SYLLABUS

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**State v. Michael Olenowski (A-56-18) (082253)**

**Re-Argued January 17, 2023 -- Decided February 17, 2023**

**RABNER, C.J., writing for a unanimous Court.**

In this opinion, the Court reconsiders the appropriate standard to evaluate the admissibility of expert evidence under N.J.R.E. 702. For decades, the admissibility of expert evidence in New Jersey criminal cases has been analyzed under the test outlined in Frye v. United States, 293 F. 1013 (D.C. Cir. 1923). That standard turns on whether the subject of expert testimony has been "generally accepted" in the relevant scientific community. The Court has moved away from the Frye test over time, shifting in civil cases toward an approach that focuses directly on reliability by evaluating the methodology and reasoning underlying proposed expert testimony -- a standard similar to the one outlined in Daubert v. Merrell Dow Pharmaceuticals Inc., 509 U.S. 579 (1993). After an extensive evidentiary hearing before a Special Master, the Court asked the parties and amici here to submit their views on whether to depart from Frye and adopt the principles of Daubert in criminal cases.

The Court granted certification in this matter, 236 N.J. 622 (2019), to decide whether the testimony of a certified Drug Recognition Expert (DRE) is admissible at trial and, if so, under what circumstances. DREs apply a twelve-step protocol to assess whether a person is impaired. At trial, the prosecutor introduced DRE testimony to prove that defendant had been driving while under the influence. The Municipal Court Judge convicted defendant; the Superior Court upheld the use of DRE evidence under Frye and affirmed; the Appellate Division also affirmed.

After oral argument, the Court found the record inadequate to test the validity of DRE evidence and appointed the Honorable Joseph F. Lisa as a Special Master to conduct a plenary hearing. 247 N.J. 242, 244 (2019). Judge Lisa concluded in a 332-page report that DRE evidence should be admissible under the Frye standard.

Counsel discussed error rates associated with DRE evidence in their briefs to the Special Master and the Court. But although error rates are expressly considered under Daubert, they are not directly covered by Frye's general acceptance standard. In light of that, the Court asked the parties and amici to brief "whether this Court should depart from Frye and adopt the principles of Daubert in criminal cases."

**HELD:** Frye permits judges to consider only whether the subject of the testimony has been "generally accepted" in the relevant scientific community; Daubert empowers courts to directly examine the reliability of expert evidence and consider a broader range of relevant information. The more restrictive standard in Frye is also difficult to apply to certain types of expert evidence, including novel areas. For those and other reasons, going forward, the Court adopts principles similar to the standard outlined in Daubert to examine the admissibility of expert evidence in criminal and quasi-criminal cases.

1. N.J.R.E. 702 governs the admissibility of expert testimony. To satisfy the rule, it is well-settled that the proponent of expert evidence must establish three things: (1) the subject matter of the testimony must be beyond the ken of the average juror; (2) the field of inquiry must be at a state of the art such that an expert's testimony could be sufficiently reliable; and (3) the witness must have sufficient expertise to offer the testimony. The key issue in this appeal centers around the second requirement: whether the proposed testimony is reliable. (pp. 10-11)

2. In criminal cases up until now, the Court has used the Frye standard to assess reliability. Decided a century ago, Frye involved a defendant's effort to introduce evidence of a blood pressure test that could purportedly reveal whether a person was telling the truth. 293 F. at 1013. The Frye court's analysis appears in a single paragraph of its two-page ruling and states in part that, "while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs." Id. at 1014 (emphasis added). The opinion does not cite any legal authority. The "general acceptance" standard stems from the underscored language and can be difficult to satisfy. (pp. 11-14)

3. In civil cases, to determine the reliability of expert testimony, the focus today is on the methodology and reasoning underlying the evidence. That approach is guided by a non-exhaustive list of factors outlined in Daubert. The Court was in the vanguard of courts to shift from exclusive reliance on Frye's "general acceptance" standard to a methodology-based approach in civil cases, and it began to do so even before Daubert, in which the United States Supreme Court rejected the Frye standard and held that Frye had been "superseded by the adoption of the Federal Rules of Evidence." 509 U.S. at 587. Daubert outlined a new methodology-based standard to determine the admissibility of proffered expert scientific testimony: "[W]hether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue." Id. at 592. That "entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and . . . properly can be applied to the facts in issue." Id. at 592-93. Finally, Daubert provided a non-exclusive list of four factors

-- commonly referred to as the "Daubert factors" -- to help courts apply the new standard. Id. at 593-94. (pp. 14-17)

4. In 2018, the New Jersey Supreme Court adopted the Daubert factors -- with some qualifications -- to help guide trial courts as they fulfill their role as gatekeepers and make decisions about the reliability of expert testimony in all civil cases. The Court specifically found that the Daubert factors "would provide a helpful -- but not necessary or definitive -- guide" for trial courts in New Jersey. In re Accutane Litig., 234 N.J. 340, 398 (2018). But the Court declined to declare New Jersey "a Daubert jurisdiction" and did not "embrace the full body of Daubert case law" from other "state and federal courts." Id. at 399. The Court also acknowledged that, despite its broadened approach in civil cases, it had "retain[ed] the general acceptance test for reliability in criminal matters" "to date." Ibid. (pp. 18-19)

5. The Court has applied the Frye standard to evaluate various devices, scientific tests, and other kinds of evidence. Despite its longstanding use, Frye has posed certain difficulties and has been the subject of criticism. An expert opinion that is not reliable is of no assistance to anyone. But instead of directing judges to examine actual measures of reliability -- like the soundness of the methodology used to validate a scientific theory or technique, the strength of the reasoning underlying it, and the accuracy of the theory or technique in practice -- Frye only permits judges to consider the views of individuals in the relevant field. As a result, Frye has been criticized as "both unduly restrictive and unduly permissive" because "it excludes scientifically reliable evidence which is not yet generally accepted, and admits scientifically unreliable evidence which although generally accepted, cannot meet rigorous scientific scrutiny." State v. Coon, 974 P.2d 386, 393-94 (Alaska 1999). In Accutane, the Court observed that Frye is "unsatisfactorily constricting" as a way to assess the reliability of "novel or emerging fields of science." 234 N.J. at 380. Daubert likewise described Frye's approach as "rigid," "austere," and "uncompromising." 509 U.S. at 588-89, 596. (pp. 19-21)

6. Frye also presents a difficult threshold question: identifying the relevant scientific community in which general acceptance must be measured. In some instances, scientific evidence may be studied by multiple scientific communities or none at all. Here, Judge Lisa observed that the relevant scientific communities -- medicine and toxicology -- were largely unfamiliar with the DRE protocol. And those most familiar with the protocol -- traffic safety engineers, law enforcement professionals, and DRE coordinators and officers -- were not scientists. Judge Lisa therefore found that this case "is not a typical fit for the Frye paradigm." Frye's reasoning has come under criticism as well. The decision offered no explanation or authority for requiring general acceptance. Plus the Frye test has been superseded by the Federal Rules of Evidence and is "incompatible" with the "liberal thrust" of those rules. Daubert, 509 U.S. at 587-89. Significantly, the current text of N.J.R.E.

702 is identical to the language of Fed. R. Evid. 702 at the time of the Daubert decision. Further, scholars have observed that Frye has not led to uniformity or predictability in practice. (pp. 21-23)

7. The Court concludes that Daubert's focus on methodology and reasoning, currently applied in civil cases, is a superior approach to criminal cases as well. Under Daubert and Accutane, trial courts directly examine the reliability of expert evidence by considering all relevant factors, not just general acceptance. Focusing on testing, peer review, error rates, and other considerations better enables judges to assess the reliability of the theory or technique in question. Courts are also in a better position to examine novel and emerging areas of science. In addition, to the extent Frye and cases that follow it draw lines between scientific and technical or other specialized knowledge, Daubert eliminates that unworkable distinction. Adopting a Daubert-type standard for criminal cases is also consistent with the New Jersey Rules of Evidence. Like the federal rule, N.J.R.E. 702 does not require a finding of general acceptance before expert testimony can be admitted. (pp. 23-24)

8. The Court finds that special justification exists to depart from precedent and replace Frye with a Daubert-type standard in criminal cases, as have a majority of states. As in Accutane, however, the Court declines "to embrace the full body of Daubert case law as applied by state and federal courts." 234 N.J. at 399. The Daubert factors will help guide trial courts in their role as gatekeepers. But Daubert's non-exhaustive list of factors does not limit judges in their assessment of reliability. The focus in criminal cases, as in civil ones, belongs on the soundness of the methodology and reasoning used to validate the expert opinion or technique. The standard adopted here applies not only to testimony based on scientific knowledge but also to that based on technical or other specialized knowledge. (pp. 24-27)

9. Nothing in today's decision disturbs prior rulings that were based on the Frye standard. Future challenges in criminal cases that address the admissibility of new types of evidence should be assessed under the new standard outlined above. The same is true for challenges to the admissibility of evidence that has previously been sanctioned but the scientific reliability underlying the evidence has changed. (p. 27)

10. The Court remands the matter for the Special Master to assess the reliability and admissibility of DRE evidence under the standard adopted in this opinion and provides guidance for the remand. (pp. 27-28)

**REMANDED to the Special Master for further proceedings.**

**JUSTICES PATTERSON, SOLOMON, PIERRE-LOUIS, WAINER APTER, and FASCIALE and JUDGE SABATINO (temporarily assigned) join in CHIEF JUSTICE RABNER's opinion.**

SUPREME COURT OF NEW JERSEY

A-56 September Term 2018

082253

State of New Jersey,

Plaintiff-Respondent,

v.

Michael Olenowski,

Defendant-Appellant.

On certification to the Superior Court,
Appellate Division.

| Argued | Remanded | Special Master Report |
|---|---|---|
| October 8, 2019 | November 18, 2019 | August 22, 2022 (Corrected) |
| Re-Argued | Decided | |
| January 17, 2023 | February 17, 2023 | |

Margaret McLane, Assistant Deputy Public Defender, and Gregg D. Trautmann (Trautmann & Associates) argued the cause for appellant (Joseph E. Krakora, Public Defender, attorney; Margaret McLane, of counsel and on the briefs, and Gregg D. Trautmann and Michael D'Alessio, Jr. (D'Alessio Law), on the briefs).

Sarah C. Hunt, Deputy Attorney General, and John McNamara, Jr., Chief Assistant Morris County Prosecutor, argued the cause for respondent (Matthew J. Platkin, Attorney General, attorney; Sarah C. Hunt, of counsel and on the briefs, and Adam D. Klein, Deputy Attorney General, John McNamara, Jr., and Paula C.

Jordao, Assistant Morris County Prosecutor, on the briefs).

Alexander Shalom argued the cause for amici curiae American Civil Liberties Union of New Jersey and statistics experts Alicia Carriquiry, Kori Khan, and Susan VanderPlas (American Civil Liberties Union of New Jersey Foundation, attorneys; Alexander Shalom, Jeanne LoCicero, and Alison Perrone, Deputy Public Defender, on the briefs).

John Menzel argued the cause for amicus curiae New Jersey State Bar Association (New Jersey State Bar Association, attorneys; Jeralyn L. Lawrence, President, of counsel, and John Menzel, Joshua H. Reinitz, and Miles S. Winder, III, on the briefs).

Steven W. Hernandez submitted briefs on behalf of amicus curiae National College for DUI Defense (The Hernandez Law Firm, attorneys; Steven W. Hernandez, of counsel and on the briefs, and Thomas Cannavo, on the briefs).

Jeffrey H. Sutherland, Cape May County Prosecutor, submitted briefs on behalf of amicus curiae County Prosecutors Association of New Jersey (Jeffrey H. Sutherland, President, attorney; Monica do Outeiro, Assistant Monmouth County Prosecutor, Laura Sunyak, Assistant Mercer County Prosecutor, Joseph Paravecchia, Assistant Hunterdon County Prosecutor, Gretchen Pickering, Assistant Cape May County Prosecutor, and David M. Liston, Assistant Middlesex County Prosecutor, of counsel and on the briefs).

Aidan P. O'Connor submitted briefs on behalf of amicus curiae Association of Criminal Defense Lawyers of New Jersey (Pashman Stein Walder Hayden, attorneys; Aidan P. O'Connor and Marc M. Yenicag, on the briefs).

Vito A. Gagliardi, Jr., submitted briefs on behalf of amicus curiae New Jersey State Association of Chiefs of Police (Porzio, Bromberg & Newman, attorneys; Vito A. Gagliardi, Jr., of counsel and on the briefs, and David L. Disler and Weston J. Kulick, on the briefs).

Evan M. Levow submitted briefs on behalf of amicus curiae DUI Defense Lawyers Association, Inc. (Levow DWI Law, attorneys; Evan M. Levow, of counsel on the briefs).

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CHIEF JUSTICE RABNER delivered the opinion of the Court.

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In this opinion, we reconsider the appropriate standard to evaluate the admissibility of expert evidence under N.J.R.E. 702. The underlying appeal involves whether testimony from a trained Drug Recognition Expert (DRE) can be relied on in court.

At the heart of the case is this question: Is there a reliable scientific basis for a twelve-step protocol that is used to determine (a) whether a person is impaired, and (b) whether that impairment was likely caused by ingesting one or more drugs? For decades, issues of this type in our criminal cases have been analyzed under the test outlined in Frye v. United States, 293 F. 1013 (D.C. Cir. 1923). That standard turns on whether the subject of expert testimony has been "generally accepted" in the relevant scientific community.

This Court has moved away from the Frye test over time. In civil cases, we shifted toward an approach that focuses directly on reliability by evaluating

the methodology and reasoning underlying proposed expert testimony. See In re Accutane Litig., 234 N.J. 340, 396-99 (2018) (tracing this Court's caselaw and formally adopting a standard similar to the one outlined in Daubert v. Merrell Dow Pharms. Inc., 509 U.S. 579 (1993)). "[T]he key to admission" in civil cases now "is the validity of the expert's reasoning and methodology." Landrigan v. Celotex Corp., 127 N.J. 404, 414 (1992).

In this case, after an extensive evidentiary hearing before a Special Master, we asked the parties and amici to submit their views on whether to depart from Frye and adopt the principles of Daubert in criminal cases. Today, we note a number of problems the Frye test poses and conclude that Daubert offers a superior approach to evaluate the reliability of expert testimony.

Frye permits judges to consider only whether the subject of the testimony has been "generally accepted" in the relevant scientific community; Daubert empowers courts to directly examine the reliability of expert evidence and consider a broader range of relevant information. The more restrictive standard in Frye is also difficult to apply to certain types of expert evidence, including novel areas.

For those and other reasons, going forward, we adopt principles similar to the standard outlined in Daubert to examine the admissibility of expert

evidence in criminal and quasi-criminal cases. We also remand the case to the Special Master to apply the standard to DRE evidence in the first instance.

I.

Because the issue before the Court now is a purely legal one, we recite the facts and procedural history of this appeal only briefly.

A.

This Court granted certification to decide "whether the testimony of an officer who is a certified Drug Recognition Expert (DRE) is admissible at trial and, if so, under what circumstances." 247 N.J. 242 (2019); 236 N.J. 622 (2019).

DREs apply a twelve-step protocol to assess whether a person, typically a driver, is impaired. The protocol involves (1) a breath alcohol test, (2) an interview of the arresting officer, (3) a preliminary examination, (4) eye examinations, (5) divided attention tests, (6) a check of vital signs, (7) a dark room examination of pupil size, (8) an assessment of muscle tone, (9) a check for injection sites, (10) interrogation of the subject and consideration of statements the subject makes as well as other observations, (11) analysis and opinion of the DRE, and (12) a toxicological analysis. Special Master's Report of Findings and Conclusions of Law 4 (Aug. 22, 2022) ("SM Report"). The DRE matrix involves seven categories of drugs. Id. at 124, 144.

At trial, over the objection of defense counsel, the prosecutor introduced DRE testimony to prove that defendant, on two occasions, had been driving while under the influence of a central nervous system depressant and stimulant. The Municipal Court Judge convicted defendant; the Superior Court upheld the use of DRE evidence under Frye and affirmed the convictions after a trial de novo; and the Appellate Division affirmed.[1]

We originally heard oral argument in October 2019. After we concluded that "the existing factual record [wa]s inadequate to test the validity of DRE evidence," the Court designated the Honorable Joseph F. Lisa, a retired Presiding Judge of the Appellate Division temporarily assigned on recall, as a Special Master. 247 N.J. at 244. We asked him to conduct "a plenary hearing to consider and decide whether DRE evidence has achieved general acceptance within the relevant scientific community and therefore satisfies the reliability standard of N.J.R.E. 702." Ibid.

The Court directed

> that, as part of that evaluation, the parties shall address and the Special Master determine, among other relevant issues, whether each individual component of the twelve-step protocol is reliable; whether all or part of the twelve-step protocol is scientifically reliable and can form the basis of expert testimony; and whether

[1] This appeal originated as a quasi-criminal case in municipal court. Today's holding extends to both criminal and quasi-criminal matters.

> components of the process present limitations, practical or otherwise.
>
> [Ibid.]

B.

Judge Lisa conducted an extensive hearing and heard testimony from 16 witnesses over the course of 42 days. Hundreds of exhibits were presented as well.

In addition to the Public Defender, who now represents defendant, and the Attorney General, multiple amici have been involved in this matter: the County Prosecutors Association of New Jersey; the New Jersey State Association of Chiefs of Police; the National College for DUI Defense; the New Jersey State Bar Association; the Association of Criminal Defense Lawyers of New Jersey; the DUI Defense Lawyers Association; and the American Civil Liberties Union of New Jersey.

Counsel for the parties and amici addressed error rates associated with DRE evidence at the hearing, particularly "false positive" rates -- that is, cases in which the DRE concluded a person was impaired by drugs, "but the toxicology results showed no drugs in the subject's system." SM Report at 187. In the Public Defender's view, data on DRE performance in New Jersey suggests an "alarmingly high false positive rate: somewhere between 20% and 78%."

In a 332-page Report of Findings of Fact and Conclusions of Law, released in August 2022, Judge Lisa concluded that DRE evidence should be admissible under the Frye standard.

Preliminarily, he noted that two areas of expertise are implicated under N.J.R.E. 702: (1) "specialized knowledge that DREs acquire"; and (2) "scientific expertise" underlying "[t]he validity of the DRE matrix and the procedures and methods for applying it." SM Report at 307-08 (emphases added); see also id. at 125.

With respect to the latter area -- the scientific expertise underlying DRE evidence -- Judge Lisa concluded that "the appropriate scientific communities are medicine and toxicology because it is in those communities that toxidrome[2] recognition has been long established and generally accepted." Id. at 309-10. However, he noted that "[b]ecause the DRE protocol is not widely known by members of those communities, proof of actual general acceptance is elusive." Id. at 310. He therefore observed that the case is "not a typical fit for the Frye paradigm." Ibid.

Partly in response to that consideration, Judge Lisa found the DRE protocol had been "impliedly generally accepted in the medical and

[2] "A toxic syndrome or toxidrome is 'a syndrome due to a toxin' or a 'toxicant.'" SM Report at 129.

toxicological communities" because it generally replicates the protocol those communities use to identify "the presence of impairing drugs," "including the level of training required." Id. at 310, 331 (emphasis added). Judge Lisa reached that conclusion based on extensive testimony by medical and toxicological experts. Id. at 12-13. In his view, "[n]othing more [was] needed" to prove general acceptance. Id. at 13.

However, "because much of the hearing . . . focused on reports and studies that [had] been issued over the last several decades" and had been filed with this Court, Judge Lisa discussed the reports and their consequences on the question of reliability. Ibid. He concluded they "corroborate and support" a finding of general acceptance. Ibid. With the assistance of statistical experts, Judge Lisa also reviewed New Jersey DRE data from more than 5,800 evaluations conducted in 2017 and 2018, along with corresponding toxicology results for the evaluations that had them. Id. at 10, 182, 189. He found the data "further support [his] finding of reliability in DRE performance" and his "finding of general acceptance." Id. at 16. As to the Public Defender's claim about the high rate of false positives, Judge Lisa found the contention was "wholly unsupported." Id. at 217.

Judge Lisa did not separately analyze the reliability of DREs' specialized knowledge. As he explained, "[i]f the evidence in this case

establishes that the State has proven the general acceptance and reliability of both the protocol and the training, DREs would be permitted to provide expert testimony based upon their specialized knowledge, which they have acquired through their training, education and experience." Id. at 126.

C.

As noted above, counsel extensively discussed error rates associated with DRE evidence in their briefs to the Special Master and this Court. But although error rates are expressly considered under Daubert, they are not directly covered by Frye's general acceptance standard. In light of that, on November 10, 2022, we asked the parties and amici to submit supplemental briefing on "whether this Court should depart from Frye and adopt the principles of Daubert in criminal cases."

Both parties and nearly all amici favor the adoption of the principles in Daubert to evaluate expert testimony in criminal cases. The National College for DUI Defense takes no position on the issue and argues DRE evidence is unreliable under both Daubert and Frye. The DUI Defense Lawyers Association asks the Court to maintain the Frye standard.

II.

N.J.R.E. 702 governs the admissibility of expert testimony. The Rule provides, in full:

> 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.

"To satisfy the rule," it is well-settled that

> the proponent of expert evidence must establish three things: (1) the subject matter of the testimony must be "beyond the ken of the average juror"; (2) the field of inquiry "must be at a state of the art such that an expert's testimony could be sufficiently reliable"; and (3) "the witness must have sufficient expertise to offer the" testimony.
>
> [State v. J.L.G., 234 N.J. 265, 280 (2018) (emphasis added) (quoting State v. Kelly, 97 N.J. 178, 208 (1984)).]

The key issue in this appeal centers around the second requirement: whether the proposed testimony is reliable.

A.

In criminal cases up until now, this Court has used the Frye standard to assess reliability. J.L.G., 234 N.J. at 280; Frye, 293 F. 1013. The Frye case, decided a century ago by the Court of Appeals of the District of Columbia, involved a defendant's effort to introduce evidence of a "systolic blood pressure deception test." 293 F. at 1013. The proffered test measured the rise in blood pressure "brought about by nervous impulses sent to the sympathetic branch of the autonomic nervous system." Ibid. Deliberate deception

theoretically "raise[d] the systolic blood pressure in a curve." Ibid. In other words, changes in blood pressure could purportedly reveal whether a person was telling the truth.

The defendant attempted to present expert testimony from the scientist who conducted the test, and the government objected. Id. at 1014. The Court of Appeals' analysis appears in a single paragraph of its two-page ruling:

> Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.
>
> [Ibid. (emphasis added).]

The opinion does not cite any legal authority.

The Court of Appeals agreed with the trial court, which had barred the evidence. Ibid. The Court explained that "the systolic blood pressure deception test [had] not yet gained such standing and scientific recognition among physiological and psychological authorities" to justify the admission of expert testimony. Ibid.

The "general acceptance" standard stems from the language highlighted above. In short, the Frye test "requires trial judges to determine whether the

science underlying . . . proposed expert testimony has 'gained general acceptance in the particular field in which it belongs.'" J.L.G., 234 N.J. at 280 (quoting Frye, 293 F. at 1014). The proponent of such evidence "has the burden to clearly establish general acceptance." State v. Cassidy, 235 N.J. 482, 492 (2018) (quotation omitted).

There are three ways to prove general acceptance within the relevant scientific community under Frye: expert testimony, authoritative scientific and legal writings, and judicial opinions. Ibid.; J.L.G., 234 N.J. at 281; Kelly, 97 N.J. at 210.

"Proof of general acceptance within a scientific community can be elusive." State v. Harvey, 151 N.J. 117, 171 (1997). It "involves more than simply counting how many scientists accept the reliability of the proffered technology" and "'entails the strict application of the scientific method.'" Ibid. (quoting Rubanick v. Witco Chem. Corp., 125 N.J. 421, 436 (1991)). That "requires an extraordinarily high level of proof based on prolonged, controlled, consistent, and validated experience." Ibid. (quoting Rubanick, 125 N.J. at 436).

A party seeking to introduce scientific evidence, however, need not show that a technique is infallible or has unanimous support in the scientific community. Cassidy, 235 N.J. at 492. As the Court has noted, "[p]ractically

every new scientific discovery has its detractors and unbelievers." State v. Chun, 194 N.J. 54, 92 (2008) (alteration in original) (quoting State v. Johnson, 42 N.J. 146, 171 (1964)).

Although the Court has departed from Frye in civil cases, see Accutane, 234 N.J. at 398-99, no party had yet asked the Court to do so in criminal cases. In J.L.G., we declined to reach the issue raised by an amicus and explained that "[w]e prefer[red] to wait for a case in which the" issue is litigated. 234 N.J. at 280.

B.

In civil cases, to determine the reliability of expert testimony, the court's focus today is on the methodology and reasoning underlying the evidence. That approach is guided by a non-exhaustive list of factors outlined in Daubert. Previously, the Frye standard governed reliability in civil cases as well.

This "Court was in the vanguard of courts" "to shift from exclusive reliance on [Frye's] 'general acceptance' standard . . . to a methodology-based approach" in civil cases, and we acted even before the United States Supreme Court's Daubert opinion. Accutane, 234 N.J. at 347, 380 (citing Landrigan, 127 N.J. at 414; Rubanick, 125 N.J. at 447). Among other concerns, the Court found Frye "constricting" in an "unsatisfactory" way when it came to "fairly

assessing reliability in certain areas of novel or emerging fields of science." Id. at 380.

Accutane thoroughly tracks our shift away from Frye. Id. at 380-82. The Court first moved to a methodology-based approach to assess certain complex scientific evidence: theories of causation in toxic-tort matters. In Rubanick, in 1991, the Court held "that in toxic-tort litigation, a scientific theory of causation that has not yet reached general acceptance may be found to be sufficiently reliable if it is based on a sound, adequately-founded scientific methodology involving data and information of the type reasonably relied on by experts in the scientific field." 125 N.J. at 449. The Court added that, "[i]n determining if the scientific methodology is sound and well-founded, courts should consider whether others in the field use similar methodologies." Ibid.

The following year, in Landrigan, the Court directed that the same approach be applied to assess whether an epidemiologist could testify about "the likelihood that [a person's] colon cancer was caused by asbestos exposure." 127 N.J. at 421-22. In rulings that preceded Rubanick, the trial court and Appellate Division barred the testimony. Id. at 409, 421. The Court later reversed and remanded for a new trial. Id. at 421-22. It explained that "Rubanick changed the emphasis for the admission of expert testimony from

general acceptance in the scientific community to the methodology and reasoning supporting the testimony." Id. at 414.

Soon after, in 1993, the United States Supreme Court released its seminal opinion in Daubert. 509 U.S. 579. Daubert rejected the Frye standard to determine reliability.

The Daubert Court held, first, that Frye had been "superseded by the adoption of the Federal Rules of Evidence." Id. at 587. The Court pointed out that neither the text nor the history of Federal Rule of Evidence 702 -- which, at the time, was identical to the current version of N.J.R.E. 702 -- "establishe[d] 'general acceptance' as an absolute prerequisite to admissibility." Id. at 588. The Court also noted that the "austere" Frye standard was "at odds with the liberal thrust of the Federal Rules and their general approach of relaxing the traditional barriers to opinion testimony." Id. at 588-89 (quotations omitted).

Next, Daubert outlined a new methodology-based standard to determine admissibility:

> Faced with a proffer of expert scientific testimony, . . . the trial judge must determine at the outset . . . whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically

> valid and of whether that reasoning or methodology properly can be applied to the facts in issue.
>
> [Id. at 592-93 (emphasis added) (footnotes omitted).]

Finally, Daubert provided a non-exclusive list of four factors -- commonly referred to as the "Daubert factors" -- to help courts apply the new standard. Id. at 593-94. Those factors are (1) whether the scientific theory or technique can be, or has been, tested; (2) whether it "has been subjected to peer review and publication"; (3) "the known or potential rate of error" as well as the existence of standards governing the operation of the particular scientific technique; and (4) general acceptance in the relevant scientific community. Ibid.

The Court emphasized the inquiry is "a flexible one" and that its "focus . . . must be solely on principles and methodology, not on the conclusions that they generate." Id. at 594-95. Ultimately, consistent with the Federal Rules of Evidence, the new standard was designed to ensure that expert testimony "rests on a reliable foundation." Id. at 597.

The Supreme Court elaborated on the Daubert standard in a number of later cases. In General Electric Co. v. Joiner, the Court held that appellate courts should review "a trial court's decision to admit or exclude expert testimony under Daubert" for abuse of discretion. 522 U.S. 136, 138-39 (1997). Then, in Kumho Tire Co., Ltd. v. Carmichael, the Court clarified that

Daubert's holding "applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." 526 U.S. 137, 141 (1999) (quoting Fed. R. Evid. 702). Kumho Tire also emphasized Daubert's flexibility. The Court noted the Daubert factors do not "necessarily" -- or "exclusively" -- "appl[y] to all experts or in every case." Ibid. The test, instead, grants the trial court "broad latitude when it decides how to determine reliability." Id. at 142.

In 2002, this Court explained that the methodology-focused approach outlined in Rubanick was "not confined to toxic tort litigation." Kemp ex rel. Wright v. State, 174 N.J. 412, 430 (2002). The Court in Kemp expressly extended the standard to "other varieties of tort litigation" that involve a "medical cause-effect relationship." Ibid.

Finally, in 2018, this Court adopted the Daubert factors -- with some qualifications -- to help guide trial courts as they fulfill their role as gatekeepers and make decisions about the reliability of expert testimony in all civil cases. Accutane, 234 N.J. at 398-99. The Court "perceive[d] little distinction between Daubert's principles" and our prior statements on expert testimony. Id. at 347. Both "focus[ed] on the expert's principles and methodology" in an effort "to ensure 'that an expert's testimony both rests on a reliable foundation and is relevant . . .' by assuring that the evidence is based

on valid scientific principles." Id. at 384 (citing Daubert, 509 U.S. at 595, 597). The Court also observed that "[a] majority of states have adopted some form of the Daubert standard, either explicitly or implicitly." Id. at 387.

This Court specifically found that the Daubert factors "would provide a helpful -- but not necessary or definitive -- guide" for trial courts in New Jersey. Id. at 398. But the Court qualified its decision in Accutane in important ways. It declined to declare New Jersey "a Daubert jurisdiction" and did not "embrace the full body of Daubert case law" from other "state and federal courts." Id. at 399. The Court also acknowledged that, despite its broadened approach in civil cases, it had "retain[ed] the general acceptance test for reliability in criminal matters" "to date." Ibid.

C.

This Court has applied the Frye standard to evaluate various devices, scientific tests, and other kinds of evidence. Expert testimony has been found reliable, with some qualifications, in a number of those situations. See, e.g., Chun, 194 N.J. at 65 (Alcotest device); Harvey, 151 N.J. at 171-73 (polymarker test); Romano v. Kimmelman, 96 N.J. 66, 80-82 (1984) (breathalyzer models).

In other areas, the Court concluded that expert evidence was inadmissible under Frye. See, e.g., Cassidy, 235 N.J. at 486-87 (Alcotest

devices calibrated without the use of a NIST-traceable digital thermometer); State v. Moore, 188 N.J. 182, 184-85 (2006) (hypnotically refreshed testimony); Windmere, Inc. v. Int'l Ins. Co., 105 N.J. 373, 375, 386 (1987) (voiceprint evidence); State v. Cavallo, 88 N.J. 508, 512, 521 (1982) (testimony about the character traits of a rapist).

The Court has also looked to general acceptance to assess expert evidence about various syndromes. See, e.g., J.L.G., 234 N.J. at 271-72 (disallowing evidence of Child Sexual Abuse Accommodation Syndrome); Kelly, 97 N.J. at 187, 210-11 (admitting evidence of battered-woman's syndrome).

III.

A.

Despite its longstanding use, Frye has posed certain difficulties and, as noted above, has been the subject of criticism.

Reliability is critical to the admissibility of expert testimony. Indeed, "[a]n expert opinion that is not reliable is of no assistance to anyone." Kelly, 97 N.J. at 209. Expert techniques and modes of analysis, therefore, "must have a sufficient scientific basis to produce uniform and reasonably reliable results." Id. at 210.

Frye, however, guides judges to approach the question of reliability indirectly by focusing on general acceptance rather than reliability itself. By doing so, Frye obscures the heart of the issue. Instead of directing judges to examine actual measures of reliability -- like the soundness of the methodology used to validate a scientific theory or technique, the strength of the reasoning underlying it, and the accuracy of the theory or technique in practice -- Frye only permits judges to consider the views of individuals in the relevant field.

As a result, Frye has been criticized as "both unduly restrictive and unduly permissive." State v. Coon, 974 P.2d 386, 394 (Alaska 1999), abrogated in other part by State v. Sharpe, 435 P.3d 887, 889 (Alaska 2019). "[I]t excludes scientifically reliable evidence which is not yet generally accepted, and admits scientifically unreliable evidence which although generally accepted, cannot meet rigorous scientific scrutiny." Id. at 393-94. In Accutane, we similarly observed that Frye is "unsatisfactorily constricting" as a way to assess the reliability of "novel or emerging fields of science." 234 N.J. at 380. Daubert likewise described Frye's approach as "rigid," "austere," and "uncompromising." 509 U.S. at 588-89, 596.

Frye also presents a difficult threshold question: identifying the relevant scientific community in which general acceptance must be measured. See

generally Paul C. Giannelli, The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later, 80 Colum. L. Rev. 1197, 1208-10 (1980). In some instances, scientific evidence may be studied by multiple scientific communities or none at all. Here, Judge Lisa observed that the relevant scientific communities -- medicine and toxicology -- were largely unfamiliar with the DRE protocol. SM Report at 310. And those most familiar with the protocol -- traffic safety engineers, law enforcement professionals, and DRE coordinators and officers -- were not scientists. Id. at 309. Judge Lisa therefore found that this case "is not a typical fit for the Frye paradigm." Id. at 310.

Frye's reasoning has come under criticism as well. The decision offered no explanation or authority for requiring general acceptance. See Frye, 293 F. at 1014; 1 McCormick on Evidence § 203.1 (8th ed. July 2022 Update); Giannelli, 80 Colum. L. Rev. at 1205. Plus the Frye test has been superseded by the Federal Rules of Evidence. Daubert, 509 U.S. at 587. As the Supreme Court explained, not only does Federal Rule of Evidence 702 have no "general acceptance" requirement, but such an approach is "incompatible" with the "liberal thrust" of the rules. Id. at 588-89. It bears noting once again that the current text of N.J.R.E. 702 is identical to the language of Fed. R. Evid. 702 at the time of the Daubert decision.

Scholars have also observed that Frye has not led to uniformity or predictability in practice. See Giannelli, 80 Colum. L. Rev. at 1207 & n.65; David H. Kaye et al., The New Wigmore: A Treatise on Evidence -- Expert Evidence, § 7.3.2 (3d ed. 2023 Supp.).

B.

We conclude that Daubert's focus on methodology and reasoning, which we apply in civil cases, is a superior approach to criminal cases as well.

Under Daubert and Accutane, as discussed above, trial courts directly examine the reliability of expert evidence by considering all relevant factors, not just general acceptance. Focusing on testing, peer review, error rates, and other considerations better enables judges to assess the reliability of the theory or technique in question. See Daubert, 509 U.S. at 593-94; Accutane, 234 N.J. at 397. Courts are also in a better position to examine novel and emerging areas of science.

In addition, to the extent Frye and cases that follow it draw lines between scientific and technical or other specialized knowledge, see N.J.R.E. 702, Daubert eliminates that unworkable distinction.

Adopting a Daubert-type standard for criminal cases is also consistent with our Rules of Evidence. Like the federal rule, N.J.R.E. 702 does not

require a finding of general acceptance before expert testimony can be admitted. See Daubert, 509 U.S. at 588.

We recognize that Daubert is not without its critics. Chief Justice Rehnquist, for one, worried that Daubert would require judges to act as amateur scientists. 509 U.S. at 600-01 (Rehnquist, C.J., concurring in part and dissenting in part). But like the majority in Daubert, we are "confident that" trial judges are more than capable of reviewing the methodology and reasoning that underlie proposed expert testimony. See 509 U.S. at 592-93. Judges may also continue to consider whether a principle is generally accepted by the scientific community. Id. at 594; Accutane, 234 N.J. at 398-99.

IV.

Courts are "bound to adhere to settled precedent" under the principle of stare decisis. Luchejko v. City of Hoboken, 207 N.J. 191, 208 (2011). The doctrine promotes "a number of important ends," ibid., including "consistency, stability, and predictability in the development of legal principles" as well as "respect for judicial decisions," State v. Witt, 223 N.J. 409, 439 (2015). In light of those compelling reasons, "a 'special justification' is required to depart from precedent." Ibid. (quoting State v. Brown, 190 N.J. 144, 157-58 (2008)); accord Luchejko, 207 N.J. at 208.

"Special justification to overturn precedent might exist when the passage of time illuminates that a ruling was poorly reasoned, when changed circumstances have eliminated the original rationale for a rule, when a rule creates unworkable distinctions, or when a standard defies consistent application by lower courts." Luchejko, 207 N.J. at 209 (citations omitted). Stare decisis "is not an inflexible principle depriving courts of the ability to correct their errors" or "a command to perpetuate the mistakes of the past." Witt, 223 N.J. at 439-40.

We find that special justification exists to replace Frye with a Daubert-type standard in criminal cases. As discussed above and by the parties and amici, both the Frye opinion itself and the passage of time have revealed shortcomings with the Frye test.

The step we take today hardly comes as a surprise. It is consistent with how the Court has assessed expert testimony in civil cases since 1991. See Rubanick, 125 N.J. 421 (1991); Landrigan, 127 N.J. 404 (1992); Kemp, 174 N.J. 412 (2002). Even in criminal matters, the Court has looked beyond Frye's general acceptance standard to evaluate proposed scientific evidence. See, e.g., Cassidy, 235 N.J. at 493-94, 497 (reaching a conclusion under Frye yet discussing the importance of the error rate associated with a non-NIST-traceable thermometer).

Today's ruling also aligns with the approach taken by a majority of states. Most "have adopted some form of the Daubert standard, either explicitly or implicitly," in both civil and criminal cases. Accutane, 234 N.J. at 387; see also Savage v. State, 166 A.3d 183, 207 n.3 (Md. 2017) (Adkins, J., concurring) (listing 38 states that "have either explicitly adopted Daubert or held that its factors are persuasive"); Motorola, Inc. v. Murray, 147 A.3d 751, 756-57 (D.C. 2016) (en banc) (adopting Daubert as the governing standard in the District of Columbia); In re Amends. to Fla. Evidence Code, 278 So. 3d 551, 551-52 (Fla. 2019) (same for Florida); Rochkind v. Stevenson, 236 A.3d 630, 633 (Md. 2020) (same for Maryland).

As we did in Accutane, however, we decline "to embrace the full body of Daubert case law as applied by state and federal courts." 234 N.J. at 399. The Daubert factors will help guide trial courts as they perform their important role as gatekeepers. But Daubert's non-exhaustive list of factors does not limit trial judges in their assessment of reliability. The same is true for caselaw from other jurisdictions, which can be persuasive but is not controlling.

The focus in criminal cases, as in civil matters, belongs on the soundness of the methodology and reasoning used to validate the expert opinion or technique. That emphasis will matter in this and other cases -- for example, when it soon comes time to directly evaluate error rates associated with DRE

evidence and determine the reliability of that evidence under a Daubert-type standard.

To be clear, the standard we adopt today applies not only to testimony based on scientific knowledge but also to testimony based on technical or other specialized knowledge. See N.J.R.E. 702; see also Kumho Tire, 526 U.S. at 141, 148 (noting "[t]here is no clear line that divides the one from the others" and applying Daubert in the same manner).

V.

Nothing in today's decision disturbs prior rulings that were based on the Frye standard. Future challenges in criminal cases that address the admissibility of new types of evidence should be assessed under the new standard outlined above. The same is true for challenges to the admissibility of evidence that has previously been sanctioned but the scientific reliability underlying the evidence has changed.

VI.

Not for the last time, we express how grateful we are for Judge Lisa's remarkable efforts as the Special Master. He expertly conducted extended hearings and produced a thorough report that considered the evidence under the Frye standard.

With thanks in advance, we turn to him once again now. At oral argument before this Court, the parties and amici represented that the record is complete and can be evaluated under a Daubert-type standard. We now remand to the Special Master for him to assess the reliability and admissibility of DRE evidence in the first instance under the standard adopted here. In his discretion, Judge Lisa may rule on the basis of the existing record, or ask for and accept additional evidence, briefing, and argument from the parties and amici.

VII.

For the reasons set forth above, we adopt a Daubert-type standard going forward to assess the admissibility of expert evidence under N.J.R.E. 702 in criminal and quasi-criminal cases. We also remand the matter to the Special Master for further proceedings consistent with this opinion.

JUSTICES PATTERSON, SOLOMON, PIERRE-LOUIS, WAINER APTER, and FASCIALE and JUDGE SABATINO (temporarily assigned) join in CHIEF JUSTICE RABNER's opinion.