

**VIRGINIA:**

**RECENT DEVELOPMENTS IN THE  
ADMISSIBILITY OF EXPERT WITNESS TESTIMONY  
UNDER STATE AND FEDERAL LAW**

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I. THE BASICS OF ADMISSIBILITY UNDER FEDERAL LAW AND RECENT DECISIONS OF FEDERAL COURTS IN THE FOURTH CIRCUIT.

A. Admissibility of expert testimony under federal law is analyzed under Federal Rule of Evidence 702 and the case law interpreting it.

1. Rule 702.

The 2002 version of Rule 702 reads 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, 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.

Fed.R.Evid. 702. Rule 702 does not require the admissibility of all proffered expert testimony; rather, “the trial court has broad discretion to determine whether to admit expert testimony.” *United States v. Nwaigwe*, 2000 U.S. App. LEXIS 18927, 5 (4<sup>th</sup> Cir. 2000), *citing United States v. Portsmouth Paving Corp.*, 694 F.2d 312, 323 (4<sup>th</sup> Cir. 1986).

2. Trial court as gatekeeper.

a. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

In 1993 the United States Supreme Court rejected the existing test for admissibility of expert testimony -- based on the “general acceptance” of the science and methodology underlying the testimony (*see Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923)) -- in favor of a test based on “relevance” and “reliability.” *See Daubert*, 509 U.S. at 585-97.

In *Daubert*, both the District Court and Court of Appeals excluded plaintiff’s experts’ testimony as to the effects of Bendectin

because the testimony failed to meet the applicable standard of “general acceptance.” The Supreme Court rejected the lower courts’ rulings, however, holding that the Federal Rules of Evidence, not the “general acceptance” test, govern admittance of expert testimony. *Id.* Specifically, the Court held that under the Rule 702, “the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” *Id.* at 589. A trial judge may consider:

- 1) whether the opinion is “ground[ed] in the methods and procedures of science.” *Id.* (In other words, the “[p]roposed testimony must be supported by appropriate validation...” *Id.*)
- 2) whether the opinion has a “reliable basis in the knowledge and experience of [the expert’s] discipline.” *Id.* at 590.
- 3) whether the expert’s theory or technique “can be (and has been) tested.” *Id.* at 594.
- 4) whether the expert’s theory or technique “has been subjected to peer review and publication.” *Id.*
- 5) and whether the technique is subject to a “rate of error” and “the existence and maintenance of standards controlling the technique’s operation.” *Id.*

Finally, the Court emphasized that “[t]he inquiry envisioned by Rule 702 is ... a flexible one. \* \* \* The focus, of course, must be *solely on principles and methodology*, not on the conclusions that they generate.” *Id.* at 595 (emphasis added).

b. *Khumo Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

In 1999, the Supreme Court held that the Gatekeeper considerations outlined in *Daubert* apply to all expert testimony, not just

scientific testimony. In *Khumo Tire*, the plaintiffs attempted to rely on the testimony of a “tire failure analyst” whose conclusions were based exclusively on his experience and examination of a blown-out tire. Applying *Daubert*, the District Court excluded the expert’s testimony as unreliable. The Court of Appeals reversed, holding *Daubert* inapplicable to non-scientific testimony.

In reversing the Court of Appeals, the Supreme Court held that, “...*Daubert*’s general holding – setting forth the trial judge’s ‘gatekeeping’ obligation – applies not only to testimony based on ‘scientific’ knowledge, but also to testimony based on ‘technical’ and ‘other specialized’ knowledge.” *Khumo Tire*, 526 U.S. at 141. The Court concluded that the District Court’s decision to exclude the expert’s testimony was properly based on the expert’s dubious methodology. *Id.* at 153-58.

3. Appellate court standard of review.

a. *General Electric Co. v. Joiner*, 522 U.S. 136 (1997).

By 1997 it was clear that, although *Daubert* resolved disputes over the standard applied by trial courts in accepting or excluding expert testimony, *Daubert* had not resolved disputes over the standard applied by appellate courts in reviewing trial court decisions. *Joiner* resolved the latter dispute: “A district court’s decision to admit or exclude expert testimony is reviewed for abuse of discretion.” *Free v. Bondo-Mar-Hyde Corp.*, 2002 U.S. App. LEXIS 480, 2 (4<sup>th</sup> Cir. January 10, 2002), *citing Joiner*, 522 U.S. at 138-39. Moreover, “[t]he admissibility of expert testimony in a federal court sitting in the diversity jurisdiction is

controlled by federal law.” *Humphries v. Mack Trucks, Inc.*, 1999 U.S. App. LEXIS 25522, 5 (4<sup>th</sup> Cir. October 13, 1999).

4. Guiding principles in the Fourth Circuit.

- a. In addition to, or as product of, the principles and considerations enumerated by the Supreme Court in *Daubert*, the Fourth Circuit Court of Appeals has recognized “two guiding, and sometimes competing, principles” to be considered when admitting or excluding expert testimony. *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 261 (4<sup>th</sup> Cir. 1999). On the one hand, “the court should be mindful that Rule 702 was intended to liberalize the introduction of relevant expert testimony.” *Id.* On the other, “the court must recognize that due to the difficulty of evaluating their testimony, expert witnesses have the potential to ‘be both powerful and quite misleading.’” *Id.*, citing *Daubert*, 509 U.S. at 596. As the Fourth Circuit explained in *Tyger Constr. Co. v. Pensacola Constr. Co.*, 29 F.3d 137 (4<sup>th</sup> Cir. 1994), *cert. denied*, 513 U.S. 1080 (1995), “An expert’s opinion should be excluded when it is based on assumptions which are speculative and are not supported by the record.” *Id.* at 142.<sup>1</sup>

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<sup>1</sup> The *Tyger* court specifically denounced the trial court’s decision that “the question of whether an expert’s opinion ha[s] an adequate basis in fact should be handled by opposing counsel through cross examination and in jury argument.” *Tyger*, 29 F.3d at 143. The Fourth Circuit directed that a trial court “may not abdicate its responsibility to ensure that only properly admitted evidence is considered by the jury. Expert opinion evidence based on assumptions not supported by the record should be excluded.” *Id.*

## II. APPLICATION OF FEDERAL ADMISSIBILITY RULES IN RECENT CASES.

- A. Testimony must “fit” the case: *Garlinger v. Hardee’s FoodSystems, Inc.*, 2001 U.S. App. LEXIS 18559 (4<sup>th</sup> Cir. August 16, 2001).

In *Garlinger*, a district court properly excluded expert testimony that coffee heated to 180 degrees could cause burns because the testimony was neither relevant nor reliable. The “pertinent inquiry” in the case was “whether Hardee’s coffee, which is served at a temperature of approximately 180 to 190 degrees, is unreasonably dangerous for its intended use, namely human consumption.” *Garlinger*, 2001 U.S. App. LEXIS at 7-8. The expert’s testimony made two assertions: first, that “coffee spilled onto bare skin at that temperature will cause severe burns nearly instantaneously;” and second, that “150 degrees is a much safer temperature for serving beverages.” *Id.* at 8. The expert’s testimony failed, however, “to weigh the risks associated with hot coffee against the costs of lowering the serving temperature.” *Id.* at 9. As such, the testimony related only to the fact of injury, which no party disputed, and was therefore irrelevant to the question of reasonableness. *Id.*

Additionally, the expert’s testimony was unreliable. As the Court explained, “although Diller is an expert on thermodynamics, he possesses no knowledge or experience in the food or beverage industry.” *Id.* The Court concluded, “Thus, although Diller’s testimony about the effects of hot liquid on human skin may have scientific validity in some contexts, it does not ‘fit’ this case.” *Id.* at 10, *citing Daubert*, 509 U.S. at 591.

- B. Experience alone not enough: *Holesapple v. Barrett*, 2001 U.S. App. LEXIS 3128 (4<sup>th</sup> Cir. March 2, 2001).

In *Holesapple*, although the plaintiff made a prima facie showing that her expert was qualified to give an opinion as to the operation of small vessels, the expert’s testimony was properly excluded as unreliable. While the expert’s affidavit recited

substantial experience and numerous opinions, it failed to “rely[] on any of the standard indicia associated with [the] particular accident,” such as weather reports, wave height and the presence of other boats. *Holesapple*, 2001 U.S. App. LEXIS at 6. As the Court explained, “nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.” *Id.*, citing *Khumo Tire*, 526 U.S. at 157.

- C. Expert testimony as to “human factors” admissible to show negligence: *Humphries v. Mack Trucks, Inc.*, 1999 U.S. App. LEXIS 25522, 5 (4<sup>th</sup> Cir. October 13, 1999).

In *Humphries*, the Fourth Circuit upheld a district court’s decision admitting plaintiff’s expert’s testimony about the “best understood functioning of human perception and memory.” *Humphries*, 1999 U.S. App. LEXIS at 6. Plaintiff’s expert had opined that “a person was more likely to fall when confronted with an asymmetrical [deck plate] design based on theories concerning short-term memory and perception, visual spatial tasks, and ‘interference effects.’” *Id.* at 9.

Significantly, the court admitted the testimony *despite* the defendant’s argument that, “Dr. Alley did not conduct any tests or studies of the deck plate in formulating his opinion,” and that, “Dr. Alley’s conclusion that Herman Humphries was ‘psychologically overloaded’ contradicts Humphries’ own testimony...” *Id.* at 6. As the Court of Appeals explained, “the *Daubert* factors do not constitute a definitive checklist; the factors may be reasonable measures of reliability depending on the nature of the issue, the expert’s particular expertise, and the subject of his testimony. *Id.* at 9, citing *Kumho Tire*, 526 U.S. at 150.

In *Humphries*, the plaintiff’s expert “applied his experience and training in the field of cognitive psychology and relied, in part, on ‘generally accepted psychological principles of human perception and memory’ embodied in various published authorities.” *Id.* at 10. Moreover, “Dr. Alley’s opinion was appropriately limited to his field of

expertise and was offered not only to assist the jury in making its determination as to whether Mack Trucks was negligent in designing the asymmetrical deck plate, but also to oppose Mack Trucks' contributory negligence defense." *Id.* at 11.

- D. Parties must supplement expert reports with new information: *Thomas v. Washington Industrial Medical Center, Inc.*, 1999 U.S. App. LEXIS 16771 (4<sup>th</sup> Cir. July 19, 1999).

In *Thomas*, the Fourth Circuit affirmed a district court's exclusion of a physician's expert testimony regarding plaintiff's medical condition at the time of trial due to a violation of Fed.R.Civ.P. 26(a)(2)(B). Specifically, the court held that, "[the plaintiff] had not supplemented his pretrial disclosures regarding Dr. Maxfield's anticipated trial testimony to include [the plaintiff's medical condition at trial]." *Thomas*, 1999 U.S. App. LEXIS at 21. The court concluded,

Under Federal Rule of Civil Procedure 26(e)(1), '[a] party is under a duty to supplement ... its disclosures ... if the party learns that in some material respect the information disclosed is incomplete or incorrect and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing.' This duty extends to the testimony of an expert witness, Fed.R.Civ.P. 26(e)(1), who prior to testimony is required to submit a report outlining the opinions to be expressed and the data supporting the opinions, Fed.R.Civ.P. 26(a)(2)(B).

*Id.*; see also *Gust v. Jones*, 162 F.3d 587 (10<sup>th</sup> Cir. 1998) (district court did not abuse discretion by excluding expert testimony on deviation from standard of care where expert's report did not express an opinion on that subject).

- E. Differential diagnosis and temporal proximity may support expert testimony: *Westberry v. Gislaved Gummi AB*, 178 F.3d 257 (4<sup>th</sup> Cir. 1999).

In *Westberry*, the Fourth Circuit upheld a district court's decision admitting expert testimony on causation where plaintiff's expert relied on a differential diagnosis<sup>2</sup>

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<sup>2</sup> "Differential diagnosis, or differential etiology, is a standard scientific technique of identifying the cause of a medical problem by eliminating the likely causes until the most probable one is isolated." *Westberry*, 178 F.3d at 262.

and a temporal relationship between exposure and onset or worsening of symptoms. *Westberry*, 178 F.3d at 262.

In holding that “a reliable differential diagnosis provides a valid foundation for an expert opinion,” *Id.* at 263, the court reasoned that the technique “has widespread acceptance in the medical community, has been subject to peer review, and does not frequently lead to incorrect results.” *Id.*, citing *Brown v. Southeastern Penn. Transp. Auth.*, 35 F.3d 717, 758 (3<sup>d</sup> Cir. 1994). Moreover, “although Dr. Isenhower did not point to Westberry’s exposure to a specific level of airborne talc, there was evidence of a substantial exposure.” *Id.* at 264. Finally, “[a] medical expert’s causation conclusion should not be excluded because he or she has failed to rule out every possible alternative cause of a plaintiff’s illness.” *Id.* at 265. Rather, “[t]he alternative causes suggested by a defendant ‘affect the weight that the jury should give the expert’s testimony and not the admissibility of that testimony.’” *Id.*, citing *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 157 (3<sup>d</sup> Cir. 1999).

In holding that “a temporal relationship between exposure to a substance and the onset of a disease or a worsening of symptoms can provide compelling evidence of causation,” *Id.* at 265, the court reasoned that, “Westberry’s sinus disease began shortly after Westberry began working as a gasket cutter. Furthermore, during the time he was treating Westberry, Dr. Isenhower experimented with keeping Westberry out of work and noticed that his sinus condition improved...” *Id.*

- F. Testimony relating exposure to injurious substance admissible: *Anderson v. Quality Stores, Inc.*, 1999 U.S. App. LEXIS 13207 (4<sup>th</sup> Cir. June 14, 1999).

In *Anderson*, the Fourth Circuit reversed a district court’s holding excluding expert testimony as to causation where plaintiffs alleged they were injured as a result of defendants’ failure to warn of a spray paint component. Applying *Daubert*, the court held that, “Because the expert opinions proffered by Anderson were based on a reliable

differential diagnosis between a substantial exposure to the paint fumes and the onset of Anderson's symptoms, the district court abused its discretion in rejecting the opinions as unreliable." *Anderson*, 1999 U.S. App. LEXIS at 6, following *Westberry v. Gislaved Gummi AB*, 178 F.3d 257 (4<sup>th</sup> Cir. 1999).

Notably, the Court agreed with the defendants in *dicta* that, "[T]he initial materials submitted by Anderson – the reports and cover letter of the experts unaccompanied by affidavits attesting to their authenticity – did not comply with the requirements of Federal Rule of Civil Procedure 56(e) and therefore could not be properly considered in opposition to summary judgment." *Anderson*, 1999 U.S. App. LEXIS at 7-8. The plaintiffs corrected this flaw by filing affidavits in time for the district court to properly consider them.

- G. Tests that cannot be replicated cannot support expert testimony: *Ruffin v. Shaw Industries, Inc.*, 149 F.3d 294 (4<sup>th</sup> Cir. 1998).

In *Ruffin*, the Fourth Circuit upheld a district court exclusion of expert testimony tending to show that carpet removed from the plaintiff's home was "biologically active and produced sensory irritation, pulmonary irritation, and neurological changes in mice..." *Ruffin*, 149 F.3d at 297-300. The Court found the testimony unreliable under Fed.R.Evid. 702 and the factors enumerated in *Daubert*.

Specifically, the Court noted that the tests performed by the expert could not be reproduced: "No organization, public or private, has been able to independently obtain consistent findings using the techniques employed by Anderson Labs with their own equipment." *Id.* at 299. Furthermore, although the expert's technique was subject to extensive peer review, "the uncontradicted evidence ... demonstrates that peers in the relevant scientific community have been critical of the methodology employed by Anderson Labs but generally supportive of the procedures employed by [other labs], which failed to independently replicate Dr. Anderson's findings." *Id.* Finally, the Court

observed that the expert's technique was not generally accepted and varied significantly from the American Society for Testing and Materials protocol the expert claimed to have followed. *Id.* at 299-300.

### III. THE BASICS OF ADMISSIBILITY UNDER VIRGINIA LAW AND RECENT DECISIONS OF VIRGINIA COURTS.

A. Admissibility of expert testimony under Virginia state law is analyzed under Virginia Code § 8.01-401.1 *et seq.* and the case law interpreting it.

1. General rule. Section 8.01-401.1 states the general rule regarding admissibility of expert witness testimony. That section provides:

In any civil action any expert witness may give testimony and render an opinion or draw inferences from facts, circumstances or data made known to or perceived by such witness at or before the hearing or trial during which he is called upon to testify. The facts, circumstances or data relied upon by such witness in forming an opinion or drawing inferences, if of a type normally relied upon by others in the particular field of expertise in forming opinions and drawing inferences, need not be admissible in evidence.

The expert may testify in terms of opinion or inference and give his reasons therefor without prior disclosure of the underlying facts or data, unless the court requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination.

To the extent called to the attention of an expert witness upon cross-examination or relied upon by the expert witness in direct examination, statements contained in published treatises, periodicals or pamphlets on a subject of history, medicine or other science or art, established as a reliable authority by testimony or by stipulation shall not be excluded as hearsay. If admitted, the statements may be read into evidence but may not be received as exhibits. If the statements are to be introduced through an expert witness upon direct examination, copies of the statements shall be provided to the opposing parties thirty days prior to trial unless otherwise ordered by the Court.

Virginia Code § 8.01-401.1.

2. Preliminary inquiry: whether opinion will assist the trier of fact.

The initial inquiry to determine whether expert testimony is admissible is whether the testimony will assist the trier of fact. Generally, expert testimony may be admitted where “the subject matter of the inquiry was not within the range of common experience.” Friend, *The Law of Evidence in Virginia*, § 17-14, p. 591 (Michie’s 5<sup>th</sup> ed.) (referred to as “Friend”).

a. General rule regarding whether the proposed testimony will assist the trier of fact.

Section 8.01-401.3(A) sets forth the applicable standard:

In a civil proceeding, 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.

Virginia Code § 8.01-401.3(A).

b. Prior to adoption of the statute, the subject of expert testimony did not have to be part of a “science, art, learned profession or highly technical occupation.” Friend, p. 591. “All that [was] necessary [was] that the witness have sufficient expertise in the field, *however that expertise was obtained*, that the expert’s opinion [would] be of benefit to the jury. *Id.*

c. *Norfolk Southern Railway Company v. Bowles.*

The Virginia Supreme Court recently addressed whether the subject matter of an expert’s testimony would assist the trier of fact in *Norfolk Southern Railway Company v. Bowles*, 261 Va. 21, 539 S.E.2d 727 (2001). The plaintiff, a shift worker employed in ‘wheel truing’, alleged he was injured while compressing a shock absorber on a

locomotive. Plaintiff presented an expert in ergonomics to testify that “the work task was unsafe and had a potential for injury” and “[a] mechanical device should have been employed to perform the task of compressing the shock absorber.” *Id.*, 261 Va. at 25. The defendant objected to the testimony on the grounds that the expert “did not offer the jury any scientific, technical or specialized knowledge that was beyond the jury’s knowledge, or that assisted the jury to understand the evidence.” *Id.*

The Supreme Court held that the trial court properly admitted the testimony. The Court acknowledged that common knowledge in and of itself may be sufficient to determine whether a task is easy or difficult to perform, but that whether a task is *safe* is not “solely a function of logic.” *Id.*, pp. 25-26.

3. Reliability. In order for scientific expert witness testimony to be admissible, the scientific method relied upon by the expert must be reliable. This requirement has created significant case law regarding the level of reliability required and the means and methods of establishing it.

- a. The record must show that the proffered expert witness has sufficient knowledge, skill or experience to render him or her competent to testify on the subject matter of the inquiry. *See Combs v. Norfolk & Western Railway*, 256 Va. 490 (1998) (expert with medical degree but not medical license could testify about biomedical engineering but not factors causing discs to rupture); *cf Velazquez v. Commonwealth*, 2002 Va. LEXIS 18, 557 S.E.2d 213 (January 11, 2002) (sexual assault nurse examiner qualified to testify about sexual assault, but opinion that victim was raped invaded province of the jury).

An expert opinion based upon mere assumption with no evidentiary support is inadmissible. *See Lawson v. Doe*, 239 Va. 477 (1990). Similarly, an expert's testimony that fails to consider all variables is inadmissible. *See Swiney v. Overby*, 237 Va. 231 (1989) (where expert's testimony failed to consider actual condition of truck's brakes, a missing variable existed, and admission of testimony as to stopping distance was error).

b. *Basinger v. Commonwealth*.

In the context of handwriting experts, the Court of Appeals recently ruled that the science of handwriting comparison analysis by experts was reliable and had been recognized in Virginia for over 100 years. *Basinger v. Commonwealth*, 2000 Va. App. LEXIS 419 (Va. Ct. App.).

4. Foundation. In order for expert testimony to be admissible, it must rest upon an adequate foundation. Expert testimony is inadmissible, for example, if it relies upon assumptions that lack a sufficient basis in fact. *Tittsworth v. Robinson*, 252 Va. 151, 154, 475 S.E.2d 261, 263 (1996); *Tarmac Mid-Atlantic, Inc. v. Smiley Block Co.*, 250 Va. 160, 166, 458 S.E.2d 462, 466 (1995).

a. *Keesee v. Donigan*, 259 Va. 157 (2000).

In *Keesee*, the defendant in an automobile accident case contended that he did not have sufficient time to react to a roadway hazard and therefore could not avoid collision with the plaintiff's vehicle. To support his contention, the defendant proffered testimony of an accident reconstruction expert that "normal" persons have a reaction time of 1.5 seconds and that this was standard in the accident reconstruction industry. *Id.*, p. 160. However, the expert did not

examine the defendant's physical and mental abilities and merely assumed that they were normal. *Id.* at 162.

The Virginia Supreme Court reversed the trial court's admission of the testimony, holding that the defendant had failed to lay a proper foundation that his "physical and mental characteristics relevant to his perception and reaction times placed him within the average range of persons tested." *Id.*

B. Discretion of the trial court.

The trial court in Virginia may exercise substantial discretion to determine whether an expert is qualified to express an opinion, and the decision of the trial court will not be overruled unless it plainly appears that the witness was not qualified. *See Johnson v. Commonwealth*, 259 Va. 654 (2000). "Where the admissibility of expert testimony is challenged on appeal, the standard of review is whether the trial court abused its discretion." *Currie v. Commonwealth*, 30 Va. App. 58 (2000).