MARYLAND

I. Applicable Law

Maryland Rule 5-702 "testimony by experts" states:

> Expert testimony may be admitted, in the form of an opinion or otherwise, if the court determines that the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue. In making that determination, the court shall determine (1) whether the witness is qualified as an expert by knowledge, skill, experience, training or education, (2) the appropriateness of the expert testimony on the particular subject, and (3) whether a sufficient factual basis exists to support the expert testimony.

Maryland adheres to the *Frye* "general acceptance" standard, which it adopted in *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978). While the U.S. Supreme Court in *Daubert* rejected the general acceptance test based, in part, on Fed.R.Evid. 702, Maryland explicitly declined to follow suit when it adopted the state's counterpart to Rule 702 in 1994. The Court of Appeals of Maryland blessed a Committee Note stating that the Maryland rule was "not intended to overrule *Reed* or other cases adopting the *Frye* standard, and that '[t]he required scientific foundation for the admission of novel scientific techniques or principles as left to development through case law.'" *Burral v. State*, 352 Md. 707, 738, 724 A.2d 65, 80 (1999). *See also Clemons v. State*, 392 Md. 339, 349 n.7, 896 A.2d 1059, 1065 n.7 (2006) ("Maryland has continued to adhere to the *Frye* test rather than the *Daubert* standard."). Maryland has elaborated that a generally accepted methodology must also be coupled with a generally accepted analysis in order to avoid the deficiencies of an "analytical gap" between the underlying data and the proffered opinion. *Blackwell v. Wyeth*, 408 Md. 579, 608, 971 A.2d 235, 255 (2009). Moreover, Maryland courts have also recognized that a scientific method "once considered generally accepted can lose that application in the relevant scientific community so that the theory returns to a disconfirmed state." *Chesson v. Montgomery Mut. Ins. Co.*, 434 Md. 346 358, 75 A.3d 932, 938 (2013), citing *Clemons v. State*, 392 Md. 339, 347, 896 A.2d 1059, 1064 (2006). The Court of Appeals of Maryland recognized the continuing vitality of the *Frye-Reed* standard most recently in *Kulbicki v. State*, 440 Md. 33, 99 A.3d 730 (2014).

> **1. Standard of review on appeal.** Maryland law is well settled that the admissibility of expert testimony, in general, is a matter largely within the discretion of the trial court. However, appellate review of a trial court's decision regarding the admissibility of expert testimony under *Frye-Reed* is *de novo*. *Clemons v. State*, 392 Md. 339, 359, 896 A.2d 1059, 1071 (2006); *Wilson v. State*, 370 Md. 191, 201 n.5, 803 A.2d 1034, 1040 n.5 (2002) ("the answer to the question about the reliability of a scientific technique or process does not vary according to the circumstances of each case. It is therefore inappropriate to view this threshold question of reliability as a matter within each trial judge's individual discretion.") (citation omitted). Further, Maryland appellate courts are not limited to the information contained in the record below, but "can and should take notice of law journal articles, articles from reliable sources that appear in scientific journals, and other publications which bear on the degree of acceptance by recognized experts that a particular process has achieved." *Clemons*, *supra.*, 392 Md. 339, 359. 896 A.2d 1059, 1071 (citation omitted).

2. Procedure. In Maryland, a party proffering expert testimony based on the application of new scientific techniques must establish that the basis of the proffered opinion is generally accepted as reliable within the expert's particular scientific field. *Wilson v. State*, 370 Md. 191, 201, 803 A.2d 1034 1039–40 (2002). Where such evidence is subject to a challenge under *Frye-Reed*, "the issue should, whenever possible, be dealt with prior to trial." *Clemons v. State*, 392 Md. 339, 347 n.6, 896 A.2d 1059, 1064 n.6 (2006). The court of appeals has observed that conducting a *Frye-Reed* hearing outside of the jury's presence "would preclude its members from improperly considering evidence that is irrelevant to the task at hand and insure that the verdict is derived from evidence properly before it." *Id.*

II. Selected Case Law

1. Hypnotically enhanced testimony. In *Burral v. State*, 352 Md. 707, 724 A.2d 65 (1999) the Court of Appeals of Maryland ruled that a defendant was not permitted to present hypnotically enhanced testimony of a defense witness because of insufficient proof that post-hypnotic memory was reliable under the *Frye-Reed* test.

2. Sudden Infant Death Syndrome. In *Wilson v. State*, 370 Md. 191, 803 A.2d 1034 (2002), a murder defendant claimed that his infant son died from Sudden Infant Death Syndrome (SIDS). The court of appeals reversed the defendant's conviction, holding that the admission of the prosecution expert's witness testimony as to the improbability of two of the defendant's children dying SIDS—an older child of the defendant allegedly also died from SIDS—was error because of the lack of general acceptance in the scientific community as to the causes of SIDS.

3. Comparative bullet lead analysis. In *Clemons v. State*, 392 Md. 339, 896 A.2d 1059 (2006), the court of appeals reversed defendant's murder conviction on the grounds that it was error for the trial court to have admitted prosecution expert testimony regarding comparative bullet lead analysis (CBLA) because the analysis was not generally accepted as valid and reliable within the scientific community. Despite use and acceptance of CBLA in previous cases, the court of appeals noted that recent studies had called into question assumptions regarding the uniformity and uniqueness of lead sources that provided the foundation for CBLA.

4. Sick Building Syndrome. In *Chesson v. Montgomery Mut. Ins. Co.*, 434 Md. 346, 75 A.3d 932 (2013), the court of appeals rejected plaintiffs' expert testimony in a workers' compensation case that occupational exposure to mold in the walls of plaintiffs' place of employment caused non-respiratory ailments such as neurocognitive and musculoskeletal symptoms. The court observed that the expert's technique, which reflected a "dearth of scientific methodology," as well as his causal theory, were not shown to be generally accepted in the relevant scientific community. *Id.*, 434 Md. at 380, 75 A.3d at 951.

5. Autism caused by vaccine. In *Blackwell v. Wyeth*, 408 Md. 575, 971 A.2d 235 (2009), the court of appeals affirmed a trial court's grant of summary judgment in favor of a

defendant vaccine manufacturer based upon the trial court's rejection of proposed plaintiff expert testimony that defendant's vaccine caused plaintiffs' child's autism. Relying on the *Frye-Reed* test, the court of appeals observed that while the expert used a reliable database to form his opinion, the methodology the expert used to draw his conclusions were not generally accepted and reliable, and thus there was an analytical gap between underlying data and the expert's proffered opinion.