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## The Champion

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### DWI

By W. Troy McKinney

#### Challenging and Excluding HGN Tests

The majority of states recognize that the Horizontal Gaze Nystagmus (HGN) test is scientific evidence.<sup>1</sup> Even states that have found as a matter of law that the scientific basis for HGN and the general method of applying it are sufficiently reliable to allow admission without proof of the scientific predicate in each case generally require some degree of proof that the test was administered correctly on the occasion in question.

To challenge the test effectively, counsel needs to know the technique well enough to demonstrate to the court that it was not correctly administered. Even if the test administration evidence goes solely to weight and not admissibility, as it does in some states, it is still necessary to know the proper method of administration in order to effectively cross-examine the officer who administered the test.

Either way, the crucial issue in most DWI trials is whether the test was administered in accordance with the National Highway Traffic Safety Administration (NHTSA) guidelines for the HGN test. One study observed that the HGN test was administered in the field incorrectly over 90 percent of the time.<sup>2</sup>

Whether challenging the admissibility or weight of the HGN test, counsel must know the NHTSA guidelines and requirements. No counsel should try a DWI case involving the HGN test without studying and having a copy of the NHTSA Instructor and Student Manuals from the Standardized Field Sobriety Testing Course.

Initially, the NHTSA protocol for administration of the HGN test— as with all three of the standardized field sobriety tests (SFST) — must be strictly followed or the results are unreliable and invalid as an indication of the presence of alcohol or any other central nervous system depressant. The NHTSA manuals advise:

The Standardized Field Sobriety Tests are not flexible. They must be administered each time, exactly as outlined in this course.

Officers administering SFSTs at roadside are expected not to deviate from the SFST administrative instructions described.

The validation applies only when the tests are administered in the prescribed, standardized manner; and only when the standardized clues are used to assess the subject's performance; and only when the standardized criteria are employed to interpret that performance.

If any one of the standardized test elements is changed, the validity is compromised.<sup>3</sup>

Thus, strict compliance with the NHTSA protocol and requirements is required by NHTSA. Without strict compliance, the validity is compromised. Indeed, without such strict compliance, the NHTSA study data cannot be used to evidence validity.<sup>4</sup> Importantly, without evidence of validity, the test administration and results are functionally meaningless.

The NHTSA requirements for administering the HGN test include:

**Pretest.** The subject should be asked to remove their glasses. The presence of contacts should be noted but contacts need not be removed.<sup>5</sup>

**Instructions.** The officer should verbally instruct the person to place his feet together and hands by his side. The officer should verbally

instruct the person that he will be asked to follow a stimulus with his eyes and that while he is doing so, he should follow it only with his eyes and should not move his head. The officer should ask the person if he understands the instructions and should not continue with the administration of the test unless and until the subject has affirmatively acknowledged that he does understand.

**Positioning the Stimulus.** The officer should position the stimulus between 12 and 15 inches away from the subject's nose, slightly above eye level. The stimulus is positioned slightly above eye level in order to cause the subject's eyes to open more widely and thus make viewing the eyes easier.<sup>6</sup>

**Passes — General.** The movement of the stimulus consists of a total of at least 14 passes of the stimulus. These 14 passes are divided into four stages or segments<sup>7</sup> and each eye must have two passes for each segment except for the initial equal tracking passes, which require only one for each eye. One pass of the stimulus for the left eye, as viewed from the perspective of the person administering it, is the movement of the stimulus from the center position to the right-hand limit of the pass and back to center. One pass of the stimulus for the right eye is the movement of the stimulus from the center position to the left-hand limit of the pass and back to center.

**Passes — Equal Tracking.** The first set of passes is designed to confirm equal tracking and equal pupil size. The officer is required to rapidly move the object from the center to the subject's far left, to the person's far right, then back to the center position. This portion of the test should take at least two seconds. While looking for equal tracking, the officer is also required to look for and confirm that the pupils are of equal size. This set of passes is designed to alert the officer to the blatant presence of neurological symptoms that may require immediate medical attention. A person whose eyes do not track equally or who exhibits unequal pupil size should be immediately referred for medical evaluation and treatment and the HGN test should be terminated.<sup>8</sup>

**Passes — Smooth Pursuit.** The second set of four passes is designed to determine whether the person has or lacks smooth visual pursuit of the stimulus. In this phase, the stimulus is moved from the center position to the person's far left and back to the center position twice for each eye. The stimulus should be moved at a speed that takes at least two seconds from the center position to the side position.<sup>9</sup> At a rate of at least four seconds per eye per pass (two second out to the side and two seconds back to center), this phase of the HGN test should take at least 16 seconds. In this phase, the officer is looking for a lack of smooth pursuit. If a lack of smooth pursuit is detected, a "clue" is scored for the eye in which the officer observed a lack of smooth pursuit.

**Passes — Maximum Deviation.** The third set of four passes is designed to determine whether the person has distinct nystagmus at maximum deviation. Maximum deviation is the point at which the eye has moved fully to one side and cannot move any further. In this phase, the stimulus is moved from the center position to the person's far left at a rate taking at least two seconds, held for at least four seconds, and then moved back to the center position at the same two-second rate.<sup>10</sup> In this phase, each pass for each eye must take at least eight seconds and the four passes together must take at least 32 seconds. When the stimulus is at maximum deviation, the officer must observe "distinct" nystagmus in order to score a clue for that eye. It is insufficient to simply observe nystagmus at maximum deviation since most people will exhibit some visible nystagmus when the eye is held at maximum deviation. The nystagmus that must be observed in this phase must be greater than the natural nystagmus that will occur from holding the eye at maximum deviation.<sup>11</sup>

**Passes — Onset Angle of Nystagmus.** The fourth and final set of four passes is designed to determine whether the onset of nystagmus occurs prior to the eye's movement to a 45-degree deviation. In this phase, the stimulus is moved very slowly — at a rate that would take at least four seconds to move the stimulus to the person's shoulder or at a rate of no more than 10 degrees per second. Once the officer thinks that he sees nystagmus he is required to stop moving the stimulus and hold it steady to confirm the presence of nystagmus. The stimulus must be held sufficiently long to confirm the onset of nystagmus, sufficiently long for the officer to examine the alignment between the stimulus and the edge of the shoulder (approximately 45 degrees) so that he can estimate the angle of onset, and sufficiently long for the officer to confirm the presence of some white remaining in the corner of the eye. Assuming an onset angle of 30 degrees and the stimulus being held for two seconds to confirm the continuation of nystagmus, each of the four passes in this phase must take at least eight seconds (three seconds out, two second hold, three seconds back) and the four passes together must take at least 32 seconds.<sup>12</sup>

**Vertical Nystagmus.** Although there is also a protocol for two passes for vertical gaze nystagmus (VGN) upon completion of the HGN test, VGN was not examined in the NHTSA validation research of the SFSTs and it was not included in the SFST battery during the original research.

#### **14 x 82 Litmus Test**

When the four phases and 14 passes of the HGN are combined, administration of the HGN test from the time the stimulus first begins moving must take NOT LESS THAN 82 seconds. Any HGN test that does not contain at least 14 passes and take at least 82 seconds from the time the stimulus first begins moving is improperly administered because it was not administered in accordance with NHTSA protocol and requirements. As a practical matter, most HGN administrations should take at least 90 seconds. Since very few people are 100

percent proficient all of the time, since some pauses during the administration are natural, and since some passes, such as the onset passes may actually take longer than the theoretical minimum, such as when the onset is at 40 degrees instead of 30 degrees, any HGN test that takes less than 90 seconds is suspect and should be more closely examined for compliance with each individual phase of the test.

### **Other Common Mistakes**

Other common mistakes in the administration of the HGN test include moving the stimulus too quickly—or less commonly, too slowly—on individual passes, holding the stimulus closer than 12 inches or further away than 15 inches, not holding the stimulus for at least four seconds at maximum deviation, and curving the stimulus upward, downward, or around (also called looping) as it is being moved. If any of these mistakes are present in the administration of the HGN test, the test and its results are not reliable because the officer did not administer the test in accordance with NHTSA protocol and requirements.<sup>13</sup>

According to the NHTSA material, the presence of four clues indicates a likely blood alcohol level of at least .10. In most states, however, it is improper for any witness or officer to testify to any correlation or relationship between any number of clues and any quantifiable blood or breath alcohol level. Rather, what is admissible from the presence of at least four clues is testimony that the administration of the HGN test indicated "intoxication." In reality, all that the presence of gaze nystagmus indicates is the presence of a central nervous system (CNS) depressant in the person's system. While alcohol is a CNS depressant, the HGN test is not specific for alcohol. Indeed, alcohol does not even cause nystagmus. Rather, its presence in a person's system simply exaggerates the presence of the nystagmus present in all people.

More detailed information about the NHTSA requirements and protocol for the HGN test as well as the other SFSTs should be obtained from the NHTSA manuals and the studies that have been conducted regarding them. Every practitioner handling DWI cases should have and learn the material in those manuals.

### **Manuals**

There are 3 different types or classes of manuals: (1) Student Manuals for the Student Course; (2) Instructor Manuals for the Student Course; and (3) Instructor and Student Manuals for the Instructor Training Course. Everyone should have, at least, the 1995 and 2000 Student and Instructor Manuals for the basic SFST course. The NHTSA SFST manuals can be obtained from:

US Dept. of Commerce  
Technology Administration  
National Technical Information Service  
Springfield, VA 22161  
800-553-6847 for orders  
888-584-8332 customer service  
<http://www.ntis.gov>

The NTIS Web site also has the videotapes that are used in the courses.

### **Notes**

See, e.g., *Schultz v. State*, 664 A.2d 60 (Md. 1995); *Emerson v. State*, 880 S.W.2d 759 (Tex. Crim. App. 1994); *State v. Witte*, 836 P.2d 1110, 1114 (Kan. 1992).

Booker, End-position Nystagmus as an Indicator of Ethanol Intoxication, 41 *SCIENCE & JUSTICE* 113 (2001).

The admonitions from the NHTSA manuals appear in every manual since at least 1992. Generally, admonitions concerning the need to administer the HGN test (and other SFSTs) in accordance with the proscribed protocol are found in Chapters VII and VIII.

This article should not be misunderstood as suggesting that the HGN test or other SFSTs are reliable indicators of intoxication or impairment. Given that at least one peer-reviewed study has found that close to one-half of people who had not been drinking and who were administered the SFSTs would have been arrested, there are substantial questions about the validity of the tests for their intended purpose. See Cole, S. & Nowaczyk, R., Field Sobriety Tests: Are They Designed For Failure? *PERCEPT. & MOTOR SKILLS* 99-104 (1994). However, the scope of this column is the method of their administration and not their inherent accuracy and reliability.

Some versions of the NHTSA manuals have also required or suggested that the examiner should inquire into whether the person has

previously suffered head or neurological injury that might affect the HGN test. However, the current version of the NHTSA SFST manual contains no such requirement.

By raising the stimulus above normal horizontal eye-level, it is questionable whether the NHTSA designed HGN test is actually testing the muscles in the eye controlling only horizontal movement. Logically, it seems that by raising the stimulus, eye muscles involved in vertical and diagonal movement of the eye become involved.

Only the final three sets of passes are graded as part of the testing process.

While the NHTSA protocol for the HGN test only provides for one pass across each eye, many officers will make at least two passes for equal tracking. There is nothing wrong with making additional passes for equal tracking. It does, however, increase the number of passes that must be present for a complete HGN test. Thus, if the officer testifies that he made two passes across each eye for equal tracing then the required number of passes for a complete HGN test will increase to 16.

The stimulus should be moved at a constant rate so as not to induce a lack of smooth pursuit. Speeding up and slowing down through the passes can create the appearance of lack of smooth pursuit because the examiner is varying the speed of the stimulus.

As with the other passes, the stimulus should be moved at a constant, slow pace. Varying the speed can induce an appearance of what the examiner is looking for during the test.

Of course, if the officer is not able to explain what normal nystagmus looks like, it is doubtful that he will be able to tell that the alleged nystagmus at maximum deviation is truly distinct.

As a practical matter, it takes at least two seconds, and frequently longer, to make the confirming observations once the stimulus is stopped. Any examiner holding the stimulus steady for less than two seconds will not have made all of the necessary observations.

Interestingly, in order to have a correctly administered HGN test, the person must have held his head still during the administration.

Viewed objectively, this means that when the person was told to hold his head still (and not sway), he was able to do so. Of course, this can be compared to the Romberg or one-leg-stand where clues are given for swaying even though the person is not told not to sway. It can be argued that, like the HGN test, if the person had been told not to sway, he would not have done so.

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