



**In the
Missouri Court of Appeals
Western District**

STATE OF MISSOURI,)
)
 Respondent,) **WD76144**
)
 v.) **OPINION FILED: January 6, 2015**
)
 GARY PRESTON BROWNING JR.,)
)
 Appellant.)

Appeal from the Circuit Court of Clay County, Missouri
The Honorable Anthony R. Gabbert, Judge

Before Division Three: Karen King Mitchell, Presiding Judge, Cynthia L. Martin, Judge
and Gary D. Witt, Judge

Gary Browning ("Browning") appeals his conviction of driving while intoxicated as an aggravated offender following a jury trial. He complains that there was insufficient foundation to permit the admission of Sergeant Joe Kantola's ("Sgt. Kantola") testimony about the results of administration of the horizontal gaze nystagmus ("HGN") test. Browning also questions the adequacy of the approved verdict director for driving while intoxicated, MAI-CR 3d 331.02, though he concedes that the trial court committed no error in tendering the instruction. Because any error in the admission of the results of the HGN test is not prejudicial in light of other evidence supporting the verdict as to which

Browning has no complaint, and because Browning asserts no error in the trial court's use of MAI-CR 3d 331.02, we affirm.

Factual and Procedural Background

Browning does not challenge the sufficiency of the evidence to sustain his conviction. Viewed in the light most favorable to the conviction,¹ the following evidence was presented to the jury:

On Sunday, April 22, 2007 at around 10:15 p.m., Sgt. Kantola of the Kearney Police Department was stopped in an unmarked patrol vehicle at a red light at the intersection of 92 Highway and Interstate 35. Sgt. Kantola was in the right lane, and a minivan was stopped next to him in the left lane. Sgt. Kantola observed a black Jeep approaching the minivan quickly from behind, without appearing to slow down. The Jeep then came to a sudden stop. When the light turned green, all three vehicles proceeded through the intersection. The Jeep passed Sgt. Kantola, following the minivan too closely. The Jeep suddenly entered Sgt. Kantola's lane without using its turn signal. The Jeep accelerated past the minivan, then suddenly went back into the left lane without using its turn signal. At the time, the Jeep was traveling over the posted 35 mile-per-hour speed limit. The Jeep then turned east onto 33 Highway without using its turn signal.

Because Sgt. Kantola had witnessed multiple traffic offenses, he followed the Jeep, and activated his emergency lights. The Jeep slowed down, but did not stop immediately.

¹"We view the facts in the light most favorable to the jury's verdict." *State v. Jackson*, 410 S.W.3d 204, 209 n.3 (Mo. App. W.D. 2013).

Sgt. Kantola approached the Jeep. Browning was driving, and was the sole occupant. Before Browning spoke, Sgt. Kantola could smell an "overpowering" odor of alcohol from Browning's breath. When Browning did speak, his speech was slurred. Browning's eyes were glassy and bloodshot. His pupils were dilated. Sgt. Kantola asked Browning if he had been drinking. Browning responded that he "drank some earlier." Browning was asked to get out of the car. As Browning did so, he stumbled and used the door to support himself.

Sgt. Kantola administered several field sobriety tests. He administered the HGN test, the walk-and-turn test, and the one-legged stand test. According to Kantola, Browning showed all six signs of intoxication during the HGN test, and also swayed while balancing during the test. Browning showed four of the eight signs of intoxication during the walk-and-turn test, with two being required to demonstrate intoxication. Browning showed all four signs of intoxication during the one-legged-stand test. Browning also submitted to a portable breath test, which was positive for the presence of alcohol. At that point, Browning was placed under arrest. He began pleading with Sgt. Kantola, "Please don't do this to me."

After being transported to the police station and advised of the implied consent law, Browning agreed to submit to a breath test. Browning's blood alcohol content was .103.

Browning was convicted of driving while intoxicated following a jury trial. The court imposed a four-year sentence, but suspended the sentence and placed Browning on probation. Browning filed this timely appeal.

Analysis

Browning's first point on appeal argues that the trial court abused its discretion in admitting Sgt. Kantola's testimony regarding the results of the HGN test over Browning's objection. Browning claims that an adequate foundation was not established to permit admission of the testimony. Browning raised this same issue in a pre-trial motion to suppress which was denied by the trial court following an evidentiary hearing.

We review a trial court's decision regarding the admission of evidence for an abuse of discretion. *State v. Prince*, 311 S.W.3d 327, 335 (Mo. App. W.D. 2010). We will not find an abuse of discretion unless a trial court's ruling is clearly against the logic of the circumstances and is so arbitrary and unreasonable as to indicate a lack of careful consideration. *State v. Brown*, 939 S.W.2d 882, 883 (Mo. banc 1997). We will not reverse a conviction based on the erroneous admission of evidence unless prejudice is demonstrated, established by proof that the admission of the evidence was "outcome-determinative." *State v. Adams*, 350 S.W.3d 864, 866 (Mo. App. E.D. 2011) (citing *State v. Johnson*, 207 S.W.3d 24, 42 (Mo. banc 2006)). "A finding of outcome-determinative prejudice expresses a judicial conclusion that the erroneously admitted evidence so influenced the jury that, when considered with and balanced against all of the evidence properly admitted, there is a reasonable probability that the jury would have acquitted but for the erroneously admitted evidence." *Adams*, 350 S.W.3d at 866 (quoting *Johnson*, 207 S.W.3d at 42).

Here, Browning only challenges about the trial court's admission of Sgt. Kantola's testimony regarding the results of the HGN field sobriety test. Browning does not

challenge the admission of Sgt. Kantola's testimony regarding Browning's erratic driving and about the physical signs of intoxication he observed immediately upon approaching Browning including the smell of alcohol, bloodshot and glassy eyes, dilated pupils, slurred speech, and problems with balance. Browning does not challenge the admission of Sgt. Kantola's testimony that Browning acknowledged he had been drinking. Browning does not challenge the admission of Sgt. Kantola's testimony regarding the results of the walk-and-turn and the one-legged stand tests, the results of the portable breath test, or the results of the breath test which demonstrated that Browning had a blood alcohol content of .103, well in excess of the presumptive level of intoxication set forth in section 577.037.1.² Browning does not challenge the admission of Sgt. Kantola's testimony about Browning's plea that he not be arrested.

Given all of this unchallenged evidence, the sufficiency of which to support his conviction Browning admits, there is no reasonable probability that the jury would have acquitted Browning but for the trial court's admission of Sgt. Kantola's testimony about the results of the HGN test. Thus, even assuming the trial court committed error in the admission of this evidence, that error is not prejudicial as it is not outcome-determinative, and the error will not support the reversal of Browning's conviction.³

²All statutory references as to RSMo 2000 as supplemented.

³Though we need not decide whether the trial court erroneously admitted Sgt. Kantola's testimony about the results of the HGN test, Browning's challenge to the testimony raises a legitimate concern. The HGN test, unlike other standard field sobriety tests, is an exclusively scientific test. "Nystagmus is the involuntary jerking of the eyes." *State v. Hill*, 865 S.W.2d 702, 704 (Mo. App. W.D. 1993) (overruled on other grounds by *State v. Carson*, 941 S.W.2d 518, 520 (Mo. banc 1997)). Nystagmus, though involuntary, has many potential causes. The ability to reliably differentiate between these causes to permit the conclusion that nystagmus suggests intoxication requires scientific testing. It is for this reason that proponents of the HGN test were required to establish the test's scientific reliability under the *Frye* test. *Hill*, 865 S.W.2d at 704 (citing *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923)).

Because of its inherently scientific nature, Missouri courts have conditioned the admissibility of testimony about the HGN test on establishing two foundational requirements: (1) that the officer administering the test is *adequately trained* on how to administer and interpret the test, and (2) that the test is *properly administered*. *Hill*, 865 S.W.2d at 704 (emphasis added); *State v. Ostdiek*, 351 S.W.3d 756, 771 (Mo. App. W.D. 2011). "[A]dequate training consists of a minimum of eight hours of police training on how to administer and interpret the HGN test." *Hill*, 865 S.W.2d at 704; *State v. Rose*, 86 S.W.3d 90, 98 (Mo. App. W.D. 2002).

"Proper administration of the HGN test requires (1) that the test be conducted by requiring a suspect to follow an object such as a finger, pencil or pen with his eyes as the object is moved laterally along a horizontal plane to the periphery of the suspect's vision, and (2) that the indicators be interpreted and scored, one eye at a time, as follows: (a) the person administering the test is to observe how smoothly a suspect follows the object as it is moved to the periphery of the suspect's vision. Jerking of the eyes rather than the ability to follow the object smoothly indicates the influence of alcohol; (b) the person administering the test is to observe whether or not a distinctive jerking occurs in the eyes at the maximum point of deviation when the eye moves to the far periphery of vision. Distinctive jerking is indicative of the influence of alcohol; and (c) the person administering the test is to observe the angle at which nystagmus occurs. Nystagmus occurring at or before the eye is looking at a 45-degree angle is indicative of the influence of alcohol. One point is scored for eye movement indicative of alcohol influence for each of the three tests for each eye. The highest possible score is six points, with a score of four or more points constituting substantial evidence that a suspect is intoxicated." *Hill*, 865 S.W.2d at 704; *see also Rose*, 86 S.W.3d at 98-99.

When *Hill* was decided in 1993, the court gauged the "scientific reliability" of the HGN test based on the testimony of an expert who explained studies conducted "on behalf of the National Highway and Traffic Safety Administration (NHTSA) to determine the most accurate field sobriety tests available to police officers and to *standardize the procedures* for those tests." 865 S.W.2d at 704 (emphasis added). One of the tests identified was the HGN test. *Id.* *Hill's* articulation of the means by which foundation for admission of the HGN test results could be established was drawn directly from the testimony of the expert who explained these studies. *Id.*

The standardized procedures for administering the HGN test are thus specified in NHTSA's *DWI Detection & Standardized Field Sobriety Testing Manual* ("NHTSA Manual"). The NHTSA Manual was first published in 1992, and has been revised several times over the years. However, with respect to the HGN test, the NHTSA Manual has always required: (i) that each eye be separately tested; and (ii) that each eye be tested twice. The three measurement points for the HGN test identified in *Hill* can each yield a "point," with a total of three points possible for each eye. However, at least four points are required to suggest intoxication, necessarily requiring both eyes to be implicated by the testing. *Rose*, 86 S.W.3d at 98 ("Where . . . a driver scores four or more points on the HGN, there is substantial evidence that the driver is intoxicated."). Plainly, the scientific steps for administering the HGN test address *how* to properly gauge and calculate points--the accumulation of which is integral to the test's ability to reliably gauge intoxication.

Sgt. Kantola testified about the manner in which he administered the HGN test. His testimony indicated that at least with respect to the smooth pursuit measurement aspect of the HGN test, he *did not* test each eye separately as directed by the NHTSA Manual. His testimony also conceded that he did not perform any of the measurement components of the test twice. Sgt. Kantola testified that he held his finger about 10 inches in front of Browning's face when the NHTSA Manual requires a distance of 12 to 15 inches. Sgt. Kantola claimed that he administered the test the way he had been trained in 1993, and hinted that the NHTSA Manual had been changed since that time. However, it appears plain from Sgt. Kantola's testimony that his administration of the HGN test did not comply in at least some respects with standards that have been a part of every version of the NHTSA Manual.

"Where the administering officer 'failed to substantially comply with proper testing procedures,' most jurisdictions would 'treat this issue as affecting the weight of HGN evidence rather than its admissibility.'" *Rose*, 86 S.W.3d at 99, n.6 (citing *Ballard v. State*, 955 P.2d 931, 941 (Alaska App. 1998)). "In Missouri, however, proper administration of the HGN test is a foundational requirement under *Hill*." *Id.* (citing *Duffy v. Director of Revenue*, 966 S.W.2d 372, 379 (Mo. App. W.D. 1998)).

In *Duffy*, the officer's testimony indicated that he did not know how to score the HGN test. 966 S.W.3d at 378. The Department of Revenue argued that the officer conducted the "mechanics" of the test correctly such that his lack of exact knowledge as to how to score the test was somehow irrelevant. *Id.* We rejected that argument, noting that "probable cause refers to the quality and quantity of proof tending to establish a certain thing." *Id.* (citation omitted). "Obviously, a scientific test as to intoxication, which is improperly administered . . . , does not tend to prove intoxication under a probable cause or reasonable doubt standard." *Id.* Accordingly, the trial court in *Duffy* erred in admitting the testimony for lack of foundation.

Browning's first point on appeal is denied.

Browning's second point on appeal does not claim trial court error, but instead questions whether the time is ripe for the Supreme Court to re-evaluate the adequacy of MAI-CR 3d 331.02, the approved verdict director for driving while intoxicated. At trial, Browning tendered a modified verdict director that added an essential element,⁴ and a definition of "intoxicated condition,"⁵ neither of which appear in MAI-CR 3d 331.02. The tendered verdict director was refused. Browning's point relied on acknowledges that the trial court did not commit error in refusing the tendered instruction.⁶

Browning queries, however, whether it would be "prudent" to define the term "intoxicated condition" in the approved verdict director,⁷ citing *dicta* to that effect in *State v. Brightman*, 388 S.W.3d 192 (Mo. App. W.D. 2012). He asks in his Brief: "Has the time now come to reconsider this issue?" [Appellant's Brief, p. 25] Browning

Given the holdings in *Rose* and *Duffy*, Sgt. Kantola's concessions about his administration of the HGN test raise legitimate concerns about whether he "properly administered" the HGN test, and thus about whether the trial court erred in admitting the test results. The State countered Browning's claim of error by relying heavily on the holding in *State v. Burks*, 373 S.W.3d 1, 6-7 (Mo. App. S.D. 2012), where the Southern District held that "challenges raised . . . to the procedures followed by [an officer administering the HGN test] go to its weight, rather than to admissibility of the test results." We question that holding. If applied in every case where an officer has failed to "properly administer" the HGN test, the holding in *Burks* will effectively swallow and negate the State's burden to establish the foundational requirement that the HGN test was properly administered. It is true, as *Burks* notes, that *Hill* did not expressly state that "the admission of HGN tests requires testimony from the officer that all of the NHTSA guidelines were followed during the administration of [the] test." 373 S.W.3d at 6. However, there is no question that the NHTSA standards, and expert testimony about those standards, formed the basis for *Hill's* conclusion that the HGN test was "scientifically reliable," and for *Hill's* imposition of the burden on the State to establish that the test has been "properly administered" as a condition to its admissibility. There is no source to consult for determining whether the HGN test has been "properly administered" other than the NHTSA Manual. We believe, therefore, that consistent with the holdings in *Duffy* and *Rose*, material deviations from the testing procedures set forth in the NHTSA Manual will require a trial court to deny admission of HGN test results.

⁴Browning's tendered verdict director added as an essential element the jury was required to find that "his ability to drive was impaired." This is not an element of the offense of driving while intoxicated as described in section 577.010.1.

⁵Browning sought to define "intoxicated condition" as "under the influence of alcohol."

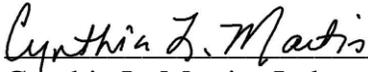
⁶In *State v. Schroeder*, 330 S.W.3d 468, 475 (Mo. banc 2011), the Missouri Supreme Court considered and rejected the argument that the term "intoxicated condition" in MAI-CR 3d 331.02 should be defined.

⁷Browning's point on appeal does not address the fact that his tendered verdict director also sought to add an essential element to the approved verdict director.

acknowledges that binding precedent on this issue relegates his query to the exclusive province of the Supreme Court. [Appellant's Brief, p. 3] *See State v. Schroeder*, 330 S.W.3d 468, 475 (Mo. banc 2011) (holding that "ordinary persons understand what is meant by the term[] 'intoxicated condition,'" negating any need for a definition in MAI-CR 3d 331.02).

Because Browning claims no error in the trial court's use of the approved verdict director for driving while intoxicated, there is nothing for this court to review. Rule 84.04(d)(1).

Browning's second point on appeal is denied.


Cynthia L. Martin, Judge

Mitchell, Presiding Judge, joins in the majority opinion.

Witt, Judge, joins in the majority's result and concurs in separate opinion.



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CONCURRING OPINION

I concur with the Majority opinion in its holding that there was no prejudice in this case so as to warrant reversal. I further fully concur in the Majority opinion's assertion that the admission of the HGN test results in this case was error. I write separately, however, because the error in admitting the HGN test results in Browning's case sharply illustrates rampant misunderstanding and weaknesses in the administration of the HGN test, calling into serious question the reliability of the results when not properly administered.

Additional Factual History

Browning raised the issue of the improper admission of the field sobriety tests, including the HGN, in a motion to suppress. At the suppression hearing, Sgt. Kantola, the arresting officer, indicated that he had been an officer for eighteen years and had

worked for the Kearney Police Department for ten years. In 1993, he completed the course through the National Highway Traffic Safety Administration ("NHTSA"). Sgt. Kantola also completed the following training: advanced DWI detection in 1996; drug recognition expert "preschool" and drug recognition expert school, both in 2004; drug recognition expert recertification in 2005; drug expert recertification in March 2007. Then, after Browning's April 2007 arrest and shortly before the hearing on the motion to suppress, in 2008, Sgt. Kantola completed another recertification. In spite of attending all of this training, it became clear throughout his testimony that Sgt. Kantola had very little grasp of the proper way to administer and score the field sobriety tests.

Sgt. Kantola testified that he understood that if any element of the standardized field sobriety test is changed, the validity of results is compromised. As mentioned in the Majority Opinion and as explained more below, one of the standardized field sobriety tests is the HGN. Sgt. Kantola understood that if a test is not administered in compliance with NHTSA guidelines, the results may be inaccurate. However, he acknowledged at the suppression hearing that he had never bothered to even read the NHTSA manual, which was admitted into evidence and which was the source of his training.

"DWI Detection & Standardized Field Sobriety Testing" Manual

As the Majority Opinion points out, in order for the HGN test to be admissible in court, (1) the officer must be properly trained and (2) the test must be properly administered. *State v. Hill*, 865 S.W.2d 702, 704 (Mo. App. W.D. 1993) (overruled on other grounds by *State v. Carson*, 941 S.W.2d 518 (Mo. banc 1997)). The full title of the NHTSA manual that Sgt. Kantola admitted never reading is the "DWI (Driving While

Intoxicated) Detection & Standardized Field Sobriety Testing" Manual ("NHTSA manual" or the "manual"). It is a product of the International Association of Chiefs of Police ("IACP") and the NHTSA and is published by the U.S. Department of Transportation. Since the mid-1970s, the NHTSA, with the help of the law enforcement community (including the IACP), has conducted extensive research, resulting in the development of a battery of three standardized field sobriety tests to assist officers in detecting impaired drivers. DWI (DRIVING WHILE INTOXICATED) DETECTION & STANDARDIZED FIELD SOBRIETY TESTING app. § B (2006 ed.). Those tests are the HGN, the walk-and-turn, and the one-leg stand. Together, the three tests are known as the Standardized Field Sobriety Tests ("SFSTs"). In 1992, the NHTSA and IACP, in conjunction with police officers, instructors, curriculum specialists, and training administrators from several states reached a consensus on *minimum* standards for the conduct of the three SFSTs. *Id.* Training on how to properly conduct the tests is included in the NHTSA course, DWI Detection and Standardized Field Sobriety Testing. *Id.*

The manual emphasizes the necessity of teaching officers everything in the manual:

All of the training objectives are considered appropriate and essential for police officers who wish to become proficient at detecting evidence of DWI and at describing that evidence in written reports and verbal testimony. All of the subject matter is considered necessary to achieve those objectives. All of the learning activities are necessary to ensure that the participants master the subject matter.

Id. at 7 (Introductory material).

The manual also notes that the "course is 'flexible' in that it can easily be **expanded** since it does not cover all dimensions of DWI enforcement." *Id.* The manual also states that "It is critical to note that the purpose of this training is to ensure that participants become proficient in administering and interpreting standardized field sobriety tests." *Id.*

The core curriculum consists of sixteen sessions that span twenty-two hours and forty-five minutes over three to five days. *Id.* at 5-6. At the end of the training, a written examination over the SFSTs is administered, and participants must receive a grade of eighty percent or higher on the written examination to "successfully complete the training." *Id.* at 15. In addition, participants also must demonstrate proficiency in administering and interpreting the SFSTs, which includes administering the complete test battery at least once, in an instructor's presence, without deleting or erroneously performing any of the critical administrative elements of the tests before the participants are deemed to have successfully completed the training.¹ *Id.* The three SFSTs are the *only* scientifically validated and reliable field sobriety tests. *Id.* at app. § A-5; § VIII-4.

HGN Testing

Sgt. Kantola's misunderstanding of the HGN test, the only exclusively scientific test of the three in the battery, illustrates why it is perhaps the least understood of the field sobriety tests. By way of overview, "[n]ystagmus is the involuntary jerking of the eyes." *Hill*, 865 S.W.2d at 704. Under the HGN test, a person's eye movements are

¹ Merely showing that the person giving the test has attended a certain number of hours of training is insufficient to establish that the person is "properly trained." There must be evidence that the person attended the training and passed the written and practical application examinations at the end of the training.

tested as a means of determining whether he or she is under the influence of alcohol. *Id.* When administered properly by someone with sufficient training, the HGN test has been deemed scientifically reliable under the *Frye*² test. *Hill*, 865 S.W.2d at 704.

While *Hill* set forth the basic elements of the test, I write separately to set forth the scientific requirements for the proper administration of the HGN test and the pitfalls of its improper administration. *Hill*, 865 S.W.2d at 704.

According to the NHTSA manual, the involuntary jerking of nystagmus occurs as the eyes gaze to the side. DWI (DRIVING WHILE INTOXICATED) DETECTION & STANDARDIZED FIELD SOBRIETY TESTING § VIII-5. In addition to being involuntary, the person is generally unaware that it is happening and is powerless to stop it or control it. *Id.* Alcohol and certain other drugs cause HGN. *Id.*

Independent of alcohol and other drugs, the manual addresses other circumstances under which the eyes will jerk involuntarily and can impact the reliability of this field sobriety test. There are three general categories of nystagmus: vestibular, neural, and pathological. *Id.* at § VIII-6 - VIII-11. Vestibular nystagmus is caused by movement or action in the vestibular system, which is a sense located in the inner ear that provides information to the brain and consequently to the eyes about position and movement of the head to maintain orientation and balance of the body.³ *Id.* Neural activity can result in

² *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923).

³ There are four types of vestibular nystagmus described in the manual: (1) Rotational, which occurs when a person is spun around or rotated rapidly, causing the fluid in the inner ear to be disturbed. (2) Post rotational, which occurs when the person stops spinning such that the fluid in the inner ear remains disturbed for a short period of time and the eyes continue to jerk. (3) Caloric, which occurs when fluid motion in the canals of the vestibular system is stimulated by temperature as by putting warm water in one ear and cold in the other. (4) Positional alcohol (PAN), which occurs when there is a foreign fluid, such as alcohol, that alters the specific gravity of the blood in unequal concentrations in the blood and vestibular system. This type causes the vestibular system to

nystagmus; HGN is included in this category.⁴ *Id.* Nystagmus also can be caused by certain pathological disorders, which include brain tumors and other brain damage or some diseases of the inner ear.⁵ *Id.*

The manual instructs an officer on what to observe in assessing possible medical impairment, including pupil size, resting nystagmus, and tracking ability. *Id.* at § VIII-11. Pupil size will be affected by some medical conditions or injuries. *Id.* If the two pupils are "distinctly different" in size, the subject may have a prosthetic eye or suffer from a head injury or neurological disorder. *Id.* A subject may have resting nystagmus, which is jerking as the eyes look straight ahead. *Id.* It is an infrequent condition and usually indicates "a pathology" or high doses of a drug such as a Dissociative Anesthetic like PCP. *Id.* The person administering the test is to check for "tracking ability," which will be affected by certain medical conditions or injuries involving the brain. *Id.* at §

respond to gravity in certain positions, resulting in nystagmus. There are two subsets of PAN. PAN 1 occurs when the alcohol concentration in the blood is greater than the inner ear fluid and occurs when the blood-alcohol content is increasing, and PAN-2 occurs when the alcohol concentration in the inner ear fluid is greater than in the blood. An example of PAN-2 is the spinning of the room when a person lies down after consuming alcohol, which occurs while the blood-alcohol level is decreasing. *Id.* at § VIII-6.

⁴ There are multiple types of neural activity that the manual states can cause nystagmus. (1) Optokinetic nystagmus, which occurs when the eyes fixate on an object that suddenly moves out of sight or when the eyes watch sharply contrasting moving images. Examples of optokinetic nystagmus include watching strobe lights, rotating lights, or rapidly moving traffic in close proximity, but the HGN test will not be influenced by the optokinetic nystagmus if administered properly. (2) Physiological nystagmus is a natural nystagmus that keeps the sensory cells of the eye from tiring. This is the most common type of nystagmus. It happens to all of us, all of the time, and it produces extremely minor tremors and jerks that are generally too small to be seen with the naked eye. (3) Gaze is listed in the manual as a third type of nystagmus under neural activity. The manual says there are multiple types of gaze nystagmus: a) horizontal gaze (HGN), which is the main type tested for in field sobriety testing, and b) vertical gaze. Horizontal gaze is the meat of the training course, and the manual states that it "is the observation of the eyes for Horizontal Gaze Nystagmus that provides the first and most valid test in the standardized field sobriety testing battery." The presence of HGN can indicate use of certain other drugs, including depressants, inhalants, "October 14," Dissociative Anesthetics such as PCP and its analogs. Vertical gaze (VGN) is an involuntary jerking of the eyes (up and down) occurring as the eyes are held at maximum elevation. VGN can be associated with high doses of alcohol and certain other drugs. The drugs that cause VGN are the same ones that cause HGN. There is no drug that will cause VGN that does not cause HGN. If VGN is present and HGN is not present, it could be a medical condition. For VGN to be recorded, it "must be definite, distinct and sustained for a minimum of four seconds at maximum elevation." *Id.* at § VIII-8 - VIII-11.

⁵ The nystagmus caused by pathological disorders is extremely rare in the driving population, and persons suffering from these disorders are rarely able to drive. *Id.* at § VIII-11.

VIII-12. If the two eyes do not track together, the possibility of a serious medical condition or injury is present. *Id.* Passing a stimulus⁶ across both eyes is how to check for this. *Id.* If the eyes do not track (i.e., if one eye tracks the stimulus but the other fails to move or lags behind the stimulus), there is a possibility of a neurological disorder. *Id.* If a person has sight in both eyes, but the eyes do not track together, there is also a possibility that the person is suffering from an injury or illness affecting the brain. *Id.*

After the section on "medical impairment," the manual lists ten steps in administering the HGN test, followed by "three clues" with lengthy descriptions, and then instructions on administering the Vertical Gaze Nystagmus ("VGN"), which is the tenth step of the HGN test. Here is a summary of the ten steps for properly administering the HGN test:

Step I: Check for Eyeglasses. Eyeglasses may impede the suspect's peripheral vision and may impede the officer's ability to observe the eye carefully. It does not matter whether the suspect can see the stimulus with "perfect clarity" as long as the suspect can see the stimulus at all because nystagmus is not a vision test. *Id.* at § VIII-13.

Step II: Verbal Instructions. The officer is to give the suspect verbal instructions that include the following: a) put feet together, hands at side; b) keep head still; c) look at the stimulus; d) follow the movement of the stimulus with the eyes only; e) keep looking at the stimulus until told the test is over. These are the major points that

⁶ The stimulus may be the eraser on a pencil, the tip of a penlight, the tip of a finger or other small object. VIII-17. It is best to use a stimulus that contrasts with the background. *Id.*

"must be" conveyed. It is important that the subject keeps the head still and follows the stimulus with the eyes alone. *Id.*

Step III: Positioning the Stimulus. The officer is to position the stimulus approximately twelve to fifteen inches in front of the suspect's nose and slightly above eye level. The stimulus should be in this position for each of the steps of the HGN test. Maintaining the stimulus slightly above eye level keeps the eyes open wide so the clues can be seen more easily. *Id.* at § VIII-14, § VIII-17.

Step IV: Equal Pupil Size and Resting Nystagmus. The officer is to check for both of these factors. At this point resting nystagmus or unequal pupil size may be observed and the officer should note any display of resting nystagmus or unequal pupil size. These are not clues of intoxication, but are indicators of an injury or other physical condition which may call into question whether the HGN test should be administered to this subject. *Id.* at § VIII-12, § VIII-14.

Step V: Tracking. The officer is next to check for equal tracking. He or she should move the stimulus from center to far right, to far left, and back to center (approximately two seconds). Both eyes should track the stimulus at an equal rate. Once again the lack of equal tracking is not a clue of intoxication, but may call into question whether the HGN test should be administered to this subject. *Id.*

Step VI: Lack of Smooth Pursuit. The officer is next to check the left eye for lack of the "smooth pursuit" clue. The stimulus should be moved from the center all the way out to the right at a steady speed that takes approximately two seconds. Then the stimulus should be moved back to the center maintaining a steady speed of approximately

two seconds. The eye should be moved out as far as it will go to the side. If the eye is observed to jerk while moving,⁷ that is one clue. The officer should next check the right eye in the same fashion, moving the stimulus from center all the way to the left. This is to be repeated for each eye and compared. The officer is to make at least two complete passes in front of the each eye to check this clue. If the jerking is observed in both eyes, this is two clues. Common mistakes are holding the stimulus too close or too far from the eye, moving the stimulus too slowly or too quickly, failing to move the stimulus far enough to the side to take the eye to maximum deviation and curving downward or around with the stimulus. *Id.* at § VIII-14, § VIII-20 - VII-21.

Step VII: Distinct and Sustained Nystagmus at Maximum Deviation. The officer is next to check the left eye for distinct and sustained nystagmus at maximum deviation and then repeat with the right eye and compare. Once again, the stimulus should start at the center and then move to the side until no white is showing in the corner of the eye. The stimulus should be held out at the side for a minimum of four seconds. The nystagmus or jerking must be "definite, distinct and sustained in order to score this clue." If the jerkiness is distinct and sustained for a minimum of four seconds in the left eye, that is one clue. The officer is to check each eye "at least twice" for this clue. ***If there is only slight nystagmus or if it is not sustained for at least four seconds, this clue is not present and cannot be counted.*** Common mistakes in judging this clue are failure to bring the eye to maximum deviation (no white showing) and failure to hold the

⁷ This jerking is described as a marble rolling across sandpaper or a windshield wiper bouncing on a dry window. An unimpaired subject's eye will move like a marble rolling across a smooth polished surface.

stimulus steady for at least four seconds once maximum deviation is reached. If a subject's eye is held at maximum deviation for more than thirty seconds, then fatigue nystagmus may begin. Fatigue nystagmus is not a clue of impairment. *Id.* at § VIII-14 - § VIII-15, § VIII-22 - VIII-25.

Step VIII: Onset of Nystagmus Prior to 45 Degree. The officer is to check the left eye for the "onset of nystagmus prior to 45 degree" clue and then repeat for with the right eye and compare. The officer is to hold the stimulus at center and slowly and steadily move it toward the side. It should take about four seconds to move the stimulus from center to the edge of the subject's shoulder. This must be done slowly to detect the actual point of onset of nystagmus. If the jerking begins and continues prior to forty-five degrees, that is one clue. When the jerking is observed, the officer is to stop the stimulus at that point to see if the jerking continues. If the jerking is not clearly evident when the stimulus is held steady, the point of onset has *not* been properly detected. If the jerking stops when the stimulus stops, the officer is to continue moving the stimulus to the side until the jerking begins again. Once the point of onset is properly found, it is then necessary to determine if that point is before forty-five degrees. Forty-five degrees can be difficult to ascertain. There should be some white still showing at the corner of the eye and the stimulus should be approximately even with or slightly beyond the edge of the subjects shoulder. *If nystagmus does not start before forty-five degrees or if it fails to continue jerking when the stimulus is stopped, this clue is not present.* Again, each eye is to be checked at least twice for this clue. Common mistakes include failing to check for white in the corner of the eye once the point of onset is determined, failure to

check the alignment with the subjects shoulder once the point of onset is determined, and tending to stop short of forty-five degrees. *Id.* at § VIII-15, § VIII-26 - VIII-30.

Step IX: Total the clues. Three is the maximum number of clues possible for each eye, such that six is the total maximum number of clues possible for both eyes. A suspect's performance may not be "exactly identical" in both eyes. *Id.* at § VIII-15. "As BAC increases, many people first show inability of smooth pursuit, then show distinct jerkiness at maximum deviation, and finally show an onset within 45 degrees." *Id.* "However, that may not be true in all cases: the clues may develop in virtually any sequence, in any particular suspect." *Id.* A total of four out of the possible six clues is an indicator of intoxication. *Id.* at § VIII-33. "It is possible that all three clues definitely will be found in one eye, while only two (or sometimes only one) will show up in the other eye. It is always necessary to check both eyes, and to check them independently." *Id.* at § VIII-15. "It is unlikely that someone under the influence of alcohol will behave totally different [sic]. Thus, if one eye shows all three clues distinctly while the other eye gives no evidence of nystagmus, the person may be suffering from one of the pathological disorders covered previously." *Id.* at § VIII-16. ***The HGN test should never be used to give an opinion as to a specific BAC level.*** *Id.* at § VIII-25.

Step X: Check for Vertical Gaze Nystagmus.

Although VGN was not examined in the research that led to the SFSTs and the results are not included in the score for the HGN test, testing for VGN is the final step in administering the HGN test. The officer is to start with the stimulus in the same position set forth above and raise it until the subject's eyes are elevated as far as possible without

moving the head. Then the officer is to hold the stimulus in that position for approximately four seconds. Next, the officer is to watch for jerking at maximum elevation. For VGN to be recorded, it "must be definite, distinct and sustained for a minimum of four seconds at maximum elevation." *Id.* at § VIII-15 - § VIII-16.

The presence of HGN can indicate use of certain other drugs besides alcohol, including depressants, inhalants. *Id.* at § VIII-16. VGN can be associated with high doses of alcohol and certain other drugs. *Id.* at § VIII-35. If VGN is present and HGN is not present, it could be a medical condition and not a sign of alcohol or drug impairment. *Id.* at § VIII-10.

* * *

I fully concur with the Majority Opinion that the holding in *State v. Burks*, 373 S.W.3d 1, 6-7 (Mo. App. S.D. 2012) is questionable and should not be followed. If not properly administered, the HGN test loses its scientific reliability and becomes irrelevant to the issues before the court.

Because of Sgt. Kantola's failure to properly administer the HGN test, the State failed to lay a proper foundation, and this evidence should have been excluded.

However, because Browning did not establish prejudice, I concur with the result reached by the Majority.



Gary D. Witt, Judge