



Novel Scientific or *Current law on*

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Medical Evidence

presenting it in civil litigation

Occasionally during litigation, a party may have scientific or medical evidence that could be considered novel and might be introduced at trial. For example, parties have sought to admit evidence of relatively new techniques such as SPECT imaging to prove the existence of closed head injuries and the use of thermography to prove sensory nerve damage.¹ Because novel evidence could be speculative and might confuse juries regarding the merits of the claims that are in dispute, the question becomes whether the evidence should be admitted at trial. When the issue arises, what is a practitioner's best course of action in challenging or defending the evidence? This article explains the present law on novel scientific or medical evidence and how to attempt to exclude or admit it. As explained below, practitioners should be aware that novel scientific or medical evidence must meet the standard established by the courts under both the Davis-Frye Test and MRE 702.

The Davis-Frye Test

Michigan evaluates the admissibility of novel scientific or medical evidence under a standard created by the Michigan Supreme Court known as the Davis-Frye Test. The name of the test is derived from the decision of the Michigan Supreme Court in *People v Davis*² and the case of *Frye v United States*,³ the latter of which established the standard in federal court. The issue in *Davis* was the admissibility of polygraph tests in a murder prosecution. Expert testimony and scientific literature established that the error rate in polygraph tests was anywhere from 10 percent to 25 percent and subject to operator error in interpreting the results. As a result, the Court held that the technique was not generally accepted as reliable in the scientific community and therefore not admissible at trial. In *Frye*, the court held that the blood pressure deception test was too experimental to be admissible at trial. The Michigan Supreme Court has in subsequent cases referred to this standard as the Davis-Frye Test.

Originally, the Davis-Frye Test was applied only in criminal cases. While the issue is still raised more often in criminal proceedings, it is now clear that the Davis-Frye test also applies to civil litigation. The first published case applying the test in a civil proceeding was an auto negligence action in 1987.⁴ The issue in that case, *Kluck v Borland*, concerned the admissibility of thermography evidence in determining the extent of sensory nerve damage. The court held that the plaintiff had failed to meet her burden by providing sufficient testimony from impartial and disinterested wit-

nesses. Since that time, the Davis-Frye Test has been applied to many different types of civil cases. A practitioner may cite authority from both criminal and civil cases, as there appears to be no difference between the two types of cases regarding the proper standard under the Davis-Frye Test.

Under the Davis-Frye Test, a party challenging scientific or medical evidence must first establish that the evidence is based on *novel* scientific or medical evidence.⁵ Establishing *novelty* is a prerequisite to the ability to challenge the scientific or medical evidence. If it is not "novel" then a Davis-Frye analysis is unnecessary. Thus, if a party submits the affidavit of an expert, the expert must set forth evidence to create a question of fact that the principle or technique is novel. Examples of scientific evidence that have been held not to be novel, and therefore admissible, include testimony indicating that a woman's prolonged contractions during delivery can cause head trauma to a newborn,⁶ evidence regarding the level of drugs in a deceased person's blood at the time of autopsy,⁷ the use of bite-mark analysis,⁸ bloodstain interpretation evidence,⁹ and the use of a gas chromatograph-mass spectrometer.¹⁰

A Davis-Frye analysis is unnecessary if a prior judicial decision, possibly even one in another jurisdiction, has found that the evidence is admissible.¹¹ In one case demonstrating this rule, the court held that there was no need to submit DNA statistical data for a Davis-Frye analysis, since the court had previously held that the evidence is admissible.¹² Further, a principle or technique is not considered novel if it is a slightly different application of another well-accepted principle or technique.¹³ Thus, the court of appeals has held that the use of a gas-chromatograph-mass spectrometer to test for the presence of SCH (a muscle relaxant that can result in suffocation if injected) in embalmed tissue samples was not novel, even though the test had not previously been used in this manner before. This was true because the test procedure itself was well established.¹⁴

With regard to the timing of raising the issue, the court of appeals has held that a motion in limine filed three days before trial can timely preserve the issue.¹⁵ Once the party challenging the evidence has met the threshold of demonstrating that the evidence is novel, the court is then required to conduct a Davis-Frye evidentiary hearing to determine whether the evidence will nevertheless be admitted at trial and cannot decide the issue on summary disposition.¹⁶ However, the parties can stipulate to conduct the hearing on deposition transcripts and other evidence.¹⁷ The party seeking to introduce the evidence at trial bears the burden of establishing

that the principle or technique has general acceptance in the scientific or medical community so as to render the principle or technique reliable.¹⁸

In determining whether the principle or technique has general acceptance in the scientific or medical community, the trial court must consider only the testimony of impartial experts whose livelihoods are not intimately connected with the evidence in issue.¹⁹ This can be a difficult standard to meet. Experts that have been held to be either not qualified or not impartial and disinterested are:

- a government employee whose full-time job involved using the procedure
- a board member of an organization that strongly promotes use of the procedure
- an expert who has an investment in a company selling a device that uses the procedure
- an individual who receives more than 10 percent of his income from using the procedure
- a person who has no practical experience in using the procedure²⁰

In proving general acceptance, the following has been considered relevant:

- testimony regarding experts known to use the procedure
- independent validation tests
- comprehensive controlled studies
- published studies

FAST FACTS:

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- proof that the procedure or studies have been subjected to criticism in the applicable professional community²¹

“Courts will not require that scientific tests be infallible to be admissible. Only reasonable certainty must follow from the tests.”²²

In practice, a party seeking to introduce novel scientific evidence has experts testify whether, in their opinion, the principle or technique is generally accepted as reliable in the scientific or medical community. The only experts who can testify are those whose incomes and careers are not closely connected to using the procedure, and who have practical experience with the procedure. The best experts are those who work in a research setting such as a university where the procedure is not an important component of their work. The experts provide support for their opinions by referring to experts who are known to use the procedure or by reference to recognized literature on the subject. Published independent validation tests and comprehensive control studies are very persuasive. The cases do not seem to require that the expert provide evidence that a statistical majority of the experts in the relevant community accept the procedure, but rather the expert can refer to others who use the procedure or to published studies to prove that there is general acceptance.

Recently, the court of appeals has placed greater emphasis on whether the “methodology” is reliable rather than on whether the “principle or technique” is reliable.²³ The court has stated that “a trial court is not concerned with the ultimate conclusion of an expert, but rather the method, process, or basis for the expert’s conclusion and whether it is generally accepted or recognized.”²⁴ Thus, in one case, the court of appeals held that because a leading theory indicated that stress seemed to cause the onset of Graves’ disease, this was sufficient for an expert to testify that an automobile accident could cause the onset of Graves’ disease.²⁵ Some decisions blur the distinction between the Davis-Frye Test and the separate test under MRE 702, with quotes such as: “Pursuant to MRE 702, the Davis-Frye rule limits the admissibility of novel scientific evidence by requiring the party offering such evidence to demonstrate that it has gained general acceptance in the scientific community.”²⁶

The Test Under MRE 702

Within the last seven years, the Michigan Court of Appeals has often required trial courts to evaluate novel scientific evidence under both the Davis-Frye Test and the more relaxed standards of MRE 702.²⁷ 702 provides:

If the court determines that recognized 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.

Indeed, it almost seemed that the Michigan Court of Appeals had abandoned the Davis-Frye Test, when in one published case, *Nelson v American Sterilizer Co.*,²⁸ it solely evaluated novel evidence under MRE 702. Subsequent decisions have made it clear that the Davis-Frye Test is alive and well, and rather than admit any error

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with the decision of *Nelson*, the court of appeals frequently requires trial courts to use both standards.

Under MRE 702, the court focuses on whether the expert, in reaching his conclusion, is relying upon proper scientific methodology and principles. The expert provides support for his opinion by referring to objective and independent validation of the principle or technique found in recognized scientific and medical literature. In one case, the court of appeals held that an expert's theory that a bag of blood would definitely change color if contaminated was not admissible, as his conclusion relied on his own personal observations during the course of his work and were not based on either scientific studies or published literature.²⁹

The test under 702 differs from the Davis-Frye Test in that it is not necessary under 702 to consider whether the principle or technique is "generally accepted as reliable" within the relevant scientific or medical community. Indeed, "As long as the basic methodology and principles employed by an expert to reach a conclusion are sound and create a trustworthy foundation for the conclusion reached, the expert testimony is admissible no matter how novel."³⁰ The test under MRE 702 is essentially a weaker version of the Davis-Frye Test, since if the Davis-Frye Test is satisfied, then it is almost certain that the standard under MRE 702 is also satisfied.

Some practitioners have argued that Michigan should follow the lead of the United States Supreme Court, which in 1993 abolished the equivalent federal test (the Frye Test) in *Daubert v Merrell Dow Pharmaceuticals, Inc*³¹ and instead solely analyzes the issue under the Federal Rules of Evidence, primarily FRE 702. Indeed, it seemed for a brief time that the Michigan Court of Appeals had done so with its decision in *Nelson*. In fact, many of the recent decisions from the court of appeals regarding novel scientific evidence quote heavily from *Daubert*. However, the court of appeals has made it clear that it will not abandon the Davis-Frye Test until the Michigan Supreme Court decides whether to follow the new federal test.³² Thus, it is important for a practitioner to keep in mind that the Davis-Frye Test still applies in Michigan and not the test under *Daubert*.

The Federal Standard Under *Daubert*

By way of comparison with Michigan law, novel scientific evidence under the federal standard of *Daubert* does not require a finding that it is "generally accepted as reliable."³³ The federal test is "we emphasize, a flexible one" and the "focus, of course, must be solely on principles and methodologies, not on the conclusions that they generate." The United States Supreme Court directs lower courts to consider several different factors, including:

- whether the scientific evidence can be and has been tested
- whether it has been subjected to peer review and publication
- the known or potential rate of error (in applicable situations)
- widespread acceptance within the relevant scientific community

Does MCL 600.2955 Apply?

Some practitioners have argued that MCL 600.2955 applies to determine if novel scientific or medical evidence is admissible. This statute was passed in 1995 and went into effect in 1996. It provides:

- (1) *In an action for the death of a person or for injury to a person or property, a scientific opinion rendered by an otherwise qualified expert is not admissible unless the court determines that the opinion is reliable and will assist the trier of fact. In making this determination, the court shall examine the opinion and the basis for the opinion, which basis includes the facts, technique, methodology, and reasoning relied on by the expert, and shall consider all of the following factors:*
 - (a) *Whether the opinion and its basis have been subjected to scientific testing and replication.*
 - (b) *Whether the opinion and its basis have been subjected to peer review publication.*
 - (c) *The existence and maintenance of generally accepted standards governing the application and interpretation of a methodology or technique and whether the opinion and its basis are consistent with those standards.*
 - (d) *The known or potential error rate of the opinion and its basis.*
 - (e) *The degree to which the opinion and its basis are generally accepted within the relevant expert community. As used in this subdivision, "relevant expert community" means individuals who are knowledgeable in the field of study and are generally employed applying that knowledge on the free market.*
 - (f) *Whether the basis for the opinion is reliable and whether experts in that field would rely on the same basis to reach the type of opinion being proffered.*
 - (g) *Whether the opinion or methodology is relied upon by experts outside of the context of litigation.*
- (2) *A novel methodology or form of scientific evidence may be admitted into evidence only if its proponent establishes that it has achieved general scientific acceptance among impartial and disinterested experts in the field.*

According to its terms, the statute provides standards regarding the admissibility of novel scientific or medical evidence, in actions for wrongful death or in actions for injury to persons or property. Even the Michigan Court of Appeals has acknowledged that this statute is "an apparent effort to codify the United States Supreme Court's holding in *Daubert*." ³⁴ To date, there has been only one published opinion regarding the interpretation of MCL 600.2955.³⁵ The court in that case held that the statute does not displace the rules of evidence and completely rejected its applicability to novel scientific and medical evidence. Thus, according to the only published authority interpreting MCL 600.2955, the statute appears to have no applicability regarding whether novel scientific or medical evidence is admissible. Practitioners should be aware that subsequent unpublished cases by the court of appeals have taken inconsistent positions on the applicability of the statute.

Challenging Another Party's Evidence

If a practitioner believes that the other party may seek to introduce evidence regarding a principle or technique that could be considered novel, the practitioner should file a motion in limine to exclude the evidence prior to trial. The party should support the motion with some evidence that the principle or technique is in fact novel. While cases are not clear on exactly what evidence suffices to meet this initial threshold, the practitioner should first research to determine if a court in Michigan or another jurisdiction has already held that the evidence is not novel. Next, the party should submit an affidavit from a disinterested and impartial expert whose livelihood is not closely connected to the principle or technique, indicating that he believes that the evidence is not generally recognized as reliable in the scientific or medical community. The expert must have some practical experience with the principle or technique.

This should be sufficient to make a Davis-Frye evidentiary hearing necessary to determine if the evidence will be admitted at trial. The party offering the evidence then bears the burden of proving that the principle or technique is generally accepted as reliable in the scientific or medical community. The challenging party can offer the testimony of his own impartial and disinterested experts to discredit the other party's experts. A party with concerns over the cost of conducting the hearing should consider stipulating to allow the court to decide the issue on the basis of deposition testimony and other evidence. If the court decides that the principle or technique is not generally accepted as reliable, then the evidence is excluded from trial.

Defending Evidence That May Be Novel

A practitioner who has concerns about whether his scientific or medical evidence is novel should first research to determine if the principle or technique has already been held not to be novel in Michigan or another jurisdiction. If such a case exists, this should obviate the need for a Davis-Frye hearing. If no such case exists, the practitioner should then research whether an argument could be made that the principle or technique is a slightly different application of another well-accepted principle or technique. If such an argument can be made, the issue could be decided on summary disposition without the need for a Davis-Frye hearing.

If neither of these options are available, the practitioner then probably has two options, which include waiting to see if the other side raises an objection or filing a motion in limine prior to trial to determine the issue. In any event, the practitioner should be prepared to defend the evidence by locating disinterested and impartial experts for purposes of the Davis-Frye Test and finding as much scientific and medical literature on the subject as possible. If a Davis-Frye evidentiary hearing becomes necessary, the party seeking to admit the evidence bears the burden of proof.

Conclusion

In cases involving the admissibility of novel scientific and medical evidence, a practitioner must be cognizant of the Davis-Frye Test and how it works. A practitioner seeking to defend the evidence can sometimes avoid an evidentiary hearing if the other side fails to meet its threshold by producing evidence that the principle or technique is novel. Further, it appears to be a common mistake in Michigan for parties in state court to believe that they can rely on the federal test under *Daubert* or MCL 600.2955. While the federal test may become the law in Michigan in the future, the Michigan Supreme Court has so far not given any hint that it intends to abandon the Davis-Frye Test. ♦



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Footnotes

1. *SPECT Imaging, Inc v Allstate Insurance Co*, 246 Mich App 568 (2001) (SPECT scans); *Kluck v Borland*, 162 Mich App 695 (1987) (thermography).
2. 343 Mich 348 (1955).
3. 293 F 1013 (DC Cir 1923).
4. *Kluck v Borland*, 162 Mich App 695 (1987).
5. *Craig v Oakwood Hospital*, 249 Mich App 534 (2002).
6. Id.
7. *People v Stiller*, 242 Mich App 38 (2000).
8. *People v Marsh*, 177 Mich App 161 (1989).
9. *People v Haywood*, 209 Mich App 217 (1995).
10. *People v Davis*, 199 Mich App 502 (1993).
11. *People v Marsh*, 177 Mich App 161 (1989).
12. *People v Leonard*, 224 Mich App 569 (1997).
13. *People v Davis*, 199 Mich App 502 (1993).
14. Id.
15. *Miller v State Farm Mutual Automobile Insurance Co*, 168 Mich App 238 (1988).
16. *SPECT Imaging, Inc v Allstate Insurance Co*, 246 Mich App 568 (2001).
17. *Anton v State Farm Mutual Automobile Insurance Co*, 238 Mich App 673 (2000).
18. *People v Beckley*, 434 Mich 691 (1990).
19. *Anton* supra.
20. *Kluck v Borland*, 162 Mich App 695 (1987); *People v Young*, 425 Mich 470 (1986).
21. *Young* supra.
22. *People v Lee*, 212 Mich App 228 (1995).
23. *Anton* supra.
24. Id.
25. Id.
26. Id.
27. *SPECT Imaging, Inc v Allstate Insurance Co*, 246 Mich App 568 (2001).
28. *Nelson v American Sterilizer Co*, 223 Mich App 485 (1997).
29. *Tobin v Providence Hospital*, 244 Mich App 626 (2001).
30. Id. See also *A&M Supply Co v Microsoft Corp*, 252 Mich App 580 (2002), where the court, without specifically involving MRE 702, held that class certification was not warranted because the expert's damages methodology was not sufficiently reliable to compute damages on a class-wide basis.
31. 509 US 579 (1993).
32. *Craig v Oakwood Hospital*, 249 Mich App 534, 546 n 4 (2000).
33. *Daubert* supra.
34. *Greathouse v Rhodes, MD*, 242 Mich App 221, 238 (2000) (reversed in part on other grounds, 465 Mich 885 (2001)).
35. Id.