consumption.

As for the sufficiency of the facts and data underlying the assertions in the NHTSA articles that SFSTs are reliable in predicting specific BAC, the testimony of Horn's experts, as well as the literature that is critical of these studies, establishes that presently there is insufficient data to support these claims of accuracy. The early NHTSA laboratory tests were too limited to support the claims of accuracy, and the subsequent field and validation testing insufficient to establish the reliability and validity of the tests if used to establish specific BAC. Indeed, the great weight of the state authority, including that in Maryland, agrees that BAC levels may not be proved by SFST test results alone, and I adopt that holding here.

The conclusion I have reached regarding the reliability of the methods and principles underlying the SFSTs takes into account the evidence introduced by Horn about the methods used to develop these tests, and the error rates associated therewith—the first two *Daubert/Kumho Tire* factors. This alone precludes their admissibility to prove specific BAC, and it therefore is not necessary to discuss in detail whether the many articles written about these tests constitute peer review analysis or something else, and whether they generally have been accepted in a relevant, unbiased scientific or technical community, the third and fourth *Daubert/Kumho Tire* factors. I do note, however, the testimony of Horn's experts that the NHTSA publications regarding the SFSTs do not constitute peer review publications, a conclusion that seems correct. As Dr. Cole testified, peer review as contemplated by *Daubert* and *Kumho Tire* must involve critical analysis that can expose any weaknesses in the methodology or principles underlying the conclusions being reviewed.

Further, as testified to by Horn's experts, the process of selection of articles for publication in a peer review journal involves an evaluation by one or more experts in the field, to insure that the article meets the rigors of that field. Under this standard, most of the publications regarding the SFST tests, including the publications ***557** in bar journals, likely do not meet this criteria.

Similarly, despite the conclusion of many state courts that the SFSTs have received general acceptance among criminologists, law enforcement personnel, highway safety experts and prosecutors, I remain skeptical whether this is sufficient for purposes of *Daubert* and *Kumho Tire*. Acceptance by a relevant scientific or technical community implies that that community has the expertise critically to evaluate the methods and principles that underlie the test or opinion in question. However skilled law enforcement officials, highway safety specialists, prosecutors and criminologists may be in their fields, the record before me provides scant comfort that these communities have the expertise needed to evaluate the methods and procedures underlying human performance tests such as the SFSTs. Some might say the same about judges, without fear of too much disagreement, but judges are the ones obligated to do so by Rule 104(a) when the admissibility of evidence is challenged. As to the conclusion of the state courts, more often than not expressed in passing and without analysis, that the SFSTs generally are accepted among psychologists like Dr. Burns, the evidence presented to me by the three psychologists called by Horn leads me, respectfully, to beg to differ. Thus, based on the foregoing, I conclude that the SFST evidence in this case does not, at this time, meet the requirements of *Daubert/Kumho Tire* and Rule 702 as to be admissible as direct evidence of intoxication or impairment.

A more difficult question, however, is whether the SFSTs may be used as circumstantial evidence of alcohol consumption and, if so, just how. The state courts overwhelmingly have concluded that the results of SFSTs are admissible as circumstantial evidence of alcohol consumption but have offered little guidance about what exactly the testifying officer may tell the fact finder about the SFSTs, their administration, and the performance of the suspect when doing them. The possibilities range from simply describing the tests—without explaining the scientific or technical bases underlying them or their claimed accuracy rates and describing only what the officer observed when they were performed, absent any opinions regarding whether the suspect "passed" or "failed" or assessment of the degree of intoxication or impairment—to a full explanation of the tests, their claimed accuracy, the number of "standardized clues" the suspect missed, and an opinion that the suspect "failed" the test—in short everything up to testimony about the specific BAC of the driver.

On the record before me there are not sufficient facts or data about the OLS and WAT SFSTs to support the conclusion that, if a suspect exhibits two out of eight possible clues on the WAT test or two out of four clues on the OLS, he has "failed" the tests. To the contrary, Horn introduced Dr. Cole's study that showed an alarmingly high error rate when police officers were asked to evaluate completely sober subjects performing the WAT and OLS.[46] Def's. Motion Exh. C. To permit a police

officer to testify about each of the SFSTs in detail, their claimed accuracy rates, the number of standardized clues applicable to each, the number of clues exhibited by the suspect, and then offer an opinion about whether he or she passed or failed, stopping just short of expressing an opinion as to specific BAC, invites the risk of allowing through the back door of circumstantial ***558** proof evidence that is not reliable enough to enter through the front door of direct proof of intoxication or impairment. Such testimony clearly is technical, if not scientific, and may not be admitted unless shown to be reliable under the standards imposed by Rule 702 and *Daubert/Kumho Tire,* which has not been done in this case.

There is no factual basis before me to support the NHTSA claims of accuracy for the WAT and OLS tests or to support the conclusions about the total number of standardized clues that should be looked for or that missing a stated number means the subject failed the test. There is very little before me that suggests that the WAT and OLS tests are anything more than standardized procedures police officers use to enable them to observe a suspect's coordination, balance, concentration, speech, ability to follow instructions, mood and general physical condition—all of which are visual cues that laypersons, using ordinary experience, associate with reaching opinions about whether someone has been drinking.

Indeed, in *Crampton v. State,* 71 Md.App. 375, 525 A.2d 1087 (1987) the Maryland Court of Special Appeals described field sobriety tests—other than the HGN test—administered by police to motorists as follows:

> field sobriety tests are essentially personal observations of a police officer which determine a suspect's balance and ability to speak with recollection. There is nothing 'new' or perhaps even 'scientific' about the exercises that an officer requests a suspect to perform. Those sobriety tests have been approved by the National Highway Traffic Safety Administration and are simply guidelines for police officers to utilize in order to observe more precisely a suspect's coordination. It requires no particular scientific skill or training for a police officer, or any other competent person, to ascertain whether someone performing simple tasks is to a degree affected by alcohol. The field sobriety tests are designed to reveal objective information about a driver's coordination.... The *Frye–Reed* test does not apply to those field sobriety tests because the latter are essentially empirical observations, involving no controversial, new or 'scientific' technique. Their use is guided by practical experience, not theory.

*Id.,* 525 A.2d at 1093–94. The same conclusion has been reached by many other state courts that have considered this issue. For example, in *State v. Ferrer,* 95 Hawai'i 409, 23 P.3d 744 (App.2001), the court stated:

> It is generally recognized, however, that the foundational requirements for admission of psychomotor FST evidence differ from the foundational requirements for admission of HGN evidence. Psychomotor FSTs test balance and divided attention, or the ability to perform multiple tasks simultaneously. While balancing is not necessarily a factor in driving, the lack of balance is an indicator that there may be other problems. Poor divided attention skills relate directly to a driver's exercise of judgment and ability to respond to the numerous stimuli presented during driving. The tests involving coordination (including the walk-and-turn and the one-leg-stand) are probative of the ability to drive, as they examine control over the subject's own movements. Because evidence procured by administration of psychomotor FSTs is within the common experience of the ordinary citizen, the majority of courts that have addressed the issue generally consider psychomotor FSTs to be nonscientific evidence.

***559** *Id.*, 23 P.3d at 760–62 (citations omitted).[47] As the Florida District Court of Appeals said in *State v. Meador*, 674 So.2d 826 (Fla.App.1996):

> While the psychomotor FSTs are admissible, we agree with defendants that any attempt to attach significance to defendants' performance on these exercises is 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 witness simply describe their observations. Reference to the exercises by using terms such as 'test,' '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. 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.
>
> *Id.* at 832.

I agree with this reasoning. If offered as circumstantial evidence of alcohol intoxication or impairment, the probative value of the SFSTs derives from their basic nature as observations of human behavior, which is not scientific, technical or specialized knowledge. To interject into this essentially descriptive process technical terminology regarding the number of "standardized clues" that should be looked for or opinions of the officer that the subject "failed" the "test," especially when such testimony cannot be shown to have resulted from reliable methodology, unfairly cloaks it with unearned credibility. Any probative value these terms may have is substantially outweighed by the danger of unfair prejudice resulting from words that imply reliability. I therefore hold that when testifying about the SFSTs a police officer must be limited to describing the procedure administered and the observations of how the defendant performed it, without resort to terms such as "test,"[48] "standardized clues," "pass" or "fail," unless the government first has established a foundation that satisfies Rule 702 and the *Daubert/Kumho Tire* factors regarding the reliability and validity of the scientific or technical underpinnings of the NHTSA assertions that there are a stated number of clues that support an opinion that the suspect has "failed" the test.

This is not to say that a police officer may not express an opinion as a lay witness that the defendant was intoxicated or impaired, if otherwise admissible under ***560** Rule 701. As recently amended, Rule 701 permits lay opinion testimony if: (a) rationally based upon the perception of the witness, (b) helpful to the fact finder and (c) if the opinion does *not* involve scientific, technical or specialized information.[49] There is near universal agreement that lay opinion testimony about whether someone was intoxicated is admissible if it meets the above criteria. *See, e.g., Singletary v. Secretary of Health*, 623 F.2d 217, 219 (2d Cir.1980)("The testimony of lay witnesses has always been admissible with regard to drunkenness."); *United States v. Mastberg*, 503 F.2d 465 (9th Cir.1974); *Malone v. City of Silverhill*, 575 So.2d 101 (Ala.Crim.App.1990); *State v. Lummus*, 190 Ariz. 569, 950 P.2d 1190 (App.1997); *Wrigley v. State*, 248 Ga.App. 387, 546 S.E.2d 794, 798 (2001) ("A police officer may give opinion testimony as to the state of sobriety of a DUI suspect and whether appellant was under the influence."); *State v. Ferrer*, 95 Hawai'i 409, 23 P.3d 744 (App.2001); *Com. v. Bowen*, 52 Mass.App.Ct. 1110, 754 N.E.2d 1083, 2001 WL 1014539 (2001); *State v. Hall*, 353 N.W.2d 37, 43 (S.D.1984); *Beats v. State*, 2000 WL 921684 (Tex.App.2000) ("A lay witness, including a police officer, may express an opinion about a person's intoxication."). *See also* John W. Strong, *McCormick on Evidence* § 11 (5th ed. 1999) ("The so-called 'collective fact' or 'short-hand rendition rule' [permits] opinions on such subjects as ... a person's intoxication."); Graham, *Handbook of Federal Evidence* § 701.1 (5th ed.2001)(lay witness permitted to offer opinion testimony that a person was intoxicated); Mueller and Kirkpatrick, *Evidence* § 7.4 (4th ed. 1995) ("One common example [of the collective facts doctrine] is lay testimony that someone was intoxicated, and here the witness is not confined to descriptions of glazed eyes, problems in speech or motor coordination, changes in behavior or mood or affect, but may say directly (assuming adequate observation and common experience) that the person seemed drunk or under the influence").

In DWI/DUI cases, however, the third requirement of Rule 701, that the lay opinion is "not based on scientific, technical, or other specialized knowledge," will take on great importance. A police officer certainly may testify about his or her observations of a defendant's appearance, coordination, mood, ability to follow instructions, balance, the presence of the smell of an alcoholic beverage, as well as the presence of exaggerated HGN, and the observations of the defendant's performance of the SFSTs—consistent with the limitations discussed above. The officer should not, however, be permitted to

interject technical or specialized comments to embellish the opinion based on any special training or experience he or she has in investigating DWI/DUI cases. Just where the line should be drawn must be left to the discretion of the trial judge, but the officer's testimony under Rule 701 must not be allowed to creep from that of a layperson to that of an expert—and the line of demarcation is crossed if the opinion ceases to be based on observation and becomes one founded on scientific, specialized or technological knowledge.

### *CONCLUSION*

To summarize, the Court holds that the following rulings apply to the case at bar:

(1) The results of properly administered WAT, OLS and HGN SFSTs may be admitted into evidence in a DWI/DUI case ***561** only as circumstantial evidence of intoxication or impairment but not as direct evidence of specific BAC. Recognizing that Officer Jarrell, the arresting police officer in this case, may be the sponsor for this evidence, he must first establish his qualifications to administer the test. Unless qualified as an expert witness under Rule 702 to express scientific or technical opinions regarding the reliability of the methods and principles underlying the SFSTs, Officer Jarrell's foundational testimony will be limited to the instruction and training received and experience he has in administering the tests and may not include opinions about the tests' accuracy rates. If Officer Jarrell testifies about the results of the HGN test, he may testify as to his qualifications to detect exaggerated HGN, and his observations of exaggerated HGN in the Horn, but may not, absent being qualified under Rule 702 to do so, testify as to the causal nexus between alcohol consumption and exaggerated HGN. When testifying about Horn's performance of the SFSTs, Officer Jarrell may describe the SFSTs he required Horn to perform and describe Horn's performance, but Officer Jarrell may not use language such as "test," "standardized clues" or express the opinion that Horn "passed" or "failed," because the government has not shown, under Rule 702 and the *Daubert/Kumho Tire* decisions, that these conclusions are based on sufficient facts or data and are derived from reliable methods or principles.

(2) The government may prove the causal connection between exaggerated HGN in Horn's eyes and alcohol consumption by one of the following means: asking the court to take judicial notice of it under Rule 201; the testimony of an expert qualified under Rule 702; or through learned treatises, introduced in accordance with Rule 803(18). In response to proof of the causal connection between alcohol consumption and exaggerated HGN, Horn may prove that there are other causes of HGN than alcohol by one of the following methods: asking the court to take judicial notice of this fact under Rule 201; cross-examining any expert called by the government; by calling a defense expert witness, qualified under Rule 702, or through leaned treatises, introduced in accordance with Rule 803(18).

(3) Assuming the government can establish the elements of Rule 701, Officer Jarrell may give lay opinion testimony that Horn was intoxicated or impaired by alcohol. Such testimony must be based on Officer Jarrell's observations of Horn and may not include scientific, technical or specialized information.

**Appendix**

| STATE | CASE | HOLDING |
|---|---|---|
| 4th CIRCUIT | U.S. v. Daras, 1998 WL 726748 (4th Cir.1998). (Unpublished opinion). | Held WAT and OLS were not scientific so no expert needed. Would have applied Daubert to HGN test but there was no need to because breathalyzer, WAT, and OLS were sufficient. |
| MARYLAND | Schultz v. State, 60 (Md.App.1995). | Court took judicial notice of reliability of the HGN test, leaving only the officer's qualifications to |

| | | |
|---|---|---|
| | | administer the test and the administration of the test in question. HGN is not reliable enough to determine precise BAC. Applied Frye/Reid standard. |
| | Wilson v. State, 723 A.2d 494 (Md.App.1999). | Cites to Shultz, above, and holds that HGN is not admissible for determining precise BAC or even estimates. |
| ALABAMA | Malone v. City of Silverhill, 575 So.2d 101 (Ala.Crim.App.1989), rev'd on other grounds, Ex Parte Malone, 575 So.2d 106 (1990). | HGN testing satisfies Frye standard and is admissible—provided a proper foundation has been laid regarding police officer's qualifications and reliability of the HGN test and its underlying scientific principals. |
| ALASKA | Ballard v. State, 955 P.2d 931 (Alaska Ct.App.1998). | HGN meets Frye standard if the test results are admitted for the limited purpose of establishing that a person has consumed alcohol and is therefore potentially impaired. HGN evidence may be a factor in determining intoxication but may not be used to quantify a BAC. |
| | State v. Coon 974 P.2d 386 (Alaska 1999) | Adopts Daubert standard and holds the voice spectograph analysis evidence is admissible under Daubert. |
| ARIZONA | State v. Superior Court, 149 Ariz. 269, 718 P.2d 171 (Ariz.1986). | HGN test is sufficiently reliable to establish probable cause to arrest and satisfies Frye standard for scientific evidence. HGN cannot be used to establish precise BAC. |
| | State v. Ricke, 161 Ariz. 462, 778 P.2d 1358 (Ariz.App.1989). | Frye test was used. Court held that the officer may state his opinion that based on the results of the HGN test the defendant's BAC was above .10—but only to corroborate chemical testing. HGN may be used as independent evidence to prove DUI. |
| | State v. City Court of | Clarifying the holding in State v. Superior Court |

| | | |
|---|---|---|
| | City Mesa, 165 Ariz. 514, 799 P.2d 855 (Ariz.1990). | above: HGN test satisfies Frye for limited purposes. HGN results may be used in the absence of chemical tests to show whether a person is under the influence in the same manner as other field sobriety tests and opinions of intoxication. "In such a case, HGN test results may be admitted only for the purpose of permitting the officer to testify that, based on his training and experience, the results indicated possible neurological dysfunction, one cause of which could be alcohol ingestion. The proper foundation for such testimony, which the state may lay in the presence of the jury, includes a description of the officer's training, education, and experience in administering the test and a showing that the test was administered properly. The foundation may not include any discussion regarding accuracy with which HGN test results correlate to, or predict, a BAC of greater or less than .10%." 799 P.2d at 859–860. |
| ARKANSAS | Whitson v. State, 314 Ark. 458, 863 S.W.2d 794 (Ark.1993). | Holding that the results of the HGN test are relevant to show alcohol consumption in conjunction with other field sobriety tests. The court highlighted the fact that HGN test was not used to quantify BAC so the test need not be evaluated as novel scientific evidence. Court notes they apply the "Prater" test (a more liberal test than the Frye standard) to novel science. |
| CALIFORNIA | People v. Leahy, 8 Cal.4th 587, 34 Cal.Rptr.2d 663, 882 P.2d 321 (Cal.1994). | HGN testing is a "new scientific technique" and must satisfy Kelly/Frye standard. Remanded for Kelly hearing regarding general acceptance. |
| | People v. Williams, 3 Cal.App.4th 1326, 5 Cal.Rptr.2d 130 (Cal.Ct.App.1992). | Police officer is not qualified to give expert opinion that nystagmus was caused by alcohol consumption. His experience does allow him to administer HGN and observe signs of nystagmus. Concluded that results of HGN |

| | | |
|---|---|---|
| | | testing might be admissible if linked to qualified expert testimony. Question of whether the Frye/Kelly test applies was not decided because it was not ripe. |
| | People v. Joehnk, 35 Cal.App.4th 1488, 42 Cal.Rptr.2d 6 (Cal.Ct.App. 4th 1995). | Applied Kelly/Frye standard. Held that, in this case, sufficient evidence was introduced to show that a majority of the scientific community accepts that nystagmus can be caused by alcohol consumption and HGN can be used in conjunction with other tests and observations in determining that the defendant was intoxicated. |
| COLORADO | | |
| CONNECTICUT | State v. Russo, 62 Conn.App. 129, 773 A.2d 965 (Conn.App.Ct.2001) | Proper foundation must be established in accordance with Daubert prior to introduction of HGN test results. |
| DELAWARE | State v. Ruthardt, 680 A.2d 349 (Del.Super.Ct.1996). | HGN is scientific testimony and must satisfy rules of evidence: (1) the expert being offered is qualified; (2) the evidence offered is otherwise admissible, relevant and reliable; (3) the specialized knowledge being offered will assist the trier-or-fact in understanding the evidence or in determining a factual issue; (4) The scientific technique and its underlying principles are reasonably relied upon by the experts in the field; and (5) such evidence would not create unfair prejudice, confusion of issues or mislead the jury. HGN results may be admitted to corroborate or attack chemical analysis but not to quantify BAC. Absent chemical analysis the results are admissible, as is other evidence of defendant's behavior, to circumstantially prove driver was under the influence. |
| FLORIDA | Williams v. State, 710 So.2d 24. (Fla. Dist Ct.App.1998) . | Uses Frye test. Holds that the HGN test is "quasi-scientific" and is already generally accepted in the scientific community and therefore there is no need for trial courts to |

| | | |
|---|---|---|
| | | continue to reapply a Frye analysis. Once a proper foundation has been laid that the test was correctly administered by a qualified DRE (drug recognition expert), judicial notice can be taken that HGN test results are generally accepted as reliable and are admissible. HGN cannot be used to establish precise BAC. |
| | Bowen v. State, 745 So.2d 1108 (Fl.Dist.Ct.App.1999) | Expands Williams above. Trooper was allowed to explain to jury the roadside sobriety testing he performed, including the HGN test. However, in this district, before the HGN evidence is admissible, there must be a confirmatory blood, breath, or urine test. Trooper explained how he administered the HGN and that movements of the defendant's eyes suggested intoxication. |
| GEORGIA | Hawkins v. State, 223 Ga.App. 34, 476 S.E.2d 803 (Ga.Ct.App.1996). | Uses the Frye test. HGN is generally accepted and therefore can be admitted into evidence without first obtaining experts regarding HGN's scientific validity. |
| HAWAII | State v. Ito, 90 Hawai'i 225, 978 P.2d 191 (Hawai'i.Ct.App.1999) . | Uses Hawaii Rules of Evidence 702 & 703 for admissibility of scientific or technical evidence. This test is more probative than Frye and much closer to Daubert as it allows inquiry into "reliability." Court held, (1) HGN test results have been sufficiently established to be reliable and are therefore admissible as evidence that police had probable cause to believe defendant was DUI; (2) court may take judicial notice of the validity of the principles underlying HGN; (3) before admitting HGN into evidence, it must be shown that (a) officer administering test was duly qualified to conduct test and grade it, and (b) test was performed properly in the case. Case remanded for further proceedings because of indications that test was not properly performed. |
| | State v. Ferrer, 95 Hawai'i 409, 23 P.3d 744 (Hawai'i.Ct.App.2001) | FSTs, such as OLS and WAT (but excluding HGN) are non-scientific in nature and an officer may testify about his/her own observations and opinions in regards to those FSTs. An officer, |

| | | |
|---|---|---|
| | | however, cannot testify that a person "failed" or "passed" these tests without first laying a proper foundation. |
| IDAHO | State v. Garrett, 119 Idaho 878, 811 P.2d 488 (Idaho 1991). | Uses Frye test. HGN can be used as circumstantial evidence of intoxication. HGN tests may not be used at trial to establish BAC in absence of chemical testing. |
| ILLINOIS | People v. Buening, 229 Ill.App.3d 538, 170 Ill.Dec. 542, 592 N.E.2d 1222 (Ill.App.Ct.1992). | HGN satisfies Frye standard and may be admitted as evidence of intoxication provided proper foundation has been laid. HGN cannot be used to establish precise BAC. |
| | People v. Basler, 193 Ill.2d 545, 251 Ill.Dec. 171, 740 N.E.2d 1 (Ill.2000) | Holds that, unless Defendant offers evidence to show HGN is scientifically unsound, a Frye hearing is not required. Officer's training and proper administration of the test in question is required. |
| INDIANA | | |
| IOWA | State v. Murphy, 451 N.W.2d 154 (Iowa 1990). | Held that testimony given by a properly trained officer with respect to the administration and results of the HGN test is admissible without further scientific evidence. Officer could testify that it was his opinion based on the field sobriety tests, the defendant was under the influence. However, officer cannot make an unequivocal comment about defendant's guilt. |
| KANSAS | State v. Witte, 251 Kan. 313, 836 P.2d 1110 (Kan.1992). | HGN test results are scientific evidence and must satisfy Frye standard. The reliability of HGN test in the scientific community is not a settled proposition. Remanded for trial court to decide if HGN satisfies Frye. |
| | State v. Chastain, | Court concluded that HGN test had not achieved |

| | | |
|---|---|---|
| | 265 Kan. 16, 960 P.2d 756 (Kan.1998). | general acceptance within the relevant scientific community and its exclusion was appropriate. |
| KENTUCKY | Com. v. Rhodes, 949 S.W.2d 621 (Ky.Ct.App.1996). | No foundation was laid at trial as to the officer's qualifications for administering HGN. This was not properly objected to, however, and thus it could not be concluded that his testimony was erroneously admitted. |
| LOUISIANA | State v. Armstrong, 561 So.2d 883 (La.Ct.App.1990) | Held that HGN test satisfies Frye standard and with proper foundation may be admitted as evidence of intoxication. Proper foundation requires establishing officer's qualifications for administering and interpreting results. |
| | State v. Breitung, 623 So.2d 23 (La.Ct.App.1993). | Affirming Armstrong. |
| MAINE | State v. Taylor, 694 A.2d 907 (Me.1997) | Held that, as long as the officer is properly trained and evidence establishes the test was properly administered, test is admissible but not to quantify exact BAC. |
| MARYLAND | SEE ABOVE | |
| MASSACHUSETTS | Com. v. Sands, 424 Mass. 184, 675 N.E.2d 370 (Mass.1997). | Held that HGN test relies on scientific theory and expert testimony is required to meet either Daubert or Frye standard. Officer's qualifications to administer the test and proper administration of the test must also be established. |
| MICHIGAN | People v. Berger, 217 Mich.App. 213, 551 N.W.2d 421 (Mich.Ct.App.1996). | Recognized that HGN test is scientific evidence and that its general acceptance and reliability have been established to satisfy Frye standard. Expressed no opinion regarding the use of HGN to quantify BAC. |
| MINNESOTA | State v. Klawitter, 518 | Affirms trial courts ruling that HGN satisfies Frye |

| | | |
|---|---|---|
| | N.W.2d 577 (Minn.1994). | standard and concludes that HGN results are admissible when sufficient foundation has been laid. |
| MISSISSIPPI | Young v. City of Brookhaven, 693 So.2d 1355 (Miss.1997). | Uses Frye standard and finds HGN is a scientific test but is not generally accepted within the scientific community. Therefore it is inadmissible before a jury. HGN test can be used to show probable cause at a probable cause hearing. |
| MISSOURI | State v. Hill, 865 S.W.2d 702 (Mo.Ct.App.1993). | Uses the Frye standard. State established HGN general acceptance at trial. Court found that when properly administered by someone adequately trained, the HGN test is admissible as evidence of intoxication. In this case, the officer testified that in his experience, someone who performs as defendant did on the HGN test would register above a .10 BAC on a breathalyzer. His testimony was not objected to at trial, and the court found that his testimony did not amount to plain error. This case was later overruled on other grounds in State v. Carson 941 S.W.2d 518 (Mo.1997). |
| | Duffy v. Director of Revenue, 966 S.W.2d 372 (Mo.Ct.App.1998). | FSTs (such as WAT and OLS) can be used to establish probable cause without first laying a Frye foundation. HGN was considered a scientific test, and court found it should not have been admitted at trial because the administering officer was not aware how to properly score it and interpret its results. |
| MONTANA | Hulse v. State, 289 Mont. 1, 961 P.2d 75 (Mont.1998). | HGN test is not "novel" scientific evidence, therefore Daubert standard need not be met. Must satisfy Mont. Evid. Rule 702. State must show proper administration of the test, officer's training, and establish a scientific basis for the reliability of the test under Rule 702. |
| NEBRASKA | State v. Baue, 258 Neb. 968, 607 N.W.2d 191 | Held that HGN test meets the Frye standard for acceptance and is admissible for the limited purposes of showing the person had an |

| | | |
|---|---|---|
| | (Neb.2000). | impairment that may have been caused by alcohol but not admissible for proving precise BAC. |
| NEVADA | | |
| NEW HAMPSHIRE | State v. Duffy, 778 A.2d 415 (N.H.2001). | HGN test is based on scientific principals. As such it must meet a threshold of reliability to be admissible pursuant to N.H. R. Evid. 702 |
| NEW JERSEY | State v. Doriguzzi, 334 N.J.Super. 530, 760 A.2d 336 (N.J.Super.Ct.App.Div.2000) | HGN is a scientific test and must meet Frye standard to be admissible. |
| NEW MEXICO | State v. Torres, 127 N.M. 20, 976 P.2d 20 (N.M.1999). | HGN is scientific and thus subject to Daubert. Only after a scientific expert establishes the evidentiary reliability of the scientific principles underlying the test may a qualified police officer testify about administering of the test. Court also noted that judicial notice of the reliability of HGN would be inappropriate at this time. |
| NEW YORK | People v. Erickson, 156 A.D.2d 760, 549 N.Y.S.2d 182 (N.Y.App.Div.1989). | Before HGN evidence is introduced, a proper foundation as to its scientific acceptance or reliability must be laid. Although foundation was not introduced at trial, court found this was a harmless error because of the amount of evidence against defendant. |
| NORTH CAROLINA | State v. Helms, 348 N.C. 578, 504 S.E.2d 293 (N.C.1998). | HGN is a scientific test and thus a proper foundation, such as expert testimony of its reliability, must be laid before it is admissible. |
| NORTH DAKOTA | City of Fargo v. McLaughlin, 512 N.W.2d 700 (N.D.1994). | With proper foundation regarding officer's qualifications and the proper administration of the test in the case at bar, HGN evidence is admissible only as circumstantial evidence of |

| | | |
|---|---|---|
| | | intoxication and not as a means of quantifying BAC. |
| OHIO | State v. Bresson, 51 Ohio St.3d 123, 554 N.E.2d 1330 (Ohio 1990). | A properly qualified officer may testify regarding a driver's performance on the HGN test and whether the driver was under the influence but not to quantify BAC. Also holding that admission of the HGN test is no different from any other field sobriety test. |
| OKLAHOMA | Yell v. State, 856 P.2d 996 (Okla.Crim.App.1993) | Uses Frye test and holds HGN test results cannot be used to quantify BAC. (In 1995, this court abandoned Frye test and adopted Daubert in Taylor v. State, 889 P.2d 319 (Okla.Crim.App.1995). |
| OREGON | State v. O'Key, 321 Or. 285, 899 P.2d 663 (Or.1995) | Uses Daubert factors and holds that HGN admissible to show a person is under the influence but not to quantify BAC. This limited admissibility, however, is still subject to a foundational showing that the officer who administered the test was properly qualified, the test was administered properly, and the results were recorded accurately. |
| PENNSYLVANIA | Com. v. Apollo, 412 Pa.Super. 453, 603 A.2d 1023 (Pa.Super.Ct.1992). | Held that PA uses Frye standard. Trial court excluded HGN on the grounds that Frye standard had not been met by the evidence presented by prosecution. Trial court's order to exclude HGN was affirmed. |
| RHODE ISLAND | | |
| SOUTH CAROLINA | State v. Sullivan, 310 S.C. 311, 426 S.E.2d 766 (S.C.1993). | HGN evidence may be used to indicate insobriety but is not conclusive proof of DUI and may not be used to quantify BAC. |
| SOUTH DAKOTA | | |
| TENNESSEE | State v. Murphy, 953 | HGN test is scientific evidence, and, therefore, it |

| | | |
|---|---|---|
| | S.W.2d 200 (Tenn.1997). | must be offered through an expert witness and satisfy the requirements of Tenn. Rules of Evid. 702 and 703. |
| TEXAS | Emerson v. State, 880 S.W.2d 759 (Tex.Crim.App.1994). | Uses Daubert. Testimony concerning HGN test is admissible as expert testimony provided the theory underlying the test is valid and technique applied correctly. Not accurate enough to prove precise BAC. |
| UTAH | Salt Lake City v. Garcia, 912 P.2d 997 (Utah Ct.App.1996). | Officer's testimony regarding HGN testing was limited to only his training, experience and observations without relying on underlying scientific basis and was thus admissible. Evidence was not offered as scientific and therefore did not have to meet applicable scientific standard (and court did not address what that standard would have been.). |
| VERMONT | | |
| VIRGINIA | | |
| WASHINGTON | State v. Cissne, 72 Wash.App. 677, 865 P.2d 564 (Wash.Ct.App.1994). | Held HGN testing must meet Frye standard and remanded for lower court's determination of the question. |
| WEST VIRGINIA | State v. Barker, 179 W.Va. 194, 366 S.E.2d 642 (1988). | Frye test was used. HGN test results cannot be used to estimate BAC but can be used to show that driver was under the influence. Because the State needed to bring in evidence to demonstrate HGN's reliability, the court reversed and remanded. This case was overruled on other grounds in State v. Nichols, 208 W.Va. 432, 541 S.E.2d 310. (W.Va.1999). |
| WISCONSIN | State v. Zivcic, 229 Wis.2d 119, 598 N.W.2d 565 (Wis.Ct.App.1999). | A properly qualified officer may testify regarding HGN results. |

| | | |
|---|---|---|
| WYOMING | Smith v. State ex rel. Wyoming Dept. of Transp., 11 P.3d 931 (Wyo.2000). | Held that a properly qualified police officer may testify regarding results of HGN test at an administrative hearing. Additionally, under Wyoming law an administrative agency, acting in a quasi judicial or judicial role, does not need to satisfy technical rules of evidence so Daubert does not apply. |

58 Fed. R. Evid. Serv. 357

**Parallel Citations**

Footnotes

1 Horn was given the opportunity to take a Breathalyzer test but refused, as he is entitled to do under Maryland law. Md.Code Ann., Cts & Jud. Proc. § 10–309 (1998 Repl.Vol. & 2001 Supp.).

2 At the time of Horn's arrest, Md.Code Ann., Transp. II § 21–902 stated in pertinent part:
(a) *Driving while intoxicated or intoxicated per se.*—(1) A person may not drive or attempt to drive any vehicle while intoxicated.
(2) A person may not drive or attempt to drive any vehicle while the person is intoxicated per se.
(b) *Driving while under the influence of alcohol.*—A person may not drive or attempt to drive any vehicle while under the influence of alcohol.
Effective September 30, 2001, § 21–902 was amended; a person is now charged with either (a) driving under the influence of alcohol or under the influence of alcohol per se or (b) driving while impaired by alcohol. Md.Code Ann., Transp. II § 21–902 (2001 Supp.). Subsection(a), driving under the influence, is now the most serious charge. The change in lexicon is a result partly because of the change in the level of proof, in the form of blood alcohol content results obtained from breathalyzer tests, needed to convict under each subsection. For purposes of this opinion, this Court will continue to employ the driving while intoxicated and driving while under the influence language prevalent in most state court opinions.

3 *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993); *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999).

4 Research has not revealed any other federal case on this subject applying newly revised Rule 702 and the *Daubert/Kumho Tire* tests. There have been a few prior federal cases to consider the admissibility of horizontal gaze nystagmus evidence but never with the factual record of this case or a challenge to this evidence such as rendered here. *See, e.g., United States v. Daras*, 1998 WL 726748 (4th Cir.1998)(unpublished opinion) (court discussed in passing the SFSTs but did not analyze their admissibility as scientific or technical evidence because the evidence exclusive of the tests was sufficient to establish the defendant's guilt); *United States v. Ross*, CR No. 97–972M (D.Md. February 9, 2000) (unpublished memorandum order, in which Judge Connelly of this Court commented with his characteristic thoroughness and thoughtfulness on the state court decisions and narrowly held that SFST evidence is sufficient to establish probable cause to administer a breathalyzer test); *United States v. Everett*, 972 F.Supp. 1313 (D.Nev.1997) (holding that "drug recognition examiner" testimony was governed by Rule 702 but not by *Daubert* on the basis that the testimony was not scientific in nature but utilizing the *Daubert* factors in analyzing the evidence).

5 Horn did not contest the Government's entitlement to rely on the results of properly conducted SFSTs for probable cause determinations related to DWI/DUI charges. To establish probable cause to arrest a suspect all that is required is reasonably trustworthy information that would support a reasonable belief that the suspect committed an offense. *Beck v. Ohio*, 379 U.S. 89, 91, 85 S.Ct. 223, 13 L.Ed.2d 142 (1964). Probable cause determinations turn on practical, nontechnical determinations. *Id.* Thus, regardless of whether SFSTs are admissible as evidence, they may establish probable cause to arrest a motorist for DWI/DUI.

6 The Government acknowledged during the Rule 104(a) hearing that it was not seeking to admit the results of the SFSTs to prove

Horn's specific BAC. Nonetheless, this opinion must discuss the admissibility of the SFSTs for this purpose to fully explain the ruling made regarding their use as circumstantial evidence of intoxication or impairment.

7 As will be discussed below, nystagmus always is present in the human eye but certain conditions, including alcohol ingestion, can cause an exaggeration of the nystagmus such that it is more readily observable. In this opinion, use of the phrase "nystagmus" or "horizontal gaze nystagmus" being "caused" by alcohol refers to the exaggeration of this natural condition and does not suggest, absent any alcohol, there would not be any nystagmus at all.

8 *See, e.g., Kay v. United States,* 255 F.2d 476 (4th Cir.1958) (The Assimilative Crimes Act "does not generally adopt state procedures ... and federal, rather than state, rules of evidence are applicable under the Act."); *U.S. v. Sauls,* 981 F.Supp. 909, 915 (D.Md.1997).

9 *See, e.g., Ballard v. State,* 955 P.2d 931 (Alaska Ct.App.1998); *State v. Superior Court,* 149 Ariz. 269, 718 P.2d 171, 176–78 (1986); *State v. Ito,* 90 Hawai'i 225, 978 P.2d 191 (App.1999); *State v. Baue,* 258 Neb. 968, 607 N.W.2d 191, 197 (2000) and Appendix.

10 *See* cases cited *infra* at p. 552, and Appendix.

11 *Daubert,* 509 U.S. at 593–94, 113 S.Ct. 2786; *Kumho Tire,* 526 U.S. at 141, 119 S.Ct. 1167.

12 *Frye v. United States,* 293 F. 1013 (D.C.Cir.1923).

13 *See* state cases cited *infra* at pp. 551 – 552 and Appendix.

14 Dr. Burns is perhaps the most ardent advocate of the SFSTs at issue in this case, having participated in the original NHTSA studies that developed them, and thereafter as an ubiquitous—and peripatetic—prosecution expert witness testifying in favor of their accuracy and reliability in a host of state cases, over a course of many years. *See* cases cited *infra* at pp. 552 – 553. Despite her enthusiasm for the tests that she helped to develop, few, if any, courts have agreed with her that the SFSTs, taken alone or collectively, are sufficiently reliable to be used as direct evidence of specific BAC, as a review of the state cases listed in the Appendix to this opinion readily demonstrates. Dr. Burns has achieved, however, nearly universal success in persuading state courts that the SFSTs developed by SCRI, if properly administered, are admissible as circumstantial evidence of alcohol ingestion.

15 This underscores an important point. When analyzing the many state decisions regarding the admissibility of SFST evidence, care must be taken to focus on the factual basis supporting the rulings made. In many instances, the primary evidence that the court had before it regarding the reliability of SFSTs was Dr. Burns' testimony and the above described NHTSA, Colorado and Florida studies, as well as testimony from law enforcement officers with a vested interest in the use of the SFSTs. In most, but not all, instances, the defendant in the state cases simply did not mount a challenge to the "science" underlying the SFSTs. This is not the case here, where Horn has provided a spirited and detailed attack on the tests' reliability. This highlights an inherent limitation in the process of judicial evaluation of the reliability and validity of any scientific or technical evidence: the court must, under Rule 104(a), act as the "gatekeeper" to decide whether the evidence is reliable and admissible. The court, however, is limited in its ability to do so by the quantitative and qualitative nature of the evidence produced by the parties, whatever research the court itself may do, and any help it may derive from courts that have addressed the issue before it. This process unavoidably takes place on a continuum, and a court faced with the present task of deciding the admissibility of scientific evidence must exercise care to consider whether new developments or evidence require a reevaluation of the conclusions previously reached by courts that did not have the benefit of the more recent information. In short, neither science and technology may rest on past accomplishments—nor may the courts.

16 At the time of Horn's arrest, Maryland law stated that, "if at the time of [taking the breathalyzer test], a person has an alcohol concentration of at least .07 but less than .10" such results would be "prima facie evidence that the defendant was driving with alcohol in the defendant's blood." Md.Code Ann., Cts. & Jud. Proc. § 10–307 (1998 Repl.Vol.). Effective September 30, 2001, a blood alcohol concentration between 0.07 and 0.08 will be prima facie evidence that the person was driving while impaired by alcohol. If the person's BAC is .08 or higher, the defendant shall be considered under the influence of alcohol per se. Md.Code Ann., Cts. & Jud. Proc. § 10–307(d), (g) (2001 Supp.).

17 The eight clues are the inability to keep balance while listening to instructions, starting the test before the instructions are finished, stopping to steady one's self, failure to touch heel-to-toe, stepping off the line, using arms for balance, improper turning, and taking an incorrect number of steps. *Id.* at VIII–20.