

50 STATE SURVEY  
OF CHALLENGING EXPERT WITNESSES  
IN PHARMACEUTICAL AND MEDICAL  
DEVICE CASES IN STATE COURT

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A Report of the Pharmaceuticals and Biologicals Subcommittee of the  
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*Editor*

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## MARYLAND

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### I. Criteria Applied in Maryland State Courts to Determine Reliability, Relevance, Fit, and Methodology of Expert Testimony Relating to Scientific or Technical Issues

#### A. The Admissibility of Expert Testimony

Generally, the admissibility of expert testimony in Maryland is based upon the criteria set forth in Maryland Rule 5-702. *Buxton v. Buxton*, 363 Md. 634, 650, 770 A.2d 152 (2001). Under this Rule, the trial court must initially determine whether the proposed expert is qualified to testify. *See* Md. Rule 5-702(1). In making this determination, the trial court examines "whether the witness has sufficient knowledge, skill, experience, training, or education pertinent to the subject of the testimony." *Sippio v. State*, 350 Md. 633, 649, 714 A.2d 864 (1998).

Next, the trial court must determine whether the evidence is an appropriate subject for expert testimony. *See* Md. Rule 5-702(2). Therefore, the court must consider whether the expert testimony will help the trier of fact understand the evidence or resolve the issues presented. *Simmons v. State*, 313 Md. 33, 41, 542 A.2d 1258 (1988). In determining whether the proposed expert testimony is helpful, "the trial court need not consider whether the trier of fact could possibly decide the issue without the expert testimony." *Sippio*, 350 Md. at 648. Additionally, the subject of the expert testimony need not be "so far beyond the level of skill and comprehension of the average layperson that the trier of fact would have no understanding of the subject matter without the expert's testimony." *Id.* However, expert testimony is not necessary when it "relates to matters of which the jurors would be aware by virtue of common knowledge." *Hartford Accident and Indem. Co. v. Scarlett Harbor Assocs. Ltd. Partnership*, 109 Md. App. 217, 257, 647 A.2d 106 (1996).

Finally, a sufficient factual basis must exist to support the proposed expert testimony. *See* Md. Rule 5-702(3). "A factual basis for expert testimony may arise from a number of sources, such as facts obtained from the expert's first-hand knowledge, facts obtained from the testimony of others, and facts related to an expert through the use of hypothetical questions." *Sippio*, 350 Md. at 653. The basis for the expert testimony must be relevant so the trier of fact may properly weigh the evidence. *Simmons*, 313 Md. at 41.

If the court determines that expert testimony is admissible under the three criteria of Maryland Rule 5-704, the testimony may be either "in the form of opinion or otherwise." *See* Md. Rule 5-702. Opinions relating to an ultimate issue are admissible under Maryland Rule 5-704, while

opinions on questions of law are generally inadmissible, except for those on non-Maryland law. *See Dimpfel v. Wilson*, 107 Md. 329, 339-41, 68 A. 561 (1908) (Maryland law); *Franceschina v. Hope*, 267 Md. 632, 636-45, 298 A.2d 400 (1973) (non-Maryland law).

## B. Scientific Expert Testimony – The *Frye-Reed* Standard

In order for scientific evidence to be admissible in Maryland, the underlying scientific technique or principle must be sufficiently reliable to produce trustworthy results. This “trustworthiness” may be established in one of three ways: (1) it may be recognized by Maryland statute; (2) judicial notice; or (3) it may be shown by expert testimony to have gained general acceptance among the scientists in the relevant field. *Goldstein v. State*, 339 Md. 563, 567, 664 A.2d 375 (1995).

Maryland continues to follow the “general acceptance test” when determining the admissibility of scientific evidence. Under this test, the admission of expert testimony regarding a scientific technique depends upon whether the technique is “generally accepted as reliable within the particular scientific field.” *Reed v. State*, 283 Md. 374, 381, 391 A.2d. 364 (1978) (citing *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923)). Despite the Supreme Court’s enunciation of a more liberal admissibility test in *Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993), Maryland courts consistently have utilized the so-called *Frye/Reed* rule of general acceptance within the field. *See Schultz v. State*, 106 Md. App. 145, 664 A.2d 60 (1995). The Maryland Court of Appeals commented after *Daubert* that the *Frye/Reed* rule is “well settled in Maryland.” *Owens Corning v. Bauman*, 125 Md. App. 454, 497-498, 726 A. 2d 745 (1999) (quoting *United States Gypsum Co. v. Mayor and City Council*, 336 Md. 145, 182, 647 A.2d 405 (1994)).

The *Frye-Reed* test is used to evaluate the reliability and, therefore, the admissibility of scientific principles, theories, techniques, and processes. *Goldstein v. State*, 339 Md. 563, 573, 664 A. 2d 375 (1995). It is not used to evaluate the reliability of a particular product or device that applies these scientific principles, *Goldstein*, 399 Md. at 573, or to certain types of medical opinion evidence. *State v. Allewalt*, 308 Md. 89, 517 A.2d 741 (1986). Although the *Frye-Reed* test is satisfied by general acceptance of the particular technique in the relevant scientific community, the trial court may exclude scientific evidence if it is not convinced that the examiner is qualified or that the test was conducted under proper conditions. *Polk v. State*, 48 Md. App. 382, 395, 427 A.2d 1041.

## II. Proving Causation by Differential Diagnosis

Although the Fourth Circuit held that a differential diagnosis can prove causation, *see Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 262 (4<sup>th</sup> Cir. 1999), a search of Maryland case law reveals no reported decision indicating that Maryland state courts have addressed this issue. The Fourth Circuit noted in *Westberry* that a differential diagnosis is a “standard scientific technique.” *Id.* at 262. It also noted that it had “previously upheld the admission of an expert opinion on causation based upon a differential diagnosis” and that “the overwhelming majority of the courts of appeals that have addressed the issue have held that a medical opinion on causation based upon a reliable differential diagnosis is sufficiently valid to satisfy the first prong of the Rule 702 inquiry.”

*Westberry*, 178 F.3d at 262. Therefore, the court concluded that a reliable differential diagnosis is a valid foundation for an expert opinion. *Id.* at 263. However, in order for a differential diagnosis to prove causation, it must be conducted with "intellectual vigor," *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999), and it must at least "take serious account of other potential causes." *Westberry*, 178 F.3d at 265.

A medical expert's opinion based on a differential diagnosis is not inadmissible simply because the expert failed to rule out every possible cause of illness. *Id.* at 265. Alternative causes may affect the weight the trier of fact will give the expert testimony but will not affect the admissibility of that testimony. *Id.* However, a differential diagnosis that seriously ignores other potential or alternative causes may be so deficient that it is not a reliable basis for a conclusion on causation. *Id.*

As Maryland lies within the Fourth Circuit, this ruling, which notes that differential diagnosis is a "standard scientific technique," may have persuasive value. Maryland law similarly recognizes that expert opinion based upon speculation or conjecture must be excluded as incompetent. *Porter Hayden Co. v. Wyche*, 128 Md. App. 382, 738 A.2d 326 (1999). This necessarily includes an expert's differential diagnosis based upon the speculation or conjecture of the expert witness. Because expert opinion must be supported by facts in evidence sufficient to support the opinion, the opinion itself cannot be invoked to supply the facts necessary to support the expert's conclusion. See *Wallach v. Board of Educ.*, 99 Md.App. 386, 637 A.2d 859 (1998); *Marshall v. Sellers*, 188 Md. 508, 53 A.2d 5 (Md. 1947). This accords with the most recent Fourth Circuit ruling in this area that an expert's differential diagnosis was inadmissible because the expert's opinion was "wholly conclusory" and based only on his "subjective beliefs." See *Cooper v. Smith & Nephew, Inc.*, 259 F.3d 194 (4<sup>th</sup> Cir. 2001).

### III. The Appropriate Procedure for Challenging the Admissibility of Expert Testimony in Maryland State Courts

The filing of a motion in limine is the proper procedure to challenge the admissibility of expert testimony. A motion in limine is made before or during a jury trial outside the hearing of the jury to prevent the jury from hearing questions or statements that may be prejudicial. "Specifically, the motion usually seeks an order restricting opposing counsel from offering questionable evidence before the judge has had an opportunity to rule on its admissibility." *Prout v. State*, 311 Md. 348, 356, 535 A.2d 445 (1988). A motion in limine is designed to give the trial judge "notice of the movant's position so as to avoid the introduction of damaging evidence which may irretrievably infect the fairness of the trial." 311 Md. at 356.

If the trial judge denies the motion in limine to exclude evidence and admits the disputed evidence, the movant must object at the time the evidence is offered, pursuant to Maryland Rule 4-323(a), in order to preserve the objection for appellate review. *Reed v. State*, 353 Md. 628, 637, 728 A.2d 195 (1999). However, if the trial judge grants the motion in limine and excludes the evidence the proponent of the evidence has no recourse and must follow the court's instructions. "The court's ruling controls the subsequent course of the trial and the proponent's objection is preserved for review without any further action on his part." *Prout*, 311 Md. at 355-56.

It should be noted that, generally, the admissibility of expert testimony is largely within the discretion of the trial court. *Simmons v. State*, 313 Md. 33, 542 A.2d 1258 (1988). On appeal, the trial court's decision to admit or exclude expert testimony will seldom constitute a ground for reversal; however, the decision may be reversed if the trial court committed an error of law or clearly abused its discretion. *Radman v. Harold*, 279 Md. 167, 173, 367 A.2d 472 (1977). Under the *Frye-Reed* standard, the trial court's finding of general acceptance will not be presumed correct on appeal. Rather, the question on appeal is whether the trial court's finding is "against the weight of the evidence rather than whether it is clearly erroneous." *Cobey v. State*, 73 Md. App. 233, 239, 533 A.2d 944 (1987).

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