Evidence 703 was also amended in 2000 in such a way as to set it apart from Section 801(b). Federal Rule of Evidence 703 now states that facts or data that help to form an expert’s opinion but that are inadmissible may not be disclosed to the jury unless the court determines the probative value substantially outweighs the prejudicial effect.

FRE Rule 703:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.

Thus, Rule 703 requires the trial judge to answer two questions:

- (1) whether the facts are of a type reasonably relied on by experts in the particular field; and

- (2) whether the probative value of the underlying data substantially outweighs its prejudicial effect.

Expert opinion testimony may be based on information (even if inadmissible) derived from the following sources:

- **Firsthand observation** (facts or data perceived by the expert before trial).
- **Secondhand information** (facts or data made known to the expert before trial through means other than his or her own perception--*e.g.*, reports, studies, literature, patient statements, etc.).
- **Testimony of other witnesses** (facts or data made known to the expert during trial).

The facts or data relied upon need not be admissible in evidence so long as of a type reasonably relied on by experts in the particular field in forming opinions or inferences on the subject. The rationale is simply that experts commonly rely on articles, books and reports published in their field of expertise, including reports of other experts. In turn, as a foundational matter, the court must determine whether the underlying facts, data, reports, etc. were “reasonably” relied upon by the expert in forming an opinion (so as to render admissible opinion testimony based on inadmissible facts or data).

## 2. An Expert’s Methodology Must be Reliable

When expert testimony is offered, the trial judge must perform a screening or “gatekeeping” function to ensure that the expert's testimony "is the product of reliable principles and methods." FRE Rule 702; *Kumho Tire Co., Ltd. v. Carmichael* (1999) 526 U.S. 137, 152. Expert opinion testimony is deemed sufficiently reliable if the expert has “good grounds” for his or her testimony (*i.e.*, if the expert's conclusions are based on the knowledge and experience of his or her discipline rather than on “subjective belief or unsupported speculation”). *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579, 589; *Kumho Tire Co., Ltd. v. Carmichael, supra*, 526 U.S. at 147-148. The key issue is not whether the expert’s testimony is correct, but that it can be shown by a preponderance of the evidence that the testimony is reliable.

While there is no definitive checklist, the U.S. Supreme Court in *Daubert, supra*, provided the following non-exhaustive factors as being relevant in evaluating the reliability of expert opinion testimony:

- (1) Can the theory or technique in question be tested and, if so, has it been tested?
- (2) Has the theory or technique been published and subjected to peer review?
- (3) What is the known or potential rate of error when using the theory or technique?

- (4) Do standards exist which can serve as controls on a technique's operation and, if so, were such standards employed in the matter in dispute?
- (5) Has the theory or technique been generally accepted?

### **3. An Expert's Methodology Must Fit Her Conclusions**

The last determination that a federal trial court must make is to assess whether the methodology or technique the expert uses "fits" the expert's conclusions. Understandably, this entails that an assessment of "whether the reasoning or methodology underlying the testimony is valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue." *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, *supra*, 509 U.S. at 593

### **4. Speculation and Conclusory Assertions as a Basis for Exclusion of Expert Testimony**

Although there are several grounds to challenge expert testimony in federal court, opinions that are merely conclusory assertions, unsupported by specific facts, are certainly inadmissible.

#### **B. Admissibility of Expert Witness Testimony in California Courts Generally**

California Evidence Code Section 801 performs three functions in that it: (1) authorizes the use of expert testimony; (2) articulates standards to be applied to determine whether expert testimony should be admitted in a specific case; and (3) it provides the acceptable form of expert testimony.

Evid. Code § 801:

If a witness is testifying as an expert, his testimony in the form of an opinion is limited to such an opinion as is:

- (a) Related to a subject that is sufficiently beyond common experience that the opinion of an expert would assist the trier of fact; and
- (b) Based on matter (including his special knowledge, skill, experience, training, and education) perceived by or personally known to the witness or made known to him at or before the hearing, whether or not admissible, that is of a type that reasonably may be relied upon by an expert in forming an opinion upon the subject to which his testimony relates, unless an expert is precluded by law from using such matter as a basis for his opinion.

Thus, a party intending to offer the testimony of an expert witness must meet three distinct requirements: (1) the subject matter must be "sufficiently beyond common experience" such that the opinion would assist the jury; (2) the witness must have appropriate qualifications such as special knowledge, training or experience in that subject matter; and (3) the opinion must

be based on reliable material. Evid. Code § 801; *see also* 8-C Wenger, et al., Civil Trials and Evidence., § 8:725.

### **1. Relevance**

While the test for the use of expert testimony requires that the trier of fact be aided by the testimony, the standard is a relative one which will depend upon the particular subject of the testimony, the witness and specific fact of the case.

### **2. Grounds for the Expert's Opinion**

Section (b) identifies permissible sources of facts or information upon which the expert may base her opinion or inference. Similar to its federal counterpart, it allows an expert to base her opinion on first-hand knowledge, or in the alternative, the expert may draw upon information made known to the expert at or before the hearing. Additionally, Section 801(b) provides that if facts or data are of the type reasonably relied upon by experts in the field, they are permissible sources of information, regardless of whether such data would be admissible. An expert may also rely on other sources in lieu of having personal knowledge of the underlying facts (such as opinion or reports prepared by others if it is the type of information relied upon by experts in the field).

## **III. ADMISSIBILITY OF EXPERT OPINION THAT RESTS ON SCIENTIFIC, TECHNICAL OR NOVEL METHODOLOGIES**

### **A. Federal Courts Apply *Daubert***

In 1993, the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579, articulated a new standard in the federal approach to determining the admissibility of expert testimony when it rests on scientific, technical or novel methodologies. The *Daubert* Court explained that the central issues in a court's determination whether to admit scientific opinion testimony were whether: (1) the expert used a reliable methodology; and (2) the evidence admitted is relevant (*i.e.*, it will assist the trier of fact to understand evidence or determine a fact in issue). *Id.* at 588-591. Hence, the judiciary was granted authority as the "gatekeeper" to exclude testimony if it was either irrelevant or unreliable.

The Court in *Daubert* held that the reliability standard is principally established by Federal Rule of Evidence 702's requirement that an expert's testimony pertain to scientific knowledge, since the adjective "scientific" implies a grounding in certain methods and procedures. The Court further held that the word "knowledge" in Rule 702 suggests a body of known facts or of ideas inferred from such facts or accepted as true on solid grounds. The Rule's requirement that the testimony "assist the trier of fact to understand the evidence or to determine a fact in issue" pertains primarily to relevance by requiring a valid scientific connection to the pertinent inquiry as a precondition to admissibility.

In *Kumho Tire, supra*, 526 U.S. 137, the Supreme Court affirmed that the ultimate test of admissibility is reliability, regardless of the subject of the expert's opinion. Thus, the *Daubert* standard for admissibility of scientific opinion testimony now applies to all expert testimony.

## **B. California Applies the Kelly Test**

The California state courts have also stressed that the trial court must examine the reliability of scientific or novel methodologies, but have focused on whether the methodology is sufficiently reliable to have gained general acceptance in the field to which it belongs. Thus, the California approach has been labeled the “*Kelly*” test, after the California Supreme Court case establishing the standards. *People v. Kelly* (1976) 17 Cal. 3d 24. Indeed, the California Supreme Court has specifically declined to follow the *Daubert* decision, preferring to adhere to the more conservative “*Kelly*,” test, for novel scientific or technical expert testimony. *People v. Leahy* (1994) 8 Cal.4th 587.

Accepted scientific methods utilized by experts in conducting tests and reaching their conclusions are by definition not “novel scientific evidence” and, therefore, not subject to the *Kelly* foundational requirements. Instead, *Kelly* only applies to new devices or processes and does not extend to ordinary expert testimony.

Expert testimony deduced from novel scientific principles may be admissible if the proponent of the evidence makes “a preliminary showing of general acceptance of the new technique in the relevant scientific community.” The reason for the more conservative approach is that jurors tend to give excessive weight to “scientific” evidence presented by experts with impressive credentials.

Under the “*Kelly*” rule, evidence based upon a new scientific method or technique may be received in evidence if the following factors have been established:

- (1) the reliability of the method in general;
- (2) the evidence is furnished by a properly qualified expert; and
- (3) the use of proper scientific procedures in the particular case.

In deciding whether a technique is “generally accepted in the relevant scientific community,” a court may consider:

- (1) expert testimony in the present case;
- (2) relevant scientific literature and technical publications;
- (3) decisions from other jurisdictions; and
- (4) judicial notice of other “*Kelly*” proceedings in the same court dealing with the technique in question.

Several cases hold it is not for the court to decide whether a new technique is “reliable” as a matter of scientific fact, but the court is merely to determine whether the technique has attained “general acceptance in the relevant scientific community.” See *People v. Axell* (1991) 235 Cal.App.3d 836, 854. However, at least one case holds “reliability” should not be

determined upon just the number of scientific people who support the technique, but rather based on specific factors, including: (a) the potential rate of error; (b) the existence and maintenance of standards; (c) the care and concern with which a scientific technique has been employed, and whether it appears to lend itself to abuse; (d) relationship with other types of scientific techniques, and their results, routinely admitted into evidence; and (e) the presence of "failsafe" characteristics. *People v. Pizarro* (1992) 10 Cal.App.4th 57, 75-76.

#### **IV. CALIFORNIA SEEMS TO BE RAISING THE BAR FOR ADMISSIBILITY OF EXPERT TESTIMONY**

Although cases initially following *People v. Leahy* (1994) 8 Cal.4th 587 proclaimed that California has a stricter standard for admitting expert testimony (*see., e.g., People v. Joehnk* (1995) 35 Cal.App.4th 1488, 1500; *People v. Johnson* (1993) 19 Cal.App.4th 778, 791), there have been relatively few opinions from civil cases, leading many to believe that California has a more liberal (or forgiving) test when expert opinions are offered in civil cases. However, five recent Court of Appeal decisions confirm that expert opinion in civil cases will not be admitted if: (1) the expert is not qualified; (2) the expert's opinion is speculative; (3) the opinion lacks a reliable foundation or basis; and/or (4) a scientific test or method utilized by the expert has not gained general acceptance in the relevant scientific community, particularly when it lacks sufficient foundation.

*Parlour Enterprises, Inc. v. The Kirin Group, Inc.* (2007) 152 Cal.App.4th 287 (Fourth Appellate District, Division Three, No. G036525) concerned a jury award consisting of lost profits, lost franchise fees, and consequential expenses sustained by plaintiffs when defendants unilaterally terminated a franchise agreement to develop subfranchises. The defendant appealed, contending the damages awarded (\$6.6 million) were improper because the evidence was unreliable. The Court of Appeal reviewed the legal standard for damage awards in injury to business cases, especially when the business is new or speculative. Thereafter, the court reviewed the basis for the plaintiffs' expert's opinion and held that the lost profits projections were too speculative to support the subfranchisor's damage award.

An issue in the car accident case of *Stephen v. Ford Motor Company* (2005) 134 Cal.App.4th 1363, was whether a specific type of steel belted tire was defectively designed. The plaintiff's expert was a tire engineer with over 25 years experience designing tires and performing tire failure analysis. This engineer, however, never tested the specific type of steel belted tire at issue in the case, and the Court of Appeal affirmed the exclusion of his testimony because reliance on "supposedly similar" tire failures was an insufficient foundation for his opinions.

In the personal injury (mold exposure) case of *Geffcken v. D'Andrea* (2006) 137 Cal.App.4th 1298, the plaintiff offered sampling data to prove exposure to a specific type of toxic mold. The expert's test, however, had not gained general acceptance in the relevant scientific community. In fact, the expert's laboratory was the only laboratory in the United States to utilize that type of test, and its inventor and his colleagues were the only persons to study the test. The court excluded the test results, stating that an expert's ability to testify is questionable when the *only* witness in support of the test has significant financial interest in promoting the new technique.

In the car accident case of *Nardizzi v. Harbor Chrysler Plymouth Sales, Inc.* (2006) 136 Cal.App.4<sup>th</sup> 1409, the plaintiff offered an opinion from an otherwise qualified expert who failed to consider undisputed evidence in the case. The expert opined that the defendant mechanic failed to close the screws of the brakes during service, but his opinion did not address all the relevant evidence (*i.e.*, the expert failed to address the fact that the only individual who physically inspected the vehicle shortly after the accident testified that the bleeder screws were properly closed and that there were no signs of leaking from those screws). The Court of Appeal affirmed the exclusion of the expert opinion at the summary judgment stage, holding that the opinion of the expert was based on speculation and conjecture. In adjudicating summary judgment motions, courts are “not bound by expert opinion that is speculative or conjectural. Plaintiffs cannot manufacture a triable issue of fact through use of an expert opinion with self-serving conclusions devoid of any basis, explanation, or reasoning. The evidence must be of sufficient quality to allow the trier of fact to find the underlying fact in favor of the party opposing the motion for summary judgment. The plaintiff does not meet his burden of demonstrating a triable issue where his evidence merely provides “a dwindling stream of probabilities that narrow into conjecture.”

Finally, in *Andrews v. Foster Wheeler, LLC* (2006) 138 Cal.App.4<sup>th</sup> 96, the First District Court of Appeal excluded affidavits submitted by two experts regularly employed by plaintiffs in California asbestos cases, Charles Aye and Kenneth Cohen. The Court rejected asbestos consultant Aye’s product identification statements as speculative and lacking foundation. The Court also rejected Mr. Cohen’s asbestos “re-entrainment” theory, which posits that asbestos fibers on board a ship are in a constant state of recirculation and reintroduction through the ship’s ventilation system. Mr. Cohen’s theory was inadmissible because it relied on non-specific evidence, tests, and scientific studies and reports.

These cases demonstrate that although California does not follow *Daubert*, expert scientific opinion must nevertheless satisfy evidentiary requirements before it can be presented to a jury. In other words, even though a respected doctor or scientist may be able to advance a plausible theory, the opinion may not be presented to a jury unless the expert can demonstrate that the opinion: (1) concerns the actual or similar products in dispute; (2) is not based on speculation or conjecture; (3) is based on the actual facts in the case; and (4) if derived from a new scientific technique, method, test or theory, then a properly qualified expert must demonstrate that the method utilized has gained general acceptance in the relevant scientific community.

## V. CONCLUSION

Expert testimony is permissible in most lawsuits, but it will be prohibited if the expert does not do his/her homework. The expert must be properly qualified and present opinions that are relevant and reliable. It is incumbent on the expert to present his/her qualifications to testify, but it takes the entire legal team to ensure that the opinions are well founded. Through careful planning and preparation, a well prepared industrial hygienist should be able to present opinions based on personal knowledge, experience, literature and reports, generally accepted tests, and properly assumed facts.