

**THE WILCOX LAW FIRM - DEDICATED TO DUI DEFENSE**  
(407) DUI-HELP

*DUI Case Notes*

*State v. Meador, 674 So.2d 826 (Fla. 4th DCA 1996)*

**Questions an Orlando DUI lawyer should be concerned about:**

- Are field sobriety exercises relevant in an Orlando DUI case?
- Do field sobriety tests have any probative value in an Orlando drunk driving case?
- Can the state attorney refer to FST's as having any scientific validity?

**Summary:**

The court outlines some basic rules which every DUI attorney should know:

1. Lay observations of the Field Sobriety Exercises (finger to nose, walk and turn, one leg stand, etc.) *are* relevant to prove impairment in a D.U.I. case
2. The probative value of testimony about the Field Sobriety Tests (FST's) is *not* outweighed by the danger of unfair prejudice, confusion, or any tendency to mislead the jury (Florida Statute 90.403)
3. DUI investigators and other law enforcement witnesses should refrain from using terms which unduly elevate the significance of the exercises above and beyond mere lay observations. Examples of the terms which should be avoided are:
  - a. Test
  - b. Pass
  - c. Fail
  - d. Points

Most Orlando DUI attorneys have a pre-written motion *in limine* that they file to prevent the prosecutor from using these terms during a DUI trial. If you don't have a copy of this motion, please contact [Orlando DUI attorney Elliott Wilcox](http://www.OrlandoDUIfirm.com) at <http://www.OrlandoDUIfirm.com> and I'll be happy to provide you with a copy of the standard motion that I use.

4. Lay observations of HGN (horizontal gaze nystagmus) *are* relevant, **BUT...**
5. The probative value of *lay* observations of the HGN results "is outweighed by the danger of unfair prejudice, confusion of issues, and misleading the jury unless the traditional predicates of scientific evidence are satisfied."

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674 So.2d 826 (1996)

**STATE of Florida, Appellant,**  
**v.**  
**William Lowndes MEADOR, Jr., and Jory Walsh, Appellees.**

No. 95-0584.

**District Court of Appeal of Florida, Fourth District.**

May 15, 1996.

Rehearing and Certification Denied June 20, 1996.

[Page 827] Robert A. Butterworth, Attorney General, Tallahassee, and Sarah B. Mayer, Assistant Attorney General, West Palm Beach, for appellant.

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Mark S. Gold of Gold and Associates, P.A., Fort Lauderdale, for Appellee-Jory Walsh.

George M. Thomas of Law Offices of George M. Thomas, P.A., Fort Lauderdale, for Amicus Curiae-Mothers Against Drunk Driving Florida.

Alan H. Schreiber, Public Defender, and Diane M. Cuddihy, Assistant Public Defender, Fort Lauderdale, for Appellee-Vincent Antonelli in related Case No. 95-2099.

PARIENTE, Judge.

In connection with prosecutions for driving under the influence (DUI) of alcohol, the state appeals a pretrial order of a county court excluding evidence of the results of a series of exercises commonly referred to as field sobriety tests. The county court's decision to exclude the evidence was made after an evidentiary hearing during which two expert witnesses testified regarding the scientific validity and reliability of the field sobriety tests in predicting impairment. The county court certified two questions as being of great public importance: (1) are field sobriety exercises sufficiently reliable to be probative under F.S. 90.401 in proving impairment of one's normal faculties in the prosecution of a DUI offense; and (2) if answered in the affirmative, then does the likelihood of any unfair prejudice require their exclusion in those prosecutions under F.S. 90.402 and 90.403?<sup>11</sup>

We exercise our discretionary jurisdiction pursuant to Florida Rule of Appellate Procedure 9.030(b)(4)(A) because of the disparate approaches and conclusions of the county court judges concerning the admissibility of field sobriety test evidence in DUI prosecutions within this district. We, however, rephrase the certified questions, as follows:

(1) ARE LAY OBSERVATIONS CONCERNING A DEFENDANT'S PERFORMANCE OF FIELD SOBRIETY [Page 828] TESTS RELEVANT UNDER SECTION 90.401, FLORIDA

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STATUTES, IN PROVING IMPAIRMENT OF ONE'S NORMAL FACULTIES IN THE PROSECUTION OF A DUI OFFENSE?

(2) IF ANSWERED IN THE AFFIRMATIVE, IS THE PROBATIVE VALUE OF THE TESTIMONY ON FIELD SOBRIETY TESTS SUBSTANTIALLY OUTWEIGHED BY THE DANGER OF UNFAIR PREJUDICE, CONFUSION OF ISSUES, OR MISLEADING THE JURY SO AS TO REQUIRE EXCLUSION OF THE TESTIMONY IN DUI PROSECUTIONS PURSUANT TO SECTIONS 90.402 AND 90.403, FLORIDA STATUTES?

We answer these questions by distinguishing between: (1) psychomotor field sobriety tests, in which the defendants are requested to perform certain tasks; and (2) the horizontal gaze nystagmus (HGN) test, which is scientific evidence of a physiological phenomenon associated with intoxication.

As to the psychomotor field sobriety tests, we answer the first question in the affirmative and the second question in the negative. We reject a per se rule of exclusion, provided that the test results are not characterized in a manner which unduly emphasizes the significance of the test results.

As to the HGN test, which we consider to be scientific evidence, we answer both questions in the affirmative, finding HGN testing to be relevant, but that the relevance is outweighed by the danger of unfair prejudice, confusion of issues, and misleading the jury unless the traditional predicates of scientific evidence are satisfied.

### INTRODUCTION

Both defendants challenged the admissibility of field sobriety tests in connection with their arrests for driving under the influence of alcohol pursuant to section 316.193(1), Florida Statutes (1991). Defendant Meador was arrested by the Coral Springs Police Department and defendant Walsh by the Fort Lauderdale Police Department. Both defendants complied with the officers' requests to submit to certain physical exercises. The physical exercises included the walk-and-turn test, one-legged stand, balance test, and finger-to-nose test, which are all part of the field sobriety tests.<sup>[2]</sup> Additionally, the horizontal gaze nystagmus (HGN) test was administered to defendant Walsh. Both defendants sought to exclude evidence of the field sobriety tests on the grounds that the testing lacked both scientific reliability and probative value, and was otherwise highly prejudicial.<sup>[3]</sup>

### EXPERT TESTIMONY

The only record we have to evaluate the issues presented to us consists of the testimony of the two experts who testified before the county court, one for the state and one for defendants.

<sup>[4]</sup> Each expert testified about the reliability of field sobriety tests in predicting impairment in general and not about the specifics of this case. We have not been provided with any medical

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or scientific literature in the record nor do we have evidence of the protocol followed by the officers for administering the battery of field sobriety tests on Meador or Walsh.

The focus of both experts' testimony was the 1977 and 1981 National Highway and Transportation Safety Administration (NHTSA) research projects funded to study field sobriety tests. Because of the difficulties in numerically estimating impairment, [Page 829] the studies evaluated whether the field sobriety tests could be used to accurately predict whether a subject was above or below a .10% blood alcohol content (BAC), the presumptive level of intoxication in California at the time of the studies.<sup>[5]</sup>

The defense presented the testimony of Dr. Spurgeon Cole, a clinical psychologist and professor at Clemson University. He teaches psychological testing measurement and has administered and evaluated psychological testing. Dr. Cole is a veteran of DUI cases, having testified in numerous other cases as an expert on field sobriety testing.<sup>[6]</sup>

The state presented the testimony of Dr. Marcelline Burns, a clinical psychologist employed by the Southern California Research Institute, who has likewise testified in Florida as well as in other states on the subject of field sobriety tests.<sup>[7]</sup> Dr. Burns was one of the supervisors of the 1977 and 1981 NHTSA studies and assumed a significant role in developing the two reports generated by the research.

Both Dr. Burns and Dr. Cole provided testimony on the use of analytical equations to determine consistency coefficients; that is, numerical values attached to the reliability of the field sobriety tests being measured. The coefficients of correlations are normally expressed within a range of .0 to 1, with .0 representing no reliability and 1 representing complete reliability; that is, a test that will give a perfectly consistent result each time it is used.

Dr. Cole analyzed the NHTSA studies on field sobriety tests from a scientific viewpoint: validity (the ability to predict a particular criterion such as breath alcohol content) and reliability (consistency in scoring with successive testing). He acknowledged that the NHTSA studies were based on sound scientific principles, that the studies were properly conducted, and that he did not dispute any of the results achieved in the NHTSA studies. In Dr. Cole's opinion, however, the consistency coefficients realized in the various tests were not of a sufficient value to allow for a finding that the field sobriety tests had scientific validity.

Dr. Cole testified that the percentage of "false positives" or false arrests in both studies were intolerably high. He further criticized the field sobriety tests generally because none of the field sobriety tests called for an individual to perform any "normal" functions. Therefore, he found that the tests were of little value in determining if a person is under the influence to the extent that his or her normal faculties are impaired. However, he acknowledged that he was unaware of any field sobriety exercises which could accurately predict impairment of normal faculties.

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Dr. Cole admitted that there is a relationship between field sobriety test performance and impairment, but maintained that it was extremely difficult to quantify the values for scientific analysis. This is because impairment, unlike blood alcohol levels, cannot be numerically quantified. He further acknowledged that field sobriety tests can assist law enforcement officials in making a roadside probable cause determination with respect to the crime of driving under the influence.

Dr. Burns explained that the purpose of the 1977 NHTSA study was to identify the best field sobriety tests that an officer could use at roadside and not to measure reliability. She also explained that the study used more people with low or no BAC's in order to avoid bias on the part of the officers. She attributed the high error rate to the fact that these officers had no experience with the tests.

[Page 830] As a result of the 1977 study, a three-test battery was recommended: the walk-and-turn, the one-legged stand and the HGN test. The other tests were discarded because they were cumulative and took more time, not because they were not alcohol sensitive. The statistics for the 1981 study revealed that the officers were correct in their determination of whether or not to arrest 81% of the time. The reliability coefficient for the three-test battery was .77, which Dr. Burns stated was slightly above an acceptable coefficient for this type of test. Dr. Burns admitted, however, that the findings reported in her 1977 and 1981 studies were less than conclusive and that she had recommended that a subsequent nationwide field study be conducted over a period of 18 months. When the 1983 study was conducted, it was over only a three-month period and involved only four police agencies.

After hearing this evidence, county court Judge Zebedee Wright found that there were too many factors affecting the reliability of the exercises to be ignored. He also expressed concern about the low correlation scores. Judge Wright noted that the results of predicting BAC level based on test performance were acceptable for very impaired individuals above .10% and those substantially below .10%. The difficulty was in the borderline cases. He commented that the test battery may be effective in determining BAC, but not impairment.

Judge Wright observed that, although the field sobriety tests might be a useful tool to assist officers in making a decision to arrest in the field, there was no data to support their reliability in establishing impairment in a prosecution for DUI. In conclusion, Judge Wright found that:

[T]he standardized test battery ... does not meet the criteria for reliability set out by the relevant scientific community due to the absence of sufficient data establishing a credible correlation between poor performance and impairment.... In the final analysis, the clear implication of Dr. Burns' testimony was that the results of field sobriety tests were never intended as evidence of impairment beyond a reasonable doubt.

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**APPLICABLE STATUTORY AND CASE LAW**

Section 316.193(1)(a), (b), Florida Statutes (1991), provides that a person is guilty of driving under the influence if he or she is “affected to the extent that his [or her] normal faculties are impaired; or ... [t]he person has a blood or breath alcohol level of 0.08 percent or higher.” Thus, impairment of the driver’s “normal faculties” is a critical determination in DUI prosecutions. The term “normal faculties” is defined as including “the ability to see, hear, walk, talk, judge distances, drive an automobile, make judgments, act in emergencies, and, in general, normally perform the many mental and physical acts of daily life.” § 316.1934(1), Fla. Stat. (1991).

Although no appellate court in Florida has directly ruled on the admissibility of field sobriety test results, in *State v. Taylor*, 648 So.2d 701 (Fla.1995), our supreme court determined that a defendant’s *refusal* to take the field sobriety tests could be admissible in a prosecution for DUI based on Florida’s implied consent law. See § 316.1932, Fla. Stat. (1995). Our supreme court held that a pre-arrest request made to a defendant to perform field sobriety tests after an investigative stop upon reasonable suspicion of DUI was reasonable. It referred to the field sobriety tests as “simple physical tasks designed to test coordination, e.g. finger-to-nose, walk-the-line, stand-on-one foot, etc.” *Taylor*, 648 So.2d at 702.

Relevancy is analyzed by determining “whether the evidence has any logical tendency to prove or disprove a fact. If the evidence is logically probative, it is relevant and admissible unless there is a reason for not allowing the jury to consider it.” *Id.* at 704 (quoting Charles W. Ehrhardt, *Florida Evidence* § 401.1 at 95-96 (1994) (footnote omitted)); see § 901.401, Fla.Stat. As stated in section 90.403, Florida Statutes (1995): “Relevant evidence is inadmissible if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of issues, misleading the jury, or needless presentation of cumulative evidence.” The “same item of evidence may be admissible in [Page 831] one case and not in another, depending upon the relation of that item to the other evidence.” See *State v. McClain*, 525 So.2d 420, 422 (Fla.1988).

In general, lay witnesses have been permitted not only to testify as to their observations of a defendant’s acts, conduct, appearance and statements, but also to give opinion testimony of impairment based on their observations. See *Cannon v. State*, 91 Fla. 214, 107 So. 360, 362 (1926); *City of Orlando v. Newell*, 232 So.2d 413 (Fla. 4th DCA 1970).

**THE PSYCHOMOTOR FIELD SOBRIETY TESTS**

The threshold question is whether testimony concerning the results of field sobriety tests is to be treated as lay observations of intoxication or as scientific evidence of impairment. In his decision in this case, Judge Wright did not differentiate between the specific exercises which comprise the field sobriety tests. However, because we find significant distinctions between the analysis required to address the psychomotor exercises and that required for the HGN

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test, we treat them separately. We first address the psychomotor exercises: the walk-and-turn, one-legged stand, balance test and finger-to-nose test. These tests require the test subject to divide his or her attention between mental and physical tasks. A subject under the influence of alcohol will have difficulty in coping with the divided attention required of these tasks. We specifically exclude the HGN test from this aspect of our analysis.

In [\*Commonwealth v. Ragan\*, 438 Pa.Super. 505, 652 A.2d 925 appeal denied](#), 541 Pa. 650, 664 A.2d 540 (1995), the Pennsylvania appellate court held that the one-legged stand, finger-to-nose and walking-in-a-straight-line tests for sobriety are admissible as nonscientific evidence because they involve observations within the common experience of the ordinary citizen.<sup>[8]</sup> In [\*People v. Sides\*, 199 Ill.App.3d 203, 145 Ill.Dec. 160, 161-62, 556 N.E.2d 778, 779-80 \(1990\)](#), the Illinois appellate court explained the rationale for the admissibility of the psychomotor exercises as lay observations:

In assessing the defendant's mental and physical faculties at a time relevant to the charge that he was driving an automobile while under the influence of alcohol, it is entirely appropriate for the jury to consider the defendant's ability to perform the simple physical tasks which comprise the field-sobriety tests. The jury's inference that a defendant who had difficulty performing some of these tasks may have been similarly impaired in his ability to think and act with ordinary care when in operation of an automobile is entirely justified and one which the law permits the jury to draw.

Certainly in our modern society, a juror's common observations and experiences in life would include not only the driving of an automobile, but a familiarity with the degree of physical and mental acuity required to do so.

A defendant's ability to perform these simple psychomotor tasks is within a juror's common experiences and understanding. There are objective components of the field sobriety exercises, which are commonly understood and easily determined, such as whether a foot is on a line or not. Jurors do not require any special expertise to interpret performance of these tasks. Thus, evidence of the police officer's observations of the results of defendant's performing the walk-and-turn test, the one-legged stand, the balance test and the finger-to-nose test should be treated no differently than testimony of lay witnesses (officers, in this case) concerning their observations about the driver's conduct and appearance.<sup>[9]</sup>

The mere fact that the NHTSA studies attempted to quantify the reliability of the [Page 832] field sobriety tests in predicting unlawful BAC's does not convert all of the observations of a person's performance into scientific evidence. The police officer's observations of the field sobriety exercises, other than the HGN test, should be placed in the same category as other commonly understood signs of impairment, such as glassy or bloodshot eyes, slurred speech, staggering, flushed face, labile emotions, odor of alcohol or driving patterns.

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The defense argument that the field sobriety exercises do not test “normal faculties” goes to the weight of the evidence and not its admissibility. Even defendants’ expert, Dr. Cole, conceded that field sobriety tests have “some value” in predicting BAC levels and that BAC levels are related to impairment in “some complex way.” When viewed as lay observations of impairment of normal faculties, the psychomotor exercises are relevant to prove impairment.

Judge Wright determined that all field sobriety testing was inadmissible in all DUI prosecutions without regard to the individual facts of the case not only because he found the tests scientifically unreliable, but because he found that the probative value was substantially outweighed by the danger of any unfair prejudice. We disagree that a per se rule of inadmissibility should be adopted which would *require* exclusion of this evidence in all cases.

As long as the testimony by the officers is restricted to lay observations, we agree with the state that, pursuant to section 90.403, Florida Statutes (1995), the probative value of the psychomotor testing is not outweighed by the danger of unfair prejudice. We make this broad statement because the county court presented the certified question without regard to the individual facts of any particular case. Certainly in an individual case, depending on the totality of the facts and the nature of the testimony, a trial court might very well be within its discretion to exclude such evidence pursuant to section 90.403. See [McClain, 525 So.2d at 422](#); [State v. Tagner, 673 So.2d 57 \(Fla. 4th DCA 1996\)](#).

Defendants, however, do raise genuine concerns about the scientific validity and reliability of the field sobriety exercises in predicting impairment. The studies conducted by NHTSA revealed that there is no reliable numerical correlation between performance on the field sobriety tests and breath alcohol concentration, let alone impairment. As observed by county court Judge Elizabeth Maass in a similar case involving the admissibility of field sobriety testing:

[The NHTSA studies of field sobriety tests] tend to increase the accuracy of the decision-making process. This comports with common sense. What the studies do not show, though, is that the tasks have any enhanced scientific reliability not readily observable by the average lay person. Further, the tests’ flaws prevent the State from accurately quantifying the relevancy of the tasks.

*State v. Biederwolf*, \_\_\_ Fla.L.Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Mar. 22, 1995).<sup>[10]</sup>

While the psychomotor tests are admissible, we agree with defendants that any attempt to attach significance to defendants’ performance on these exercises beyond that attributable to any of the other observations of a defendant’s conduct at the time of the arrest could be misleading to the jury and thus tip the scales so that the danger of unfair prejudice would outweigh its probative value. The likelihood of unfair prejudice does not outweigh the probative value as long as the witnesses simply describe their observations. See [Wuornos v.](#)

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[State, 644 So.2d \[Page 833\] 1000, 1007 \(Fla.1994\), cert. denied, \\_\\_\\_ U.S. \\_\\_\\_, 115 S.Ct. 1705, 131 L.Ed.2d 566 \(1995\).](#)

Reference to the exercises by using terms such as “test,” “pass,” “fail,” or “points,” however, creates a potential for enhancing the significance of the observations in relationship to the ultimate determination of impairment, as such terms give these layperson observations an aura of scientific validity. *Accord State v. Beach*, \_\_\_ Fla.L.Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. May \_\_\_, 1995); *State v. Cargile*, \_\_\_ Fla.L.Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Apr. 27, 1995); *State v. Anthony*, \_\_\_ Fla.L.Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Apr. 5, 1995); *Biederwolf. Contra State v. Adams*, 3 Fla.L.Weekly Supp. 66 (Fla.Palm Beach Cty.Ct. Mar. 15, 1995). Therefore, such terms should be avoided to minimize the danger that the jury will attach greater significance to the results of the field sobriety exercises than to other lay observations of impairment.

**THE HGN TEST AS SCIENTIFIC EVIDENCE**

Nystagmus is a physiological condition which refers to an involuntary rapid movement of the eyeball, which may be horizontal, vertical or rotary. An inability of the eyes to maintain visual fixation as they are turned from side to side (in other words jerking or bouncing) is known as horizontal gaze nystagmus, or HGN.

[People v. Leahy, 8 Cal.4th 587, 34 Cal. Rptr.2d 663, 665, 882 P.2d 321, 323, \(1994\)](#)(quoting [People v. Ojeda, 225 Cal.App.3d 404, 275 Cal.Rptr. 472 \(Ct.App.1990\)](#)). See generally *Stedman's Medical Dictionary* (5th Lawyer's Ed.1982); *The Merck Manual of Diagnosis and Therapy* 1980 (14th Ed.1982).

The HGN test measures the onset of nystagmus or jerking eye movement, assessing the ability of the eyes to maintain visual fixation as they are turned to the side. See generally [State v. Superior Court In and For Cochise County, 149 Ariz. 269, 718 P.2d 171 \(1986\)](#). Proponents of HGN testing have concluded that “alcohol intoxication increases the frequency and amplitude of HGN and causes HGN to occur at a smaller angle of deviation from the forward direction.” [Leahy, 882 P.2d at 323-24](#) (quoting [Ojeda, 275 Cal.Rptr. at 472](#)).

A review of case law throughout the United States reveals controversy over the manner in which HGN tests should be treated. A minority of states have considered that the HGN test should be treated no differently than any other lay observations because the courts have concluded the HGN test is not based on scientific expertise, but only on the personal observations of the officer who administered the test. These courts have concluded that HGN testing is non-scientific, admissible evidence because it does not require scientific substantiation or expert interpretation.<sup>[11]</sup>

A majority of jurisdictions considering the issue have reached the opposite conclusion— that the results of HGN testing are scientific evidence.<sup>[12]</sup> These jurisdictions have concluded that

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while most of the field sobriety tests are self-explanatory, HGN is not. When courts have taken judicial notice of the common physical manifestations of intoxication, horizontal gaze nystagmus is not included. See [State v. O'Key, 321 Or. 285, 899 P.2d 663, 675 n. 12 \(1995\)](#). Horizontal gaze nystagmus [Page 834] is not just a symptom such as slurred speech or bloodshot eyes, which are commonly understood signs of intoxication. As explained by the Kansas Supreme Court, in [State v. Witte, 251 Kan. 313, 836 P.2d 1110 \(1992\)](#):

The HGN test is distinguished from other field sobriety tests in that science, rather than common knowledge, provides the legitimacy for HGN testing. Certain reactions to alcohol are so common that judicial notice can be taken of them; however, HGN testing does not fall into this category. HGN tests results are 'scientific evidence based on the scientific principle that consumption of alcohol causes the type of nystagmus measured by the HGN test.'

[Witte, 836 P.2d at 1115](#) (citations omitted).

The phenomena being tested are predicated on a scientific or medical principle that the automatic tracking mechanisms of the eye are affected by alcohol. In *O'Key*, the Oregon Supreme Court determined that HGN is scientific evidence because it is based on a principle of science

namely, the asserted scientific proposition that there is a causal relationship between consumption of alcohol and the type of nystagmus measured by the HGN test.... The value of HGN testing depends critically on the demonstrated scientific validity of that proposition. Moreover, the proposition that alcohol consumption causes nystagmus possesses significantly increased potential to influence the trier of fact as a "scientific" assertion.

[899 P.2d at 675](#) (citation omitted).

Even the state conceded at oral argument that the HGN test is scientific in origin, but urges us to consider the HGN testing results admissible as lay observations of this physiological phenomena. Mothers Against Drunk Driving, amicus curiae, likewise acknowledges that the HGN test is scientific evidence of BAC and/or impairment.

There is a distinction between recognizing the symptom of nystagmus and understanding how the results of the HGN test correlate with alcohol impairment. The latter is based on scientific principles. While the lay observations of the police officer performing the HGN test may not require scientific expertise, the significance of the HGN observation is based on principles of medicine and science not readily understandable to the jury. We thus conclude that the HGN test is scientific evidence and there is a danger of unfair prejudice and confusion to the jury if the tests are admitted as lay observations of intoxication as the state urges.

Once the determination is made that the HGN test must be treated as scientific evidence, the next level of inquiry is whether the test or scientific principle at issue is novel, and if so, whether it has been generally accepted in the relevant scientific community. [Flanagan v.](#)

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[State, 625 So.2d 827 \(Fla. 1993\).](#)<sup>[13]</sup> This determination, called the *Frye* test, based on the 1923 case of *Frye v. United States*, 293 F. 1013 (App.D.C.1923), requires that before expert opinion based on novel scientific evidence can be admitted, the evidence must conform to generally accepted scientific theory. The *Frye* test, however, applies only to novel scientific evidence and techniques.

In *Leahy*, the California Supreme Court determined that the HGN test was a “new scientific technique” and thus required proof of general acceptance by the scientific community in accordance with *Frye*.<sup>[14]</sup> While [Page 835] acknowledging that HGN testing had been used by law enforcement officers for more than 30 years, it rejected the notion that a scientific technique should become immune from *Frye* scrutiny “merely by reason of longstanding and persistent use by law enforcement outside the laboratory or courtroom.” *Id.* at 332.

The California Supreme Court then concluded that the *Frye* test had not been satisfied because no evidence had been presented to the lower court that HGN testing has been generally accepted in the scientific community. It criticized decisions from other states which found that testimony of police officers regarding administration of the HGN test was sufficient compliance with the *Frye* standard. 882 P.2d at 333-34. See e.g., *O’Key*. The *Leahy* court concluded that these decisions did “not explain how police officers are competent to establish general acceptance of HGN testing in the scientific community, or how they are qualified to relate the scientific bases underlying the nystagmus test.” 882 P.2d at 334.

Unlike *Leahy* and the courts of other jurisdictions which have applied a *Frye* analysis to HGN testing, we find that HGN testing is neither a novel nor a new scientific technique requiring application of the *Frye* test based upon the record before us. Unlike *Leahy*, in this case there was expert testimony presented to the lower court. Dr. Burns testified that she was not aware of any debate in the scientific community regarding the theories and procedures underlying the HGN test (or any of the battery of field sobriety tests), and that the field sobriety tests are generally accepted in the scientific community as a valid means of determining impairment. While the experts offered differing opinions about the reliability of the tests in predicting impairment, there is consensus that the HGN test is an established method to detect the presence of alcohol. The HGN test is not a new scientific technique and, if properly administered and interpreted, can be a useful tool to assist in establishing impairment.

Concluding that *Frye* is inapplicable to HGN testing does not end the inquiry into admissibility of the test. Even if not involving a new scientific technique, evidence of scientific tests is admissible only after demonstration of the traditional predicates for scientific evidence including the test’s general reliability, the qualifications of test administrators and technicians, and the meaning of the results. See *State v. Strong*, 504 So.2d 758, 760 (Fla.1987). Here, there was no evidence presented on those criteria.

As to reliability, the 1981 study indicated the wide variation in the reliability of HGN results based on the administering officer’s ability to estimate the 45 degree angle of gaze and angle of

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nystagmus onset. As stated by county court Judge Cory Ciklin in one of the Palm Beach County Court cases involving HGN testing evidence:

While HGN can be used to detect the presence of alcohol, HGN only enters the acceptable realm of reliability if the law enforcement official administering HGN has had training and experience; only if the law enforcement official administering HGN is able to accurately estimate the angle of nystagmus onset; and only if the law enforcement official administering HGN accurately estimated a 45 degree angle of gaze. The 1981 study clearly indicated highly conjectural results of HGN when a mechanical device to measure the angle of nystagmus onset was not used. In this jurisdiction, a mechanical device is not used at field side.

*Anthony*, \_\_\_ Fla.L.Weekly Supp. at \_\_\_ (footnote omitted).

In this record there is no evidence as to how the HGN test was administered, nor is there any evidence regarding the qualifications of the police officer administering the HGN test. *See generally Strong*.

Lastly, the record in this case is devoid of any evidence of the results of the HGN test and the significance of the test results in relationship to the particular defendant. There are causes of nystagmus other than alcohol impairment, including natural causes, seizure medications, barbiturates and other depressants. There is no evidence in the record as to what percentage of the population has a natural nystagmus or what effect fatigue, age, eye debris or alcohol tolerance [Page 836] has on the test results. All of this suggests that caution should be exercised before admitting HGN test results.

The state has not established the appropriate foundational predicate for admissibility of the HGN. Without a proper predicate, the danger of unfair prejudice, confusion of issues or misleading the jury from admitting HGN test results outweighs any probative value.

**CONCLUSION**

In conclusion, testimony concerning performance on the psychomotor field sobriety tests is sufficiently reliable as lay observations of intoxication to be relevant in proving impairment, and the danger of unfair prejudice does not substantially outweigh their probative value so as to require its exclusion. Therefore, evidence of the psychomotor field sobriety tests is admissible as lay observations with the proviso that characterization of the test results by witnesses be restricted in a manner consistent with this opinion. Caution should be exercised to restrict usage of terms—such as “test,” “pass,” “fail,” or “points”—which would elevate the significance of these tests above other lay observations of intoxication.

The HGN test results should not be admitted as lay observations of intoxication because HGN testing constitutes scientific evidence. Thus, although the evidence may be relevant, the danger of unfair prejudice, confusion of issues, or misleading the jury requires the exclusion of the HGN test evidence unless the traditional predicates of scientific evidence are satisfied.

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If the state cannot present evidence to demonstrate compliance with *Strong*, then the HGN test evidence should be excluded.

This case is remanded for further proceedings consistent with this opinion.

REVERSED AND REMANDED FOR PROCEEDINGS CONSISTENT WITH THIS OPINION.

GLICKSTEIN and WARNER, JJ., concur.

[1] To date, the county court has certified the identical questions in approximately 350 cases. We stayed the cases pending our disposition of this appeal. We further granted leave to the office of the Public Defender to file a supplemental answer brief in this case on behalf of all of its clients, utilizing *State v. Vincent Antonelli*, No. 95-2099 (Fla. 4th DCA), as the lead public defender case.

[2] Defendants also sought to exclude the alphabet tests administered without Miranda warnings, but that issue has not been raised on appeal. *Allred v. State*, 622 So.2d 984 (Fla.1993), is dispositive.

[3] Although defendants are the subject of separate prosecutions, they apparently presented evidence on their motions in a single hearing, the county court judge entered a single order in both cases, and the state filed a single notice of appeal.

[4] We emphasize this because in the decisions reached in the Dade County Court, see *State v. Dotel*, 3 Fla.L. Weekly Supp. 69 (Fla.Dade Cty.Ct. Mar. 8, 1995); *State v. Williams*, 3 Fla.L. Weekly Supp. 70 (Fla.Dade Cty.Ct. Jan. 19, 1995), there was testimony from a dozen witnesses and thousands of pages of medical literature.

[5] In Florida at the present time, the presumptive level of intoxication is .08. § 316.193(1), Fla. Stat. (1995).

[6] He and the state's expert, Dr. Marcelline Burns, testified before five Palm Beach County court judges who heard the testimony en banc, but rendered individual decisions in each case. See *State v. Beach*, \_\_\_ Fla.L. Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. May 12, 1995); *State v. Cargile*, \_\_\_ Fla.L. Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Apr. 27, 1995); *State v. Anthony*, \_\_\_ Fla.L. Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Apr. 5, 1995); *State v. Biederwolf*, \_\_\_ Fla.L. Weekly Supp. \_\_\_ (Fla.Palm Beach Cty.Ct. Mar. 22, 1995); *State v. Adams*, 3 Fla.L. Weekly Supp. 66 (Fla.Palm Beach Cty.Ct. Mar. 15, 1995).

[7] See, e.g., *State v. Klawitter*, 518 N.W.2d 577, 581-82 (Minn.1994).

[8] Accord *Seewar v. Town of Summerdale*, 601 So.2d 198 (Ala.Crim.App.1992), cert. denied, (Ala. 1992); *Nuyt v. Director of Revenue*, 814 S.W.2d 690 (Mo.App.E.D.1991); *State v. Gilbert*, 751 S.W.2d 454 (Tenn.Crim.App.1988).

[9] It would also be illogical to admit evidence of a defendant's refusal to submit to the field sobriety tests into evidence for the jury to consider pursuant to *State v. Taylor*, 648 So.2d 701 (Fla.1995), but to exclude the results of field sobriety tests for those defendants who agreed to submit to them.

[10] Five Palm Beach County judges rendered individual decisions on the admissibility of the field sobriety tests after hearing these same experts in an *en banc* hearing. See *Beach*; *Cargile*; *Anthony*; *Biederwolf*; *Adams*, *supra* note 6. Each judge determined that evidence of the field sobriety tests, other than the HGN test, would be admissible because those tests did not require any scientific expertise to interpret and were relevant to the issue of impairment. However, based on the lack of objective data as to the correlation between performance on the tests and impairment, four of the five county court judges precluded any references by witnesses at trial which would enhance the significance of the exercises and the police officer's observations. Only Judge Stephen Cohen, in *Adams*, held that it would be for the jury to determine what value to attach to the evidence, including the HGN tests.

[11] See, e.g., *State v. Murphy*, 451 N.W.2d 154 (Iowa 1990); *State v. Bresson*, 51 Ohio St.3d 123, 554 N.E.2d 1330 (Ohio 1990); *State v. Sullivan*, 310 S.C. 311, 426 S.E.2d 766 (S.C.1993); *Finley v. State*, 809 S.W.2d 909 (Tex.Ct.App.1991).

[12] See *Ex parte Malone*, 575 So.2d 106 (Ala. 1990); *State v. Superior Court In and For Cochise County*, 149 Ariz. 269, 718 P.2d 171 (1986); *People v. Leahy*, 8 Cal.4th 587, 34 Cal.Rptr.2d 663, 882 P.2d 321 (1994); *State v. Garrett*, 119 Idaho 878, 811 P.2d 488 (1991); *State v. Witte*, 251 Kan. 313, 836 P.2d 1110 (1992); *State v. Armstrong*, 561 So.2d 883 (La.Ct.App.), writ denied, 568 So.2d 1077 (La.1990); *State v. Wheeler*, 764 S.W.2d 523 (Mo.Ct.App.1989); *State v. Borchartt*, 224 Neb. 47, 395 N.W.2d 551 (1986); *People v. Torrey*, 144 A.D.2d 865, 534 N.Y.S.2d 807 (1988); *Yell v. State*, 856 P.2d 996 (Okla. Crim.App.1993); *Commonwealth v. Miller*, 367 Pa.Super. 359, 532 A.2d 1186 (1987); *State v. Cissne*, 72 Wash.App. 677, 865 P.2d 564 rev. denied, 124 Wash.2d 1006, 877 P.2d 1288 (1994); *State v. Barker*, 179 W.Va.

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[194, 366 S.E.2d 642 \(1988\)](#). See also John P. Ludington, Annotation, *Horizontal Gaze Nystagmus Test: Use in Impaired Driving Prosecution*, 60 A.L.R.4th 1129 (1988).

[13] The United States Supreme Court held in [Daubert v. Merrell Dow Pharmaceuticals, Inc.](#), 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993), that Federal Rule of Evidence 702 superseded [Frye v. United States](#), 293 F. 1013 (App. D.C. 1923). In [Flanagan v. State](#), 625 So.2d 827 (Fla.1993), our supreme court announced its continuing adherence to *Frye*, even though our rules of evidence are patterned after the federal rules. See also [Hayes v. State](#), 660 So.2d 257 (Fla.1995); [Eldridge v. Riddell, Inc.](#), 626 So.2d 232, 233 (Fla. 4th DCA 1993).

[14] For an overview and discussion of the approaches applied by the various jurisdictions, see [State v. O'Key](#), 321 Or. 285, 899 P.2d 663 (1995); [Leahy](#), 882 P.2d at 321; [Witte](#), 836 P.2d at 1110. In *Witte*, the Kansas Supreme Court cited 11 decisions from other states holding that HGN testing is a scientific test requiring *Frye* compliance. [836 P.2d at 1115](#).

Although a majority of jurisdictions in which the *Frye* test is utilized require *Frye* compliance of HGN testing, many of the cases appear to merge the question of general acceptance within the scientific community and the issue of reliability.