

HORIZONTAL GAZE NYSTAGMUS: WHEN THE EYES REVEAL MORE THAN THE DRIVER INTENDED

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IMAGINE A YOUNG WOMAN SPEEDING HOME LATE AT NIGHT AFTER HAVING DRINKS WITH FRIENDS; SHE'S THINKING ABOUT A WARM SHOWER, THE SMELL OF FLANNEL SHEETS, AND THAT MOMENT HER HEAD HITS THE PILLOW. SHE FEELS FATIGUED, BUT SHE DOESN'T FEEL INTOXICATED WHATSOEVER. SHE HAD TWO MIXED DRINKS, THREE AT MOST. THE THOUGHT OF BEING A SUSPECT IN A DWI INVESTIGATION IS THE LAST THING ON HER MIND, AS HER REFLEXES SEEM FINE AND HER ABILITY TO VIEW THE ROAD ARE ON POINT.²

A trooper sees her in the distance ahead. He estimates her speed at 80; his radar reads 89. The trooper initiates a stop and closely monitors the events that follow.

The driver notices flashing lights in her rear view mirror and brakes fast, hoping for the best. She knows, though, she was speeding. She looks again in her rear view mirror and sees a shiny black Chevy Tahoe slowing down behind her. Her head now closer to the mirror, she stares long enough to notice sweat beading on her forehead. She takes a moment to consider the situation, ruminating over the evening and the possibility she could be given a DWI. As the trooper walks toward her vehicle, she clicks open the glove box, hoping her insurance and registration are neatly organized inside. Paper spills everywhere.

Meanwhile the trooper, experienced in DWI detection, has already begun ticking off his list of observations that correlate with DWI: time of night, high rate of speed, and erratic braking are all considered. The sweat on the suspect's forehead and the fact she was fumbling with her insurance and registration information adds to his suspicion. He questions her about alcohol and she describes her evening, inadvertently confessing to having had a couple of drinks.

Reflecting on his training, the trooper believes she may be intoxicated.³ He asks her to step out of the car so she can begin the first of three standard field sobriety tests. Using a penlight held slightly elevated 12 inches in front of her eyes, the trooper asks the driver to follow the light with her eyes only. He slowly tracks the light side-to-side while the driver attempts to follow it. After the test is completed, he notes his report, estimates her BAC at above .08 percent,⁴ and administers the remaining two tests: the walk-and-turn and one-leg stand.

The scenario described above is not unique, nor is the trooper's response. DWI investigations, like any other investigation, are premised on procedure. And while it is debatable whether the driver was truly intoxicated – especially given the limited information provided – clearly the trooper attempted to rely on his training to come to an arrest decision. Beginning with his observations of the vehicle on the roadway, followed by his observations of the driver after the stop, the information gathered from these two reference points prompted the trooper to ask the driver to exit the car so she could be tested for impairment.

Put differently, the trooper relied upon a three-phase approach to formulate an articulable basis for the DWI arrest: “Phase One: Vehicle in motion[;] Phase Two: Personal contact[; and] Phase Three: Pre-arrest screening.”⁵ Phase one is a rubric for assessing driving behavior; phase two is a rubric for assessing driver behavior; and phase three – the pre-arrest screening – is the portion of the process where the three standard field sobriety tests are deployed. Phase three, in other words, is a rubric for directly grading driver impairment using objective clues.⁶

Standard field sobriety testing originated out of a demand for better accuracy and consistency in DWI investigations. Prior to modern standardized field sobriety testing, drivers were subjected to all sorts of tests, including reciting nursery rhymes, picking up coins off the road, and tracing on paper. There were no limits to the creativity a suspect would experience.⁷

That changed when NHTSA contracted with the Southern California Research Institute in 1975.⁸ They came together to study and narrow the testing to those tests that correlated well with driver impairment. They spent tremendous amounts of

time and money on validation studies and concluded with a battery of tests that could be applied consistently across the United States.⁹ Those three tests are: 1) Horizontal Gaze Nystagmus (HGN); 2) Walk-and-Turn; and 3) One-Leg Stand.¹⁰

HGN is the first of the three standard field sobriety tests. In the example above, after asking the driver to exit the vehicle, the trooper took a penlight out of his pocket, held it in front of the driver's eyes, and asked her to follow it using her eyes only. The trooper was performing HGN on the driver. To be successful advocates in the area of DWI law, prosecutors and defense attorneys alike must familiarize themselves with HGN and the science behind it. And since neither the prosecutor nor the defense can speak intelligently (or argue effectively) to a judge/jury¹¹ during a DWI trial without a working understanding of HGN, this article will provide enough practical information on the topic of HGN for both sides to feel confident in the courtroom.¹²

Critics have called HGN “junk science” on more than one occasion. However, anyone who has studied HGN in the field – or in a controlled lab using intoxicated test subjects – will confirm HGN is real.¹³ Ophthalmologist Dr. Robert Wayne Thompson Jr. describes nystagmus as a “rapid involuntary oscillatory movement of the eye.”¹⁴ Dr. Thompson goes on to explain why alcohol affects eye behavior, stating that “alcohol interferes with the neural integrators which maintain ocular tracking during smooth pursuit.” NHTSA refers to HGN as an “[i]nvoluntary jerking ... as the eyes gaze to the side.”¹⁵ Officers look for HGN as a way of discerning whether a central nervous system depressant (i.e., alcohol) has been introduced into the body.¹⁶

The NHTSA student manual describes what HGN looks like in the field by drawing the following comparisons: “movement of the eyes of a person not impaired by alcohol (or drugs that cause HGN) will be similar to the movement of windshield wipers across a wet windshield versus an impaired person and windshield wipers moving across a dry windshield.”¹⁷ NHTSA also describes HGN as similar to watching “a marble roll[] across sandpaper.”¹⁸ In short, the officer will look for specific clues of intoxication by directly observing how the eyes react to movement of a stimulus.

An arrest is imminent if the officer observes enough clues of intoxication during the standard field sobriety testing process. The officer has been trained by NHTSA to connect clues with probability – the more clues observed, the higher the probability of intoxication.¹⁹ Therefore, for each standardized field sobriety test, the officer is literally grading the suspect. HGN carries a maximum of six clues, walk and turn a maximum of eight clues, and one leg stand a maximum of four clues. For HGN, NHTSA identifies the clues as “Three Clues of Horizontal Gaze Nystagmus”: 1) “Lack of smooth pursuit”; 2) “Distinct and sustained nystagmus at maximum deviation”; and, 3) “Onset of nystagmus prior to 45 degrees.”²⁰ Since the defendant has two eyes, the maximum number of clues available to use against the defendant is, of course, six.²¹

Of the three standard field sobriety tests, HGN is tested first because it is considered the most reliable indicator of intoxication. It is considered more reliable than the walk and turn and one leg stand, because HGN is immune to tolerance and athleticism. The walk and turn and one leg stand can easily be overcome by an accomplished alcoholic, but no matter how high the tolerance or how athletic the person, no one has the power

to control how the eyes respond when alcohol is introduced into the body. This means when suspects say they “passed the test” because they were able to follow the penlight with their eyes, they are mistaken. Because HGN is involuntary, suspects are unaware of the jerking exhibited by the eye, and therefore powerless to control it.

Because of this scientific reality, HGN is an evidentiary heavy-weight during a DWI trial. Prosecutors and arresting officers, however, need to be careful to avoid a common error: Frequently they stake too much of their credibility on the scientific merits of HGN without sufficiently acknowledging the limitations of the test or having the depth of understanding needed to fend off attacks by the defense. Anthony Palacios, a nationally recognized speaker and instructor on standard field sobriety testing, says, “It is common practice for officers to establish authority early in the trial knowing that their confidence can easily be interpreted as proficiency by a Judge or Jury.”²² It is the prosecutor’s job to ensure officers are proficient, rather than relying on confidence alone to carry the day.

Missouri courts have set the standard for officer proficiency through two foundational requirements: 1) The arresting officer must be adequately trained on how to administer and interpret HGN; and 2) The test must be properly administered.²³ At a minimum, the officer must have eight hours of police training on how to administer and interpret HGN. Eight hours is a good start, but an accomplished DWI defense attorney is going to have more than eight hours of training. Therefore, the prosecutor should avoid propping this test up through the officer only. It is optimal for the prosecutor to engage the services of an expert witness on the subject of HGN, especially if the remaining two tests – the walk and turn and one leg stand – offer little evidentiary value.

The defense should begin cross examination by bolstering the authority of the arresting officer on the subject of HGN. As counterintuitive as this may seem, tremendous leverage comes from getting the officer “to go all in” and overcommit to his/her findings from the test.²⁴ By doing this, the defense will also be able to develop meaningful contrast between direct examination and cross examination while clarifying inherent frailties. The remainder of cross-examination should track the following pattern: HGN is 1) an imperfect test; 2) applied by an imperfect administrator; and 3) applied during imperfect conditions.

HGN is an imperfect test, but so are the walk and turn and one leg stand. The difference, however, is that HGN cannot be scrutinized on video,²⁵ whereas the other two can.²⁶ This reality places immense pressure on the officer to communicate effectively about an area that is, for the most part, out of his or her comfort zone due to the scientific nuances involved.²⁷ Remember, the officer is neither an ophthalmologist nor an optometrist. Very few officers can survive intense pressure from the defense on this subject because they lack the requisite medical training.²⁸

For example, when asked on cross examination whether the subtle jerking exhibited was HGN or simply the eye rebounding from fatigue,²⁹ the absence of medical specialty will be pronounced. When asked on cross to distinguish for the judge/jury all the different types and all the different causes of HGN, the absence of medical specialty will be even more pronounced.³⁰ Invariably, the defense should close the trial by summarizing exactly what the arresting officer is asking: that is, for the judge/

jury to take a tremendous leap of faith about physiological phenomena, which is difficult – even for the medical community – to see, test, and classify.

Next, the defense should be prepared to address incorrect administration of HGN. Officers struggle to administer this test correctly for a few reasons. First, officers rarely have time to stay up-to-date with the most recent changes in the NHTSA manual. Second, the mechanics of HGN do not account for individual suspect variance. And, finally, officers simply forget the pace for each test. The pace demanded by NHTSA is specific, tedious, and surprisingly slow. It takes patience and controlled hand-eye coordination to properly position, pre-qualify, and pace the test.

The final thrust of cross examination should address testing conditions and how those conditions can create unwanted challenges for both officer and suspect. Officer anxiety, suspect anxiety, time of night, foul weather, and passing traffic are all common contaminants in the standard field sobriety testing process. By allowing environmental influences to creep into what should have been a controlled testing situation, officers provide a ripe opportunity for the defense to suggest the whole investigation was compromised from the start.³¹

In closing, HGN is a scientific reality. Thus, both sides need to be prepared. Prosecutors need to assess whether the arresting officer is both HGN-proficient and up-to-date concerning the most recent NHTSA curriculum changes. Prosecutors also need to take some of the burden off the arresting officer by retaining a qualified expert to explain HGN to the judge/jury. In response, the defense needs to remember the method taught above: HGN is 1) an imperfect test; 2) applied by an imperfect administrator; and, 3) applied during imperfect conditions. After all, DWI means to defend with ingenuity.³² 

Endnotes



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1 Gregory Watt began his career prosecuting a variety of felony and misdemeanor cases for Jackson County, Missouri. After five years with the prosecutor’s office, he opened The Watt Law Firm, LLC, concentrating in precision alcohol and drug defense. For more information, find The Watt Law Firm, LLC at: www.kcmetrodefense.com.

2 DWI and DUI are synonymous according to the National Highway Traffic Safety Administration (NHTSA). NHTSA states “[t]hese terms refer to any and all offenses involving the operation of vehicles by persons under the influence of alcohol and/or other drugs.”

3 The police academy in Missouri has been teaching the NHTSA-based course of DWI detection and standardized field sobriety testing since 1984.

4 See V. THARP, M. BURNS & H. MOSKOWITZ, U.S. DEPT. OF TRANSP., DEVELOPMENT AND FIELD TEST OF PSYCHOPHYSICAL TESTS FOR DWI ARREST, DOT-HS-8-01970 (March 1981), available at <http://www.drugdetection.net/NHTSA%20docs/Burns%20Development%20&%20Field%20Test%20of%20Psychophysical%20Tests%20for%20DWI%20Arrest.pdf>.

5 LAWRENCE TAYLOR & STEVEN OBERMAN, DRUNK DRIVING DEFENSE 792 (7th ed. 2010). See also <https://www.justia.com/criminal/drunk-driving-dui-dwi/docs/detection-note-taking-testimony.html>.

6 Officers may limit their testimony to phase three only. The prosecutor should always ask the officer about the totality of the circumstances viewed through the lens of all three phases and the defense should always base cross on the same.

7 The most common non-standardized field sobriety tests are: finger-to-nose, finger count, alphabet variations, and reverse counting. No validations studies

have been conducted concerning these tests.

8 NAT'L HIGHWAY SAFETY ADMIN., DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST) PARTICIPANT MANUAL, Session 8, at 3 (Revised 10/2015).

9 MARCELLINE BURNS & HERBERT MOSKOWITZ, U.S. DEPT. OF TRANS., PSYCHOPHYSICAL TESTS FOR DWI ARREST, (1977); available at <https://ntl.bts.gov/lib/25000/25400/25453/DOT-HS-802-424.pdf>.

10 See <http://www.maine.gov/dps/bhs/impaired-driving/field-sobriety/progoverview.html> or https://www.codot.gov/safety/alcohol-and-impaired-driving/documents/Field_Sobriety_test_standards.pdf. ("In 1986, the Advisory Committee on Highway Safety of the International Association of Chiefs of Police (IACP) passed a resolution which recommended that law enforcement agencies adopt and implement the field sobriety testing training program developed by NHTSA.")

11 See generally ANTONIN SCALIA & BRYAN A. GARNER, MAKING YOUR CASE: THE ART OF PERSUADING JUDGES (Thomson/West 2008).

12 See generally LARRY POZNER & ROGER J. DODD, CROSS-EXAMINATION: SCIENCE AND TECHNIQUES (2d ed. 2004).

13 See *City of Wichita v. Moliitor*, No. 104,940 (Kan. Jan. 30, 2015), available at <http://www.kscourts.org/Cases-and-Opinions/Opinions/SupCt/2015/20150130/104940.pdf>. (The Kansas Supreme Court compared HGN reliability to that of "a Ouija Board or a Magic 8 Ball.")

14 Interview with Dr. Robert Wayne Thompson, Jr., ophthalmologist, in Shawnee, Kansas (Dec. 18, 2016). Notes in possession of author. Dr. Thompson has been a practicing ophthalmologist for the past 18 years. He received his medical degree from Johns Hopkins School of Medicine and completed his residency at the Johns Hopkins Wilmer Eye Institute. Dr. Thompson completed fellowship training with the Corneal Consultants of Indiana and currently owns Thompson Eye Clinic.

15 NAT'L HIGHWAY SAFETY ADMIN., DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST) PARTICIPANT MANUAL, Session 8, at 21 (revised 10/2015).

16 W. Troy McKinney, *Challenging and Excluding HGN Tests*, THE CHAMPION, Apr. 2002, at 50.

17 NAT'L HIGHWAY SAFETY ADMIN., DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST) PARTICIPANT MANUAL, Session 8, at 34 (revised 10/2015).

18 *Id.* at Session 8, at 26.

19 *Schultz v. State*, 664 A.2d 60, 61 (Md. Ct. Spec. App. 1995).

20 *Id.* at Session 8, at 26.

21 *Schultz*, 664 A.2d at 61.

22 E-mail from Anthony D. Palacios, chief executive officer of Impaired Driving Specialists, LLC, to author (Dec. 21, 2016, 11:32 CST) (on file with author). Palacios is a SFST and Drug Recognition Expert instructor. He consults nationally in both civil and criminal cases. Prior to forming IDS consulting, he was a staff instructor for the Georgia police academy. For more information, go to: http://www.impaireddrivingspecialists.com/sfstdre_expert.

23 See *State v. Ostdiek*, 351 S.W.3d 758, 771 (Mo. App. W.D. 2011); *State v. Hill*, 865 S.W.2d 702, 704 (Mo. App. W.D. 1993).

24 Matt Dodd, *Crossing the Cop: Constructive and Destructive Cross-Examination in DUI Cases*, THE CHAMPION, Nov. 2016, at 50.

25 Missouri does not use EM/1, or EPS-100 technology. Developed by Eye Dynamics, Inc., these instruments are capable of recording the performance of a suspect during the HGN portion of standard field sobriety testing.

26 Steven Oberman & James A.H. Bell, *.10% Solution*, THE CHAMPION, Nov. 1999, at 61.

27 HGN is not a permissible vehicle for speculation about blood alcohol concentration. *State v. Rose*, 86 S.W.3d 90, 100 (Mo. App. W.D. 2002).

28 NAT'L HIGHWAY SAFETY ADMIN., DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST) PARTICIPANT MANUAL, Session 8, at 15 (revised 10/2015).

29 *Id.* at Session 8, at 40.

30 Maryland courts have recognized 38 causes of HGN that are not related to alcohol. See, e.g., *Schultz*, 664 A.2d at 77.

31 A common form of contamination is optokinetic nystagmus. Optokinetic nystagmus occurs when the emergency lights of a patrol car induce a false positive. Because of this potential for error, no suspect should ever be asked to directly face any form of emergency lighting while HGN is being performed. See, e.g., NAT'L HIGHWAY SAFETY ADMIN., DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST) PARTICIPANT MANUAL, Session 8, at 18 (revised 10/2015).

32 My wife Misty, and my paralegal Toni, deserve a special thanks. Because they encouraged me to invest heavily in training with the best in the nation, I have fallen in love with precision alcohol and drug defense. The DUI/DWI experts I have trained under include: Anthony Palacios and Bubba Head in Georgia; Justin McShane in Pennsylvania; Steve Oberman in Tennessee; Dr. Lee Polite and Dr. Harold McNair in Illinois; Dr. Jimmie Valentine in Arkansas; Billy Reynolds, Travis Jones, and Gary Lowe in Missouri; and Josh Lee in Oklahoma. I would also like to thank Jonathan Laurans, Kevin Regan, Sydney Paquette, Paul Cramm, Christian Cox, and Rob Sanders for their continued mentoring here in the Kansas City area.



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