
WHAT'S IT ALL ABOUT, DAUBERT?

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Synopsis: In the wake of the U.S. Supreme Court's 1993 *Daubert* decision, federal court practitioners face an obstacle course of new requirements in qualifying expert witnesses.

I. An Introduction

Prior to the adoption of the Federal Rules of Evidence, all federal and most state courts followed the "*Frye*"¹ test to determine the admissibility of scientific evidence. In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,² the United States Supreme Court held that the Federal Rules of Evidence, and in particular Fed. R. Evid. 702, superseded *Frye's* "general acceptance" test.³

Fed. R. Evid. 702⁴ contains two requirements. First, the evidence must be reliable, or in other words, trustworthy.⁵ Trustworthiness guarantees that the information is supported by scientific methods and procedures.⁶ Second, the evidence must be relevant.⁷ The criterion of relevance has been appropriately described as one of "fit."⁸ To satisfy this requirement, the proffered testimony or evidence must be sufficiently tied to the facts of the case that it will help the jury in resolving a factual dispute.⁹ "Rule 702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility."¹⁰

Faced with a proffer of expert scientific evidence,¹¹ the trial court is charged with the role of "gatekeeper" and must initially determine, pursuant to Fed. R. Evid. 104(a),¹² whether the expert is proposing to testify to scientific knowledge that will assist the trier of fact to understand or determine a fact in issue.¹³ This decision demands an evaluation of whether the reasoning or methodology underlying the testimony is scientifically valid and can be applied to the facts at issue.¹⁴

In *Daubert* the Supreme Court provided four nondefinitive factors¹⁵ that trial courts should consider in making this determination.¹⁶ First, the court should evaluate whether the theory or technique can be and has been tested.¹⁷ Second, the court must determine whether the theory or technique has been subjected to peer review and publication.^{18, 19} Third, the court should consider the known or potential rate of error.²⁰ Finally, the court should evaluate the general acceptance of the theory in the scientific community.²¹ The Seventh Circuit has added an additional consideration: whether the proffered testimony is based upon the expert's special skills.²²

In addition to these four *Daubert* factors, other safeguards exist to protect against the admission of unreliable or irrelevant scientific evidence. Federal Rules of Evidence 703,²³ 706²⁴ and 403²⁵ each provide an independent check. Procedures familiar to every trial attorney, such as vigorous cross examination, the presentation of contrary evidence, and careful instruction of the jury on the burden of proof, also help guard against the acceptance of suspect scientific evidence. Finally, the Federal Rules of Civil Procedure prevent cases from going to trial where the evidence is unreliable.²⁶

II. Disclosure of Experts Through Rule 16 Scheduling Orders and Judicial Abrogation of Fed.R.Civ.P. 26(b)(4)

A. Drafting the Scheduling Order With Experts In Mind

In any lawsuit where experts may testify on an issue, the prudent practitioner should consider including in the Rule 16 scheduling order an in limine *Daubert* hearing on the admissibility of expert testimony.²⁷ Since the Supreme Court issued its *Daubert* opinion, courts have encouraged litigants to request a Fed. R. Evid. 104(a) in limine hearing on the admissibility of proposed expert testimony.²⁸ The in limine hearing alerts the trial judge to potential disputes concerning experts and requires the court to recognize its obligations under *Daubert* and Fed. R. Evid. 104(a) to make a preliminary determination concerning the admissibility of proposed expert testimony.²⁹ Scheduling the *Daubert* hearing at the outset of litigation reduces the risk of evidentiary ambush arising from the late disclosure or nondisclosure of experts. Of course, the court's role at the *Daubert* hearing is limited to determining whether the proposed expert's testimony is derived from an application of the scientific method and "fits" the issues in the case. The persuasiveness of expert testimony, and the resolution of conflicting expert testimony, remain the province of the trier of fact.³⁰

A pretrial *Daubert* hearing provides counsel with a preview of the opponent's case. In many drug and product cases, the plaintiff may win or lose on the testimony of the plaintiff's experts. If the plaintiff's expert on an essential element of the plaintiff's burden of proof³¹ is precluded from testifying, the defendant can and should move for summary judgment. In many cases, defendants move for summary judgment prior to the *Daubert* hearing so that the trial court can simultaneously consider both the admissibility of the plaintiff's expert testimony and whether any genuine issues of material fact exist for trial.³²

B. When Should Experts Be Disclosed?

In the absence of other directions from the court or stipulation of the parties, Fed. R. Civ. P. 26(a)(2)(C) requires that experts must be disclosed at least 90 days before trial, and rebuttal experts no later than 30 days thereafter.³³ Based upon the complexity of the issues and the anticipated expert testimony that may be presented by the parties, counsel should attempt to determine as early as possible whether these Rule 26 default deadlines come too late in the case. If, for example, rebuttal experts are not designated until 60 days before trial, opposing counsel is faced with the formidable task of conducting additional discovery, obtaining transcripts of prior depositions on an expedited basis, consulting with counsel's own experts, preparing for trial, and preparing for the in limine *Daubert* hearing. In some jurisdictions, it may be impossible to file timely dispositive pretrial motions given these late disclosure and discovery deadlines.

On the other hand, if experts are designated too early in the lawsuit, the chances are good that their opinions will have to be supplemented as discovery progresses. Nevertheless, from a defense perspective, knowing the identity and number of a plaintiff's experts and the general subject matters on which those experts may testify can provide invaluable assistance in retaining consulting experts, evaluating the case for settlement, and preparing for trial. The simultaneous designation of experts by both plaintiff and defendant should be avoided unless exceptional circumstances justify such a procedure. Simultaneous designation could negatively affect the defendant's ability to prepare, especially in a complex case.

One alternative to simultaneous disclosure of all experts on all issues is staggered discovery, in which

the case is broken into parts. Factual discovery on certain issues may be cut off at agreed upon times, with the designation of experts to follow shortly thereafter concerning that particular topic. Staggered discovery might be especially attractive where determination of a particular issue would be case dispositive.

C. Which Experts Should Be Disclosed?

Fed. R. Civ. P. 26(b)(4), at least on its face, appears to answer the question of which experts should be disclosed. Experts testifying at trial must be disclosed, while consulting experts retained in anticipation of litigation or in preparation for trial do not have to be disclosed, except upon a showing of exceptional circumstances that it is impracticable to obtain facts or opinions on the same subject by other means.³⁴ At a *Daubert* hearing on the admissibility of expert witness opinions, however, the rules of evidence basically do not apply.³⁵ Accordingly, the trial court may consider not only a broad array of evidence, including offers of proof, affidavits, stipulations, learned treatises, testimony, and documents, but also legal argument.³⁶ The trial court may also consider testimony presented to other courts addressing the same evidentiary issues, and the opinions of those courts on the same subject. Finally, the trial court may take judicial notice of well established scientific facts or techniques.³⁷

Despite the provisions of Fed. R. Civ. P. 26, *Daubert* and its progeny have upset, if not completely abrogated, the testifying-nontestifying dichotomy envisioned in Rule 26, at least for purposes of the *Daubert* hearing.³⁸ Courts can and should require disclosure of *all* experts whose testimony will be submitted to the trial court, whether at trial or at the *Daubert* hearing. Yet, because the rules of evidence do not apply to the *Daubert* hearing, parties arguably may offer at the *Daubert* hearing testimony of experts who will not testify at trial.³⁹ To close this loophole, which otherwise might prevent a party from effectively cross-examining an opponent's experts on vital issues, the scheduling order should require that all experts whose testimony will be submitted *either* at trial or in any motion must be disclosed and made available for deposition. In certain cases, the parties may also want to ask the court to order that any experts whose research or data a party's testifying experts may rely on be disclosed and made available for deposition.

III. Motions for Summary Judgment and the Daubert Hearing

Motions for summary judgment are especially appropriate in connection with the *Daubert* admissibility hearing. If the court determines that expert testimony is inadmissible, and the proponent of the expert testimony has no other evidence to support one or more of the required elements of its cause of action, summary judgment should be granted.⁴⁰ To take advantage of this process, the party moving for summary judgment must adduce facts demonstrating the expert is not qualified to render the opinion, the opinion is not reliable,⁴¹ and the opinion is not relevant.⁴² Finally, the moving party must comply with Fed. R. Civ. P. 56(e), which requires "experts to set forth facts and explain the reasoning they used in reaching their conclusions rather than simply providing naked conclusions."⁴³

IV. Medical Evidence Under *Daubert*

A. Is the Medical Expert Qualified?

Under Fed. R. Evid. 702, the proffered witness must be "qualified as an expert."⁴⁴ A treating physician with personal knowledge of the plaintiff's injury and history should be considered an expert.⁴⁵ Some courts may also require that the treating physician have an appropriate specialization to diagnose and

treat the plaintiff's injury or disease.⁴⁶

B. Is Medical Testimony Reliable?

Various factors will support a finding that medical evidence is reliable. The fact that the proffered expert is the plaintiff's treating physician weighs heavily in favor of reliability.⁴⁷ Similarly, proffered expert testimony is considered more reliable when the expert has personally examined the plaintiff and personally reviewed the plaintiff's medical records.⁴⁸ To further increase the reliability of the evidence, the expert should take the plaintiff's medical history,⁴⁹ perform objective tests,⁵⁰ and study peer reviewed literature.⁵¹ An expert's employment of standard scientific practice, such as the use of traditional medical assessment technology,⁵² ruling out possible alternative causes,⁵³ performing a differential diagnosis,⁵⁴ and developing a working diagnosis,⁵⁵ also strengthen the reliability of the expert's testimony. It should be noted, however, that even if the expert employs a method that is scientifically reliable, the basis of the expert's conclusion must also be reliable.⁵⁶ In preparing for trial, the expert should read all of the depositions in the case.⁵⁷

The expert should not form the opinion first, and then go in search of facts to support that opinion.⁵⁸ An expert's reliance on "anecdotal" evidence as opposed to "empirical" findings⁵⁹ decreases the reliability of the evidence, just as an expert's reliance on faulty or inaccurate data would diminish the reliability of the expert's conclusions.⁶⁰ The expert's testimony will be particularly suspect when the expert has not conducted any independent research outside of the litigation on the subject matter of the expert's testimony.⁶¹ Federal courts have rejected experts who have arrived at testable conclusions, but failed to test those conclusions or subject them to scientific scrutiny.⁶² The "hired gun" generic expert who in the past may have been allowed to testify on just about anything will not survive scrutiny under *Daubert*.

C. Is the Medical Testimony Relevant?

Relevance asks whether the proposed expert testimony will assist the trier of fact in deciding a disputed issue. Courts have found that proposed "expert" testimony concerning matters of common sense or common knowledge, or not involving any scientific or technical knowledge, fails the *Daubert* relevance test.⁶³ In most cases, the relevance prong of *Daubert* pertains to what is sometimes called "specific causation."⁶⁴ For example, the scientific community may accept the fact that radiation at certain levels over given periods of time causes cancer (general causation). To prove that the *plaintiff's* cancer was caused by radiation requires proof that the *plaintiff* was exposed to sufficient amounts of radiation for an adequate period of time (specific causation).⁶⁵ Specific causation may also require proof that other factors, such as smoking, did *not* cause the plaintiff's cancer.

A plaintiff in a products liability action must demonstrate that even if the product's design was defective and no warning was given of the defect, the defective design or absence of a warning was at least a substantial factor in causing the plaintiff's injury or illness. Proof that certain dosages or concentrations of chemicals cause harm is insufficient to prove that a plaintiff's injury or illness was caused by the chemical in the absence of any evidence that the plaintiff was exposed to the chemical at the required levels.

V. *Daubert* And Missouri Courts

In 1989 the Missouri legislature adopted § 490.065, which provides in pertinent part:

1. In any civil action, 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.

This provision parallels Fed. R. Evid. 702, with the exception of the limitation to civil cases. While several Missouri courts have recognized the potential effect of *Daubert's* holding on § 490.065, no Missouri court has yet decided whether § 490.065 will be construed in tandem with *Daubert*.⁶⁶ Practitioners in Missouri state courts should object to the admission of expert testimony that does not comport with the requirements of *Daubert* and § 490.065.⁶⁷

VI. Conclusion

In the aftermath of *Daubert*, federal courts have taken their role as gatekeepers seriously. Expert testimony that would have easily passed the *Frye* test for admissibility is being excluded under the more stringent requirements of Fed. R. Evid. 702 as construed by *Daubert*. Because of the often critical "make-or-break" role that expert testimony plays in many cases, prudence mandates vigilance at all stages of litigation to ensure that proposed expert testimony is subjected to careful scrutiny under the *Daubert* standards during discovery, in limine, and at trial. Scheduling orders should include a Fed. R. Evid. 104(a) hearing on expert testimony, and should also require the disclosure of all experts whose testimony may be offered, whether at trial or at any pretrial *Daubert* hearing. *Daubert* provides opportunities not previously available to exclude "junk science" well before trial if counsel is careful and diligent during the discovery and pretrial phases of a case.

Endnotes

1 *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). Under the *Frye* test, scientific evidence was admissible only if the principle upon which it was based was "sufficiently established to have gained general acceptance in the particular field in which it belongs." *Id.* at 1014. Applying this rule, the *Frye* court refused to admit testimony based on an early lie detector test reasoning that lie detector testing had not gained general scientific acceptance or recognition at that time. *Id.*

2 509 U.S. 579 (1993).

3 The Court based its conclusion on the content of Fed. R. Evid. 702, which governs expert testimony. Noting that Rule 702 makes no mention of the "general acceptance standard," the Court concluded that the rigid "general acceptance" test enunciated in *Frye* was incompatible with the "liberal thrust" of the Federal Rules of Evidence. *Daubert*, 509 U.S. at 588.

4 Fed. R. Evid. 702 provides as follows: "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." Unlike an ordinary fact witness, an expert witness is given wide latitude to offer opinions. *Cf. Hartzell Mfg., Inc. v. American Chem. Technologies, Inc.*, 899 F. Supp. 405, 408-09 (D. Minn. 1995) (discussing admission of lay witness opinion under Rule 701).

5 *Daubert*, 509 U.S. at 590 n.9.

6 *Id.* at 590. "[I]n order to qualify as scientific knowledge, an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation -- i.e., good

grounds, based on what is known." *Id.* (internal quotations omitted).

7 Fed. R. Evid. 702 establishes this relevancy requirement by insisting that the evidence or testimony "assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. See *Daubert*, 509 U.S. at 591.

8 *Daubert*, 509 U.S. at 591 (quoting *United States v. Downing*, 753 F.2d 1224, 1242 (3d Cir. 1985)).

9 *Id.*

10 *Id.* at 591-92. For example, if the darkness of a certain night is a fact at issue, the scientific study of the phases of the moon would assist the trier of fact. *Id.* On the other hand, if the issue is whether an individual was behaving irrationally on a certain night, evidence that the moon was full on the night in question would not assist the trier of fact and would be inadmissible because no valid scientific correlation has been demonstrated between the full moon and human behavior. *Id.*

11. Because the evidence under review in *Daubert* was scientific evidence, the Court did not discuss the other types of evidence subject to Rule 702, namely, "technical or other specialized knowledge." *Daubert*, 509 U.S. at 590 n.8. Federal courts have divided sharply over the application of *Daubert* to expert testimony outside of the "hard" sciences, or where the expert opinion is based upon experience and training rather than use of the scientific method. For cases holding *Daubert* applicable to most expert testimony, whether "scientific" or merely "technical" or experience-based, see *Tenbarge v. Ames Taping Tool Sys., Inc.*, 1997 U.S.App. LEXIS 28906 (8th Cir. Oct. 22, 1997) (*Daubert* would apply to testimony of design and ergonomics expert); *Dancy v. Hyster Co.*, 1997 U.S.App. LEXIS 26934, at *7 (8th Cir. 1997) (court expressly rejects argument that *Daubert* is inapplicable unless the expert's testimony will rely on scientific principles or methods); *Watkins v. Telsmith, Inc.*, 121 F.3d 984, 991 (5th Cir. 1997) (whether expert's testimony is based on scientific, technical or other specialized knowledge, *Daubert* and Rule 702 demand that the court evaluate the methods, analysis, and principles relied upon by the expert in reaching the opinion); *Navarro v. Fuji Heavy Indus., Ltd.*, 117 F.3d 1027 (7th Cir. 1997) (under *Daubert*, engineering expert must "show how his conclusion . . . is grounded in--follows from--an expert study of the problem"); *Tyus v. Urban Search Management*, 102 F.3d 256, 262-63 (7th Cir. 1996) (advertising psychology); *Peitzmeier v. Hennessy Indus., Inc.*, 97 F.3d 293, 296-98 (8th Cir. 1996) (*Daubert* applied to engineering testimony about design defects and the efficacy of alternative designs for a "low-tech" product, a tire-changing machine because expert had not designed or tested proposed safety devices, and proposed designs had not been subjected to peer review and could not be evaluated for their "general acceptance" or known rate of error); *Cummins v. Lyle Indus.*, 93 F.3d 362, 366-71 (7th Cir. 1996) (plaintiff's product liability expert's testimony regarding adequacy of warnings and feasibility of alternative design properly excluded under *Daubert* even though testimony based upon expert's experience; expert had not tested alternative designs and warnings or read any studies of such tests); *United States v. Thomas*, 74 F.3d 676, 681 (6th Cir. 1996); *Pestel v. Vermeer Mfg. Co.*, 64 F.3d 382 (8th Cir. 1995) (*Daubert* applied to exclude evidence of expert's proposed alternative engineering design); *Sorensen ex rel. Dunbar v. Shaklee Corp.*, 31 F.3d 638, 647 & n.15 (8th Cir. 1994) (citing cases which support application of *Daubert* to broad range of expert testimony); *Frymire-Brinati v. KPMG Peat Marwick*, 2 F.3d 183, 186 (7th Cir. 1993) (economic valuation); *Pomella v. Regency Coach Lines, Ltd.*, 899 F.Supp. 335, 342-43 (E.D. Mich 1995).

Cases that have limited the applicability of *Daubert* include the following: *United States v. Hale*, 1997 U.S.App. LEXIS 26524 (9th Cir. 1997) (law enforcement officer's testimony regarding the likelihood that another officer could have shot and hit defendant's tire if he had been standing where defendant claimed is "specialized" knowledge not subject to *Daubert*); *United States v. Stops*, 1997 U.S.App. LEXIS 26554 (9th Cir. 1997) (*Daubert* not appropriate where witness is testifying about specialized

knowledge of social behavior; defense expert on general characteristics of abused children and how interview techniques may influence children's answers); *McKendall v. Crown Control Corp.*, 1997 U.S.App. LEXIS 21035 (9th Cir. 1997) (refusing to apply *Daubert* to engineer's testimony regarding forklift design); *Davis v. Six Sixteen, Inc.*, 1997 U.S.App. LEXIS 24038 (4th Cir. 1997) (expert testimony by Talbot Smith concerning baseball salaries and likelihood Glenn Davis would have secured a professional baseball contract had he not been injured is not "scientific" evidence subject to *Daubert*); *United States v. Webb*, 115 F.3d 711 (9th Cir. 1997) (expert testimony as to why people typically hide guns in the engine compartments of their cars not subject to *Daubert*); *United States v. Cordoba*, 104 F.3d 225, 230 (9th Cir. 1997) (modus operandi of drug traffickers; *Daubert* does not apply to expert testimony based on specialized knowledge of criminal behavior); *Compton v. Subaru of America, Inc.*, 82 F.3d 1513 (10th Cir. 1996) (application of *Daubert* factors unwarranted in cases where expert testimony is based solely upon experience or training); *United States v. Sinclair*, 74 F.3d 753, 757 & n.1 (7th Cir. 1996) (*Daubert* has no direct relevance to questions about the admissibility of testimony by a witness claiming legal expertise); *Iacobelli Constr., Inc. v. County of Monroe*, 32 F.3d 19, 25 (2d Cir. 1994) (*Daubert* inapplicable to geotechnical and underground construction experts); *Tamarin v. Adam Caterers, Inc.*, 13 F.3d 51, 53 (2d Cir. 1993) (*Daubert* did not apply to accountant's report); *In re: Executive Telecard, Ltd. Sec. Litig.*, 1997 U.S. Dist. LEXIS 16307 (S.D.N.Y. 1997) (*Daubert* limited to scientific testimony; although valuation of damages in securities class action is not the sort of "hard science" requiring application of *Daubert* factors, Fed.R.Evid. 702 still requires court to determine whether expert's principles and methodology are relevant and reliable); *Kay v. First Continental Trading, Inc.*, 1997 U.S. Dist. LEXIS 14908 (N.D.Ill. 1997) (opinion derived from expert's own experience not subject to *Daubert* factors because it is not "scientific" knowledge, but court retains duty under Rule 702 as gatekeeper to make sure such evidence has basis in fact; statistical evidence and statistical model offered by expert subject to *Daubert* analysis); *United States v. Starzecpyzel*, 880 F.Supp. 1027, 1038-41 (S.D. N.Y. 1995) (*Daubert* is limited to the scientific context).

12 Fed. R. Evid. 104(a) provides in relevant part as follows:

Preliminary questions concerning the qualifications of a person to be a witness . . . or the admissibility of evidence shall be determined by the court. . . . In making its determination it is not bound by the rules of evidence except those with respect to privileges.

13 *Daubert*, 509 U.S. at 592.

14 *Id.* at 592-93.

15 *Id.* at 593-94.

16 For an excellent and thorough application of *Daubert*, see *In re TMI Litig. Cases Consol. II*, 911 F. Supp. 775, 793-99 (M.D. Pa. 1996), *aff'd*, 89 F.3d 1106 (3d Cir. 1996).

17 *Daubert*, 509 U.S. at 593. Because empirical testing is what distinguishes science from other fields of inquiry, some courts have given this factor particular weight. See, e.g., *Smelser v. Norfolk S. Ry. Co.*, 105 F.3d 299, 303-05 (6th Cir. 1997); *Raynor v. Merrell Pharms. Inc.*, 104 F.3d 1371, 1375-76 (D.C. Cir. 1997); *Dukes v. Illinois Cent. R.R.*, 934 F. Supp. 939, 948 (N.D. Ill. 1996) (testability is most important of four *Daubert* factors). See also *Hall v. Baxter Healthcare Corp.*, 947 F. Supp. 1387, 1402 (D. Ore. 1996); *Cabrera v. Cordis Corp.*, 945 F. Supp. 209, 213-14 (D. Nev. 1996).

18 *Daubert*, 509 U.S. at 593. The Court recognized that many well-founded scientific theories are too new or of too limited interest to be published. *Id.* Nevertheless, peer review "increases the likelihood that substantive flaws in the methodology will be detected." *Id.* Accordingly, publication is a relevant

consideration in determining whether a scientific theory or technique is valid. *See, e.g., Peitzmeier v. Hennessey Indus.*, 97 F.3d 293, 297 (8th Cir. 1996); *Kelley v. American Heyer-Schulte Corp.*, 957 F. Supp. 873, 879, 881 (W.D. Tex. 1997). Peer review and publication may not be necessary conditions of reliability in every case. For example, where the toxic effects of a chemical on human beings are recognized by the scientific community, peer review would be unnecessary. *Kannankeril v. Terminix, Int'l, Inc.*, 1997 U.S. App. LEXIS 28712, at *19 (3d Cir. 1997).

19 Where expert testimony is based on the expert's experience or training, as opposed to the expert's methodology or technique, courts have disagreed about the applicability of the *Daubert* standards. *Compare Peitzmeier*, 97 F.3d at 297 (*Daubert* applies); *Cummins*, 93 F.3d at 368-69 (same); *with Compton*, 82 F.3d at 1518 (*Daubert* does not apply); *Liriano v. Hobart Corp.*, 949 F.Supp. 171, 177 (S.D.N.Y. 1996) (same). *See also Berry v. City of Detroit*, 25 F.3d 1342, 1349-50 (6th Cir. 1994) (requiring proffered expert to give an "empirical" example is proper way to qualify expert testifying on the basis of technical or specialized knowledge). One court has gone so far as to hold that *Daubert* applies only to expert testimony concerning a "novel scientific theory." *Thornton v. Caterpillar Inc.*, 951 F.Supp. 575, 577-78 (D.S.C. 1997).

20 *Id.* at 594.

21 *Id.* Recognizing that support within the scientific community relates to the validity of the technique or theory, *Daubert* embraces the *Frye* "general acceptance" test. *U.S. v. Rouse*, 111 F.3d 561, 570-72 (8th Cir. 1997); *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316 (7th Cir. 1996); *Cabrera*, 945 F. Supp. at 212-14; *Grimes v. Hoffman-LaRoche Inc.*, 907 F. Supp. 33, 37-38 (D.N.H. 1995); *Sanderson v. International Flavors & Fragrances, Inc.*, 950 F. Supp. 981, 1001-02 (C.D. Cal. 1996); *Ballinger v. Atkins*, 947 F. Supp. 925, 927-28 (E.D. Va. 1996). *But see Daubert v. Merrell Dow Pharms.*, 43 F.3d 1311, 1319 n.11 (9th Cir. 1995). An unexplained conflict with a generally accepted scientific methodology or theory can be the basis for exclusion of proffered expert testimony. *See Turpin v. Merrell Dow Pharms., Inc.*, 959 F.2d 1349, 1360 (6th Cir. 1992); *O'Conner v. Commonwealth Edison Co.*, 807 F. Supp. 1378, 1398 (C.D. Ill. 1992), *aff'd*, 13 F.3d 1090 (7th Cir. 1994); *Conde v. Velsicol Chem. Corp.*, 804 F. Supp. 972, 1024 (S.D. Ohio 1992), *aff'd*, 24 F.3d 809 (6th Cir. 1994).

22 *Tyus v. Urban Search Management*, 102 F.3d 256, 262-64; *Brown v. Southeastern Pa. Transp. Auth. (In re Paoli R.R. Yard PCB Litig.)*, 35 F.3d 717, 742 (3d Cir. 1994).

23 Fed. R. Evid. 703 provides:

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 the experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence.

Fed. R. Evid. 703 thus prohibits the admission of expert opinions based on otherwise inadmissible hearsay unless the bases of the opinion are of a type "reasonably relied upon" by the scientific community. *Id.* Because Rule 703 creates an obvious potential for the use of expert opinions as a vehicle for creating a "back door" exception to the hearsay exception, "a balancing approach, like that contained in Rule 403 for dealing with admissible evidence, may also serve as a useful vehicle for the exercise of the court's gatekeeping role as it would apply to limiting the injection of inadmissible evidence into a trial under the auspices of Rule 703." *Kay*, 1997 U.S. Dist. LEXIS 14908, at *5. Judge Milton I. Shadur, author of the *Kay* opinion, noted that concerns about the use of Rule 703 to introduce otherwise inadmissible hearsay was one topic on the agenda of the October 1997 meeting of the Advisory Committee on the Rules of Evidence of the Judicial Conference of the United States. *Id.* at n.2.

24 Under Fed. R. Evid. 706, the trial court at its discretion may obtain an expert of the court's own choosing to assist the court. Fed. R. Evid. 706(a). "The inherent power of a trial judge to appoint an expert of his own choosing is virtually unquestioned." Fed. R. Evid. 706, Advisory Committee Note. *See also Joiner v. General Electric*, 78 F.3d 524, 535 (11th Cir. 1996) (Birch, J., specially concurring) (discussing value of independent Rule 706 expert), *cert. granted*, 1997 U.S. LEXIS 1637 (1997).

25 Fed. R. Evid. 403 provides in relevant part as follows: "Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury." *See Moore v. Ashland Chem., Inc.*, 1997 U.S.App. LEXIS 28816, at *35-*38, *80-*82 (5th Cir. 1997).

26 Specifically, Fed. R. Civ. P. 50(a) allows the court to direct a judgment where there is "no legally sufficient evidentiary basis for a reasonable jury to find for that party." A party may move also for summary judgment pursuant to Fed. R. Civ. P. 56 where there is no genuine issue as to any material fact.

27 *See* Fed. R. Civ. P. 16(b)(4), (5).

28 *See Holbrook v. Lykes Bros. S.S. Co., Inc.*, 80 F.3d 777, 784 (3d Cir. 1996); *Hose v. Chicago Northwestern Transp. Co.*, 70 F.3d 968, 973 n.3 (8th Cir. 1995); *In re TMI Litig. Cases Consol. II*, 911 F. Supp. 775, 785, 788, 830 (M.D. Pa. 1996). *See also Robinson v. Missouri Pac. R.R.*, 16 F.3d 1083, 1088 (10th Cir. 1994) (suggesting that district courts carefully and meticulously make an early pretrial evaluation of issues of admissibility, particularly of scientific expert opinions in films or animations illustrative of such opinions). *But see Liriano v. Hobart Corp.*, 1996 U.S. Dist. LEXIS 864, at *7-8 (S.D.N.Y. 1996) (*Daubert* hearing not needed where evidence is incontrovertibly reliable and relevant).

29 *See, e.g., Cabrera*, 945 F. Supp. at 211-14.

30 *Ambrosini v. Labarraque*, 101 F.3d 129, 141 (D.C. Cir. 1996). Courts are struggling to determine whether *Daubert* authorizes them to examine not only an expert's methodology, but also the expert's conclusions. For an excellent discussion of the debate, *see Hall*, 947 F. Supp. at 1399.

31 For example, a plaintiff may present expert testimony on causation or foreseeability.

32 *See, e.g., Grimes*, 907 F. Supp. at 34.

33 Rule 26(a)(2)(C) provides in pertinent part:

These disclosures [of expert witnesses] shall be made at the times and in the sequence directed by the court. In the absence of other directions by from the court or stipulation by the parties, the disclosures shall be made at least 90 days before the trial date or the date the case is to be ready for trial or, if the evidence is intended solely to contradict or rebut evidence on the same subject matter identified by another party . . . within 30 days after the disclosure made by such other party.

34 Fed. R. Civ. P. 26(b)(4). *See Zarecki v. Nat'l R.R. Passenger Corp.*, 914 F. Supp. 1566, 1573-74 (N.D. Ill. 1996) (discussing whether treating physician must be disclosed as an expert).

35 Fed. R. Evid. 104(a).

36 *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 739 n.4 (3d Cir. 1994) (quoting *United States v.*

Downing, 753 F.2d at 1241).

37 See, e.g., *United States v. Booker*, 70 F.3d 488, 490 n.5 (7th Cir. 1995) (taking judicial notice of chemical composition of cocaine).

38 See *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717 (3d Cir. 1994). In *Paoli*, the trial court entered a pretrial scheduling order requiring that the defendants designate all of their trial experts by a certain date and setting a cut off date of three months later for the plaintiffs to depose those experts. *Id.* at 736. At the in limine *Daubert* hearing, the defendants submitted expert affidavits in opposition to the admissibility of the opinions of plaintiff's experts. These defense affidavits were from experts that the defense had not previously disclosed in discovery. *Id.* at 738. When plaintiffs objected, defendants replied that the court's scheduling order only required the designation of defendants' trial experts. None of the defense experts, whose affidavits were submitted for the court's consideration at the *Daubert* hearing, would testify for the defendants at trial. *Id.* at 738-39.

The Third Circuit noted that the trial court "certainly had the power to provide that the experts who were to testify at the in limine hearing be subject to discovery." *Id.* at 739. Furthermore, as a matter of fairness, depositions should generally be allowed in connection with a *Daubert* hearing. *Id.* at 739 & 739 n.4. Nevertheless, the Third Circuit found that the trial court did not abuse its discretion in allowing defendant's experts to testify at the in limine hearing without being deposed. *Id.* at 739. Since defendants had submitted the affidavits at least four weeks prior to the hearing, plaintiffs had ample time to prepare. Such circumstances did not rise to a level of unfairness requiring reversal. *Id.*

39 At least one court has prohibited the parties at a *Daubert* hearing from offering the affidavits of any experts who were not disclosed and made available for deposition, regardless of whether those experts would testify at trial. *In re TMI Litig. Cases Consol. II*, 911 F. Supp. at 829.

40 See *Buckner v. Sam's Club*, 75 F.3d 290 (7th Cir. 1996) (plaintiff's sole causation expert witness disallowed and summary judgment granted for defendant); *Sorensen*, 31 F.3d 639 (granting summary judgment where plaintiff's scientific evidence on causation did not satisfy *Daubert* test); *Porter v. Whitehall Lab., Inc.*, 9 F.3d 607 (7th Cir. 1993) (summary judgment granted in favor of defendant pharmaceutical companies when plaintiff's causation expert disallowed under *Daubert* analysis); *Grimes*, 907 F. Supp. at 39 (granting defendants' motion for summary judgment where court excluded plaintiff's expert witness on causation). Cf. *Ambrosini*, 101 F.3d at 1040-41 (trial court erred in granting summary judgment and excluding plaintiff's expert).

41 Notably, an expert's qualifications alone are insufficient to satisfy the reliability requirement. *Grimes*, 907 F. Supp. at 34-35.

42 See *Dukes*, 934 F. Supp. at 951 n.3.

43 *Zarecki*, 914 F. Supp. at 1574; accord *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996) (quoting *Mid-State Fertilizer Co. v. Exchange Nat'l Bank*, 877 F.2d 1333, 1339 (7th Cir. 1989)); *Padillas v. Stork-Gamco, Inc.*, 1997 U.S. Dist. LEXIS 14436, at *20-*23 (E.D. Pa. 1997).

In *Zarecki*, the plaintiff brought a FELA claim against her employer, Amtrak, alleging that Amtrak's negligence in failing to provide her with proper equipment resulted in her developing carpal tunnel syndrome. In support of her motion for summary judgment, the plaintiff submitted a nine-paragraph affidavit from her treating physician, stating that the doctor had been retained as an expert, was board certified in orthopedic surgery in Illinois, and had examined plaintiff and reviewed her medical records.

914 F. Supp. at 1570. The doctor then opined as follows:

It is my opinion based upon a reasonable degree of medical certainty that the Bilateral Carpal Tunnel Syndrome sustained by [plaintiff], was caused by her work duties as assigned by the Defendant. . . .

It is also my opinion that the nature of the work duties at the Defendant....was such that it was reasonably foreseeable that [plaintiff], could sustain Bilateral Carpal Tunnel Syndrome in her hands or wrist or sustain some other hand/wrist injury.

Id.

While this affidavit might be sufficient in some state courts, the federal courts have made clear that conclusory affidavits without setting forth an adequate foundation for the conclusions reached do not comply with Fed.R.Civ.P. 56(e) and will not suffice for a *Daubert* review in the context of a summary judgment proceeding. "An expert who supplies nothing but a bottom line supplies nothing of value to the judicial process." *Mid-State Fertilizer Co.*, 877 F.2d at 1339. The *Zarecki* court made the following pertinent observations:

Dr. Farrell's affidavit does just that gives a bottom line opinion, but provides no explanation of the facts or reasoning used in formulating that opinion. He merely states that his conclusion is based on his examination of Zarecki, her medical records, and his professional experience. The Court is left in dark as to what facts he derived from Zarecki's examination and medical records, or the reasoning used to conclude that Zarecki's work duties caused her injury.

Zarecki, 914 F. Supp. at 1574-75. Because of plaintiff's failure to comply with Rule 56(e), the court held the affidavit was inadmissible. See *Padillas*, 1997 U.S. Dist. LEXIS 14436, at *20 (replrt of expert defective because it was unsworn and did not state expert's research, experience, or methodology, but only laid out conclusory statements based on nothing more than expert's beliefs).

44 See, e.g., *In re Orthopedic Bone Screw Prods. Liab. Lit.*, 1997 U.S. Dist. LEXIS 851, *4-*14 (E.D.Pa. 1997). See also *Bogosian v. Mercedes-Benz of North America*, 104 F.3d 472, 476-77 (1st Cir. 1996); *Rogers v. Ford Motor Co.*, 952 F. Supp. 606, 613-14 (N.D. Ind. 1997).

45 *Holbrook*, 80 F.3d at 782. In *Holbrook*, the trial court found that the plaintiff's treating physician was not qualified to testify regarding plaintiff's mesothelioma because he was an internist but not an oncologist. *Id.* at 781-82. The Third Circuit found that the trial court had abused its discretion in disallowing the physician's testimony, noting that expert medical testimony is not restricted to specialists. *Id.* at 782. The Third Circuit found that the trial court had abused its discretion in disallowing the physician's testimony, noting that expert medical testimony is not restricted to specialists. *Id.* at 782. A split in authority is developing with respect to the applicability of *Daubert* to clinical medical testimony. In *Moore v. Ashland Chemical, Inc.*, 1997 U.S.App. LEXIS 28816, at *27-*28 (5th Cir. 1997), the court reasoned that because the *Daubert* factors are hard scientific methods selected from the body of hard scientific knowledge and methodology, those factors are generally are not appropriate for use in assessing the relevance and reliability of clinical medical testimony. Instead, the court as gatekeeper should determine whether a doctor's proposed testimony as a clinical physician is soundly grounded in the principles and methodology of doctor's particular field of clinical medicine. Judge Davis' thorough dissent sets forth the opposite position and cites the extant authority supporting the application of *Daubert* to clinical medical testimony.

46 *Muzzey v. Kerr-McGee Chem. Corp.*, 921 F. Supp. 511, 521 (N.D. Ill. 1996). In *Muzzey*, the court found that two of plaintiff's medical experts were not qualified to testify whether plaintiff had a blood disorder called polycythemia vera ("PV"). *Id.* The court based its conclusion largely on the fact that neither doctor was a hematologist. *Id.* See *Wettlaufer v. Mt. Hood R.R.*, 1996 U.S.App. LEXIS 4776, at *6-*8 (9th Cir. 1996); *Everett v. Georgia-Pacific Corp.*, 949 F. Supp. 856 (S.D.Ga. 1996).

47 *Holbrook*, 80 F.3d at 782.

48 *Joiner v. GE*, 78 F.3d at 531-32; *Rutigliano v. Valley Business Forms*, 929 F. Supp. 779, 786 (D.N.J. 1996); *Wilson v. Petroleum Wholesale, Inc.*, 904 F. Supp. 1188, 1190 (D. Colo. 1995). A physician may reach a reliable differential diagnosis without performing a physical examination if there are other examination results available. "In fact, it is perfectly acceptable, in arriving at a diagnosis, for a physician to rely on examinations and tests performed by other medical practitioners." *Kannankeril v. Terminix Int'l, Inc.*, 1997 U.S.App. LEXIS 28712, lc *12 (3d Cir. 1997).

49 *Joiner*, 78 F.3d at 531-32; *Wilson*, 904 F. Supp. at 1190.

50 *Joiner*, 78 F.3d at 531; *Wilson*, 904 F. Supp. at 1190. See *Hampton v. Broadway Maritime Shipping Co., Ltd.*, 1997 U.S. Dist. LEXIS 2078, at *11-*14 (N.D. Cal. 1997); *Dukes*, 934 F. Supp. at 949 (conclusions based on subjective observations considered unreliable); *Pomella*, 899 F. Supp. at 343 (same).

51 *Joiner*, 78 F.3d at 531-32; *Liriano*, 1996 U.S. Dist. LEXIS 864, at * 8 n.1.

52 *Joiner*, 78 F.3d at 532.

53 *Holbrook*, 80 F.3d at 784-85; *Joiner*, 78 F.3d at 532-33.

54 *Hall*, 947 F. Supp. at 1412-14; *Wilson*, 904 F. Supp. at 1190. Epidemiological evidence may also suffice to demonstrate general causation, but is not necessarily required. See, e.g., *Pick v. American Medical Sys., Inc.*, 958 F. Supp. 1151, 1158 (E.D. La. 1997).

55 *Id.* For an excellent example of a court's application of all of these factors, see *Moore*, 1997 U.S. App. LEXIS 28816, at *50-*55.

56 *Allen v. Pennsylvania Eng'g Corp.*, 102 F.3d 194, 198 (5th Cir. 1996); *Grimes*, 907 F. Supp. at 35, 37-38. "Extrapolations of animal studies to human beings are generally not considered reliable in the absence of a scientific explanation of why such extrapolation is warranted." *Hall*, 947 F. Supp. at 1410, and cases cited therein.

57 *Joiner*, 78 F.3d at 531.

58 *Muzzey v. Kerr-McGee Chem. Corp.*, 921 F. Supp. at 520.

59 *Id.* at 519. See *Allen*, 102 F.3d at 197, 198-99; *Hall*, 947 F. Supp. at 1411; *Grimes*, 907 F. Supp. at 35 n.2.

60 *Muzzey*, 921 F. Supp. at 519.

61 *Id.* See *Lust v. Dow Pharms., Inc.*, 89 F.3d 594, 597 (9th Cir. 1996); *Daubert*, 43 F.3d at 1317;

Lieberman v. American Dietetic Ass'n, 1996 U.S. Dist. LEXIS 13143, at *8 (N.D. Ill. 1996); *Sanderson*, 950 F. Supp. at 993-94; *Dukes*, 934 F. Supp. at 951.

62 *Rogers*, 952 F. Supp. at 614-15; *Haggerty v. The Upjohn Co.*, 950 F. Supp. 1160, 1163-66 (S.D. Fla. 1996).

63 *Buckner*, 75 F.3d at 293-94; *Pugh v. LaQuinta Motor Inns, Inc.*, 1996 U.S. Dist. LEXIS 1402, at *6 (E.D. La. 1996).

64 See *Casey v. Ohio Medical Prods.*, 877 F. Supp. 1380, 1382 (N.D. Cal. 1995); *Wade-Greaux v. Whitehall Lab., Inc.*, 874 F. Supp. 1441, 1448 (D.V.I. 1997), *aff'd*, 46 F.3d 1120 (3d Cir. 1994).

65 *Moore*, 1997 U.S.App. LEXIS 28816, at *112-*113 (Davis, J., dissenting); *Kannankeril*, 1997 U.S.App. LEXIS 28712, at *16-*18 (3d Cir. Oct. 17, 1997); *Goewey v. U.S.*, 1997 U.S.App. LEXIS 1528, at *4-*7 (4th Cir. 1997); *Allen*, 102 F.3d at 199; *Wright v. Willamette Indus.*, 91 F.3d 1105 (8th Cir. 1996); *Joiner*, 78 F.3d at 533; *Gier ex rel. Gier v. Educational Serv. Unit No. 16*, 66 F.3d 940, 943-44 (8th Cir. 1995); *Sanderson*, 950 F. Supp. at 986-88; *Muzzey*, 921 F. Supp. at 520-23.

66 See *Callahan v. Cardinal Glennon Hosp.*, 863 S.W.2d 852, 860 (Mo. banc 1993) (because there was no objection to expert testimony at trial, court stated it would be inappropriate to decide whether § 490.065 superseded the *Frye* doctrine in the same manner that *Daubert* held that Fed. R. Evid. 702 changed the requirements for admissibility of expert testimony in federal courts); *Bray v. Bi-State Dev. Corp.*, 1997 Mo.App. LEXIS 700, at *12 (Mo. App. E.D. 1997) (Missouri has adopted the *Frye* rule for determining the admissibility of new scientific techniques and continues to follow it); *Lasky v. Union Elec. Co.*, 1996 Mo. App. LEXIS 1036, AT *12-*19 (Mo. App. E.D. 1996) ("we are governed by two different standards for the admission of expert testimony: the *Frye* test and § 490.065 RSMo"); *Schumann v. Missouri Highway & Transp. Comm'n*, 912 S.W.2d 548, 554 n.8 (Mo. App. W.D. 1995); *State v. Davis*, 860 S.W.2d 369, 374 n.1 (Mo. App. E.D. 1993) (in criminal case, court is bound to follow Missouri precedent accepting "general acceptance" standard of *Frye*, but notes the trend toward the federal approach in *Daubert*).

67 In federal diversity cases, *Daubert* standards will apply over less stringent state law standards. *Cavallo v. Star Enter.*, 100 F.3d 1150, 1157-58 (4th Cir. 1996); *Hall*, 947 F. Supp. at 1395, 1403 n.36.

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