

Three Hours and Twenty Minutes

SESSION VIII

CONCEPTS AND PRINCIPLES OF THE  
STANDARDIZED FIELD SOBRIETY TESTS (SFST)

## SESSION VIII

### CONCEPTS AND PRINCIPLES OF THE STANDARDIZED FIELD SOBRIETY TESTS (SFST)

Upon successfully completing this session, the participant will be able to:

- o Discuss the development and validity of the research and the standardized elements, clues and interpretation of the three standardized field sobriety tests.
- o Discuss the different types of nystagmus and their effects on the Horizontal Gaze Nystagmus test.
- o Discuss and properly administer the three standardized field sobriety tests.
- o Discuss and recognize the clues of the three standardized field sobriety tests.
- o Describe in a clear and convincing manner and properly record the results of the three standardized field sobriety tests on a standard note taking guide.
- o Discuss the limiting factors of the three standardized field sobriety tests.

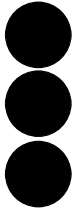
#### CONTENTS SEGMENTS

#### LEARNING ACTIVITIES

- |   |  |
|---|--|
| A. Overview: Development and Validation                                   | o Instructor-Led Presentation                    |
| B. SFST Field Validation Studies  | o Instructor-Led Demonstration                   |
| C. Horizontal Gaze Nystagmus  | o Participant Practice Session and Demonstration |
| D. Vertical Gaze Nystagmus  |  |
| E. Walk-and-Turn  |  |
| F. Combining the Clues of the Horizontal Gaze Nystagmus and Walk-and-Turn |  |
| G. One-Leg Stand  |  |
| H. Limitations of the Three Tests   |  |
| I. Taking Field Notes on the Standardized Field Sobriety Tests            |  |



Display VIII-O (Session Objectives)



3 Hours  
20 Minutes



15 Minutes



Display  
VIII-1



Display  
VIII-1A

**VIII CONCEPTS AND PRINCIPLES OF THE STANDARDIZED FIELD SOBRIETY TESTS (SFST)**

**A. Overview: Development and Validation**

1. For many years law enforcement officers have utilized field sobriety tests to determine the impairment of a person's driving due to alcohol influence. The performance of the person on those field sobriety tests was used by the officer to develop probable cause for arrest and as evidence in court. A wide variety of field sobriety tests existed and there was a need to develop a battery of standardized valid tests.
  
2. Beginning in late 1975, extensive scientific research studies were sponsored by NHTSA through a contract with the Southern California Research Institute (SCRI) to determine which roadside field sobriety tests were the most accurate.

Point out to participants that NHTSA contracted with the Southern California Research Institute (SCRI) in 1975 to develop these field tests. SCRI published the following three reports:

California: 1977 (Lab)  
 California: 1981 (Lab and Field)  
 Maryland, D.C., V.A., N.C., 1983 (Field)

See Attachment A, page 3, #20.



**Display**  
VIII-2

3. SCRI traveled to law enforcement agencies throughout the United States to select the most commonly used field sobriety tests. Six tests were used in the initial stages of this study.

4. Laboratory research indicated that three of these tests, when administered in a standardized manner, were a highly reliable battery of tests for distinguishing BACs above 0.10:

- o Horizontal Gaze Nystagmus (HGN)
- o Walk-and-Turn (WAT)
- o One-Leg Stand (OLS)

5. NHTSA analyzed the laboratory test data and found:

- o HGN, by itself, was 77% accurate.
- o WAT, by itself, was 68% accurate.
- o OLS, by itself, was 65% accurate.
- o By combining the results of HGN and WAT, an 80% accuracy rate can be achieved.






6. The final phase of this study was conducted as a field validation.



**Display**  
VIII-3



**Display**  
VIII-4

Aids	Lesson Plan	Instructor Notes
 <b>Display</b> VIII-4A	<ul style="list-style-type: none"> <li>o Standardized, practical and effective procedures were developed.</li> </ul>	
 <b>Display</b> VIII-4B	<ul style="list-style-type: none"> <li>o The tests were determined to discriminate in the field, as well as in the laboratory.</li> </ul> <p>7. The three standardized tests were found to be highly reliable in identifying subjects whose BACs were above 0.10. The results of the study validated the SFSTs.</p>	
 <b>15 Minutes</b>	<p><b>B. SFST Field Validation Studies</b></p>	
 <b>Display</b> VIII-5	<p>1. Three SFST validation studies were undertaken between 1995 and 1998:</p> <ul style="list-style-type: none"> <li>o Colorado - 1995</li> <li>o Florida - 1997</li> <li>o San Diego - 1998</li> </ul>	<p>See Attachments B, C, and D.</p>
 <b>Display</b> VIII-6	<p>2. The Colorado SFST validation study was the first full field study that utilized law enforcement personnel experienced in the use of SFSTs.</p> <ul style="list-style-type: none"> <li>o The original SCRI study utilized only a few experienced officers in DWI enforcement in both a laboratory setting and field setting.</li> </ul>	

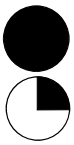


**Display**  
VIII-7



**Display**  
VIII-8

- o Based on the 3-test battery (HGN, WAT, OLS), correct arrest decisions were made 93% of the time. Substantially higher than the initial study results.
3. The Florida SFST field validation study was undertaken in order to answer the question of whether SFSTs are valid and reliable indices of the presence of alcohol at 0.08 levels and above when used under present day traffic and law enforcement conditions.
- o Based on the 3-test battery (HGN, WAT, OLS), correct decisions to arrest were made 95% of the time.
  - o This study has shown that the SFST 3-test battery is the only scientifically validated and reliable method for discriminating between impaired and unimpaired drivers.
4. The San Diego SFST field validation study was undertaken because of the nationwide trend towards lowering the BAC limits to 0.08. The question to be answered was "does SFST discriminate at BAC's below 0.10".
- o Based on the 3-test battery (HGN, WAT, OLS), arrest decisions were supported 91% of the time at the 0.08 BAC level and above.



**1 Hour 15  
Minutes**



**Display  
VIII-9**



**Display  
VIII-10**

- o HGN is still the most reliable of the 3-test battery.

This study provided the first indications supporting arrest decisions at 0.08 BAC. The study also suggests that HGN can provide valid indications of 0.04 BAC and above.

### C. Horizontal Gaze Nystagmus

1. Review of definition.
  - a. Involuntary jerking of the eyes, occurring as the eyes gaze to the side.
  - b. In addition to being involuntary:
    - o person is generally unaware that it is happening.
    - o person is powerless to stop it or control it.
2. Key Summary Point.
  - a. Alcohol and certain other drugs cause Horizontal Gaze Nystagmus.
3. Categories of Nystagmus.
  - a. Horizontal Gaze Nystagmus is not the only kind of nystagmus.
  - b. There are other circumstances under which the eyes will jerk involuntary.

Note: Refer to Attachments C and D for information regarding these SFST research studies.

- c. It is important to know some of the other common types of nystagmus, to be aware of their potential impact on our field sobriety tests.
- d. Nystagmus of several different origins may be seen. There are three general categories of nystagmus:
- (1) Vestibular Nystagmus is caused by movement or action to the vestibular system.
- (a) Types of vestibular nystagmus:
- o Rotational Nystagmus occurs when the person is spun around or rotated rapidly, causing the fluid in the inner ear to be disturbed.
  - o Post Rotational When the person stops spinning, the fluid in the inner ear remains disturbed for a short period of time, and the eyes continue to jerk.

Reveal the first category on Slide VIII-10.

Point out that the vestibular system is a sense organ located in the inner ear. It 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.

If you were able to observe the eyes of a rotating person, they would be seen to jerk noticeably.

Also indicate that these types of nystagmus will not interfere with the horizontal gaze nystagmus test due to the conditions under which they occur.

To illustrate rotational and post rotational, swirl a half glass of water several times. Stop swirling glass, water will continue to spin for a short period of time.



**Aids**

**Lesson Plan**

**Instructor Notes**

- o Caloric Nystagmus 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.
  
- o Positional Alcohol Nystagmus (PAN) occurs when a foreign fluid, such as alcohol, that alters the specific gravity of the blood is in unequal concentrations in the blood and the vestibular system.

In the original HGN study, research was not conducted for performing HGN on people lying down. Current research demonstrates that HGN can be performed on someone in this position.

See Attachment A, page 5, #33, *Nystagmus Testing in Intoxicated Individuals*.

This causes the vestibular system to respond to gravity in certain positions, resulting in nystagmus.

There are two types of PAN:

PAN I-occurs when the alcohol concentration in the blood is greater than the inner ear fluid. PAN I occurs while BAC is increasing.

- (2) Nystagmus can also result directly from neural activity:
- (a) Optokinetic  
Nystagmus occurs when the eyes fixate on an object that suddenly moves out of sight, or when the eyes watch sharply contrasting moving images.
- o Examples of optokinetic nystagmus include watching strobe lights, rotating lights, or rapidly moving traffic in close proximity.
  - o The Horizontal Gaze Nystagmus test will not be influenced by optokinetic nystagmus if administered properly.

PAN II - occurs when the alcohol concentration in the inner ear fluid is greater than in the blood. An example of PAN is the spinning of a room when a person lies down after consuming alcohol. This occurs while BAC is decreasing.

Reveal the next category on Slide VIII-10.

Point out that during the Horizontal Gaze Nystagmus test, the suspect is required to focus the eyes on a penlight, pencil or similar object that moves smoothly and relatively slowly across the field of view, thus optokinetic nystagmus will not occur.



**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>Although this type of nystagmus is most accurate for determining alcohol influence, its presence may also indicate use of certain other drugs.</p> <p>(e) <u>Vertical Gaze</u> Nystagmus is an involuntary jerking of the eyes (up and down) occurring as the eyes are held at maximum elevation.</p> <ul style="list-style-type: none"><li>o The presence of this type of nystagmus is associated with high doses of alcohol for that individual and certain other drugs.</li><li>o The drugs that cause Vertical Nystagmus are the same ones that cause Horizontal Gaze Nystagmus.</li><li>o There is no drug that will cause VGN that does not cause HGN. If VGN is present and HGN is not, it could be a medical condition.</li></ul>	<p>Examples of other drugs are: Depressants, Inhalants, October 14, Dissociative Anesthetics such as PCP and its analogs.</p> <p>NOTE: All drugs that cause HGN may also cause VGN, if enough of the drug is taken.</p> <p>For VGN to be recorded, it must be definite, distinct and sustained for a minimum of four seconds at maximum elevation.</p>
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	<p>(3) Nystagmus may also be caused by certain <u>pathological disorders</u>. They include brain tumors and other brain damage or some diseases of the inner ear. These pathological disorders occur in very few people and in even fewer drivers.</p> <p>4. Medical Impairment.</p> <p>a. The observations that you can make to assess possible medical impairment include:</p> <ul style="list-style-type: none"> <li>o Pupil size</li> <li>o Resting Nystagmus</li> <li>o Tracking ability</li> </ul> <p>b. <u>Pupil Size</u> will be affected by some medical conditions or injuries:</p> <ul style="list-style-type: none"> <li>o If the two pupils are <u>distinctly different</u> in size, it is possible that the subject has a glass eye, or is suffering from a head injury or a neurological disorder.</li> </ul> <p>c. <u>Resting</u> Nystagmus is referred to as jerking as the eyes look straight ahead. This condition is not frequently seen. Its presence usually indicates a pathology or high doses of a drug such as a Dissociative Anesthetic like PCP.</p>	<p>Reveal the next category on Slide VIII-10.</p> <p>Point out that nystagmus caused by pathological disorders is extremely rare in the driving population. Persons suffering from these disorders are rarely able to drive.</p> <p>NOTE: Resting Nystagmus may also be a medical problem.</p> <p>Although this observation is an important medical assessment, it is NOT an HGN administrative procedure step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

- d. Tracking Ability will be affected by certain medical conditions or injuries involving the brain:
  - o If the two eyes do not track together, the possibility of a serious medical condition or injury is present.
  - o By passing a stimulus across both eyes, you can check to see if both eyes are tracking equally.
  - o If they don't (i.e., if one eye tracks the stimulus, but the other fails to move, or lags behind the stimulus) there is the possibility of a neurological disorder.
  - o If a person has sight in both eyes, but the eyes fail to track together, there is a possibility that the person is suffering from an injury or illness affecting the brain.

Demonstrate how to check for tracking ability.

Point out: Even though the possibility of alcohol and/or drug impairment exists, officers should be aware of medical conditions having symptoms in common with alcohol influence.

See Attachment A, page 5, #33, *Nystagmus Testing in Intoxicated Individuals*.

See Attachment A, page 5, #34, *Robustness of the Horizontal Gaze Nystagmus Test*.

Note: For further information on drugs other than alcohol and procedures for conducting a preliminary examination to check for medical impairment, injury or drug impairment, see the curriculum package entitled "Drugs That Impair Driving", or "Introduction to Drugged Driving" available from the NHTSA.



**Display**  
VIII-11

5. Administrative Procedures for Horizontal Gaze Nystagmus.

It is important to administer the Horizontal Gaze Nystagmus test systematically using the following steps, to ensure that nothing is overlooked.

- a. Step I: Check for Eyeglasses. Begin by instructing the suspect to remove eyeglasses, if worn.
  - o It does not matter whether the suspect can see the stimulus with perfect clarity, as long as suspect can see it at all.
- b. Step II: Verbal Instructions. Give the suspect the appropriate verbal instructions:
  - o Put feet together, hands at the side.
  - o Keep head still
  - o Look at the stimulus
  - o Follow movement of the stimulus with the eyes only
  - o Keep looking at the stimulus until told the test is over

Prior to administering HGN, check to see if the subject has any eye problems or eye abnormalities.

There are 10 steps in the systematic administration of the Horizontal Gaze Nystagmus test.

Point out that eyeglasses may impede the suspect's peripheral vision, and may also impede the officer's ability to observe the eye carefully.

Remind participants that nystagmus is not a vision test.

Point out that officers should note whether suspect sways, wobbles, etc. while trying to balance.

Emphasize that these are the major points that must be conveyed during the verbal instructions.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>c. Step III: Positioning the Stimulus. Position the stimulus approximately 12-15 inches (30-38 cm) in front of suspect's nose, and slightly above eye level to commence the test.</li> <li>d. Step IV: Equal Pupil Size and Resting Nystagmus. Check for equal pupil size and resting nystagmus.</li> <li>e. Step V: Tracking. Check for equal tracking.</li> <li>f. Step VI: Lack of Smooth Pursuit. Check the left eye for lack of the "Smooth Pursuit" clue. If the eye is observed to jerk while moving, that is one clue. <ul style="list-style-type: none"> <li>o Check the right eye for lack of the "Smooth Pursuit" clue and compare.</li> </ul> </li> <li>g. Step VII: Distinct and Sustained Nystagmus at Maximum Deviation. Check the left eye for the "distinct and sustained nystagmus at maximum deviation" clue. If the jerkiness is distinct and sustained, that is one clue. <ul style="list-style-type: none"> <li>o Check the right eye for the "distinct and sustained nystagmus at maximum deviation"</li> </ul> </li> </ul>	<p>Resting Nystagmus may be observed at this time. Officers should note whether the suspect displays Resting Nystagmus.</p> <p>Remind participants to also check for resting nystagmus when checking for equal pupil size.</p> <p>Move the stimulus rapidly from center to far right, to far left and back to center (approximately 2 seconds).</p> <p>Remind participants to make at least two complete passes in front of the eyes to check this clue.</p> <p>Emphasize that the jerking must be definite, distinct and sustained in order to score this clue.</p> <p>Remind participants to check each eye at least twice for this clue.</p> <p>Point out that in most cases no white should be showing in the corner of the eye when observing this clue.</p>



**Aids**

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	<p>clue and compare.</p> <ul style="list-style-type: none"><li>h. Step VIII: Onset of Nystagmus Prior to 45 Degrees. Check the left eye for the "onset of nystagmus prior to 45 degrees" clue. If the jerking begins prior to 45 degrees, that is one clue.<ul style="list-style-type: none"><li>o Check the right eye for "onset of nystagmus prior to 45 degrees" clue, and compare.</li></ul></li><li>i. Step IX: Total the clues<ul style="list-style-type: none"><li>o Maximum number of clues possible for each eye: 3</li><li>o Total maximum number of clues possible for both eyes: 6</li></ul></li><li>j. Step X: Check for Vertical Nystagmus.</li></ul>	<p>Remind participants to check each eye at least twice for this clue.</p> <p>Point out that, for many suspects, nystagmus clues will appear in the sequence listed.</p> <p>Also, point out that the suspect's performance may not be exactly identical in both eyes.</p> <p>That is, 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. However, that may not be true in all cases: the clues may develop in virtually any sequence, in any particular suspect.</p> <p>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 <u>both</u> eyes, and to check them independently.</p>
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**Display**  
VIII-12

6. Clues for Horizontal Gaze Nystagmus.
  - a. When we administer the Horizontal Gaze Nystagmus test, we look for three specific clues as evidence of alcohol influence.
  - b. We check each eye independently for each clue.
  - c. For standardization, begin with the subject's left eye. Check for the first clue. Next, check right eye for same clue. Repeat this procedure for each clue starting with left eye, then right eye. Compare and document the results.
  - d. When we are checking an eye, it is good practice to administer the test by-the-numbers each time, to make sure that no step is overlooked.

Notwithstanding, it is unlikely that the eyes of someone under the influence of alcohol will behave totally different.

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.

It is important that participants start with the subject's left eye first. Then check the right eye for the same clue. This procedure should be used for all three clues.

Remind the participants to check each eye twice for each clue.

**EMPHASIZE THAT:**  
**OFFICER SAFETY IS OF**  
**KEY IMPORTANCE WHEN**  
**ADMINISTERING THESE**  
**TESTS.**

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display VIII-13**

- e. Clue No. 1: Lack of Smooth Pursuit.
  - o The first clue requires that the suspect move the eye to follow the motion of a smoothly moving stimulus.
  - o The stimulus may be the eraser on a pencil, the tip of a penlight, the tip of your finger, or any similar small object.
  - o Begin by holding the stimulus approximately 12-15 inches (30-38 cm) in front of the suspect's nose, and slightly higher than the level of the suspect's eye.
  - o Move the stimulus smoothly all the way out to the right (checking suspect's left eye first) then move the stimulus smoothly all the way across the suspect's face to the left side (checking the suspect's right eye), then back to center.
  - o Make at least two complete passes with the stimulus.
  - o If a person is not impaired, the eyes should move smoothly as the object is moved back and forth.

Emphasize that suspect must keep the head still and follow the stimulus with the eyes only.

Emphasize here that it is best to use a stimulus which contrasts with the background.

Point out that when stimulus slightly higher than eye level, suspect will have to open eyes wide to focus on it. Wide-open eyes make it easier to see the nystagmus.

Analogy: movement of a non-impaired person's eye will be similar to the movement of a marble rolling across a polished pane of glass (i.e., frictionless), or the movement of windshield wipers across a wet windshield versus a dry windshield.

**Aids**

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**Instructor Notes**

- o If the person is impaired by alcohol and/or some other drugs, the eye should jerk noticeably as it moves back and forth.

Analogy: movement of an impaired person's eyes will be similar to a marble rolling across a sheet of sandpaper (encountering resistance, friction), or the movement of windshield wipers across a wet windshield versus a dry windshield.

Note: This will also be seen with certain categories of drugs.

(1) The Mechanics of Clue Number 1.

- o It is necessary to move the object smoothly in order to check the eye's ability to pursue smoothly.

- o The stimulus should be moved from center position, all the way out to the right side (checking subject's left eye) where the eye can go no further, and then all the way back across subject's face all the way out to the left side where the eye can go no further

(checking subject's right eye) and then back to the center.

Demonstrate.



**Aids**

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**Instructor Notes**

	<p>front of nose, slightly higher than eye level.</p> <ul style="list-style-type: none"><li>o Stimulus is moved smoothly from center all the way out to the right (checking subject's left eye), back across subject's face all the way to the left side (checking subject right eye) then back to center.</li><li>o A second pass is conducted the same as the first.</li><li>o On each pass, the arm is moved smoothly, and the eye is taken as far to the side as possible.</li></ul> <p>(3) Participant practice of the mechanics of Clue No. 1.</p> <ul style="list-style-type: none"><li>o Practice in groups of two or three, taking turns.</li></ul>	<p>Point out how the arm is held to ensure smooth movement.</p> <p>Point out that each pass takes the eye as far to the side as it can go.</p> <p>Point out that it takes approximately 2 seconds to move the object from center to the side as far as the eye can go.</p> <p>Solicit participants' questions concerning the procedural mechanics for Clue No. 1.</p> <p>Instruct each participant to practice conducting the test of smooth pursuit, using another participant as a subject.</p> <p>Remind participants that they are to make at least two complete passes in front of the eyes.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Once you have completed the check for smooth pursuit, you will test the eyes for distinct and sustained nystagmus when the eye is held at maximum deviation, beginning with the subject's left eye.</li> <li>(1) The Mechanics of Clue Number 2.<ul style="list-style-type: none"><li>o Once again, position the stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose.</li> <li>o Move the stimulus off to the right side (checking suspect's left eye) until the eye has gone as far as possible.</li> <li>o Hold the stimulus steady at that position for a minimum of four (4) seconds, and carefully watch the eye.</li> <li>o Then, move the stimulus back across the subject's face all the way out to the left side (subject's right eye).</li> <li>o Hold the stimulus steady and carefully watch the eye.</li></ul></li></ul>	<p>Demonstrate</p> <p>Demonstrate holding the stimulus steadily off to the side.</p> <p>Point out that four (4) seconds is a relatively long period of time. You cannot simply hold the eye to the side for an instant, and expect to observe distinct jerking.</p> <p>Note: Four seconds will not cause fatigue nystagmus. This type of nystagmus may begin if a subject's eye is held at maximum deviation for more than 30 seconds.</p> <p>Repeat this step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o If the person is impaired, the eye is likely to exhibit definite, distinct and sustained jerking when held at maximum deviation for a minimum of 4 seconds.</li><li>o In order to "count" this clue as evidence of impairment, the nystagmus must be distinct and sustained for a minimum of 4 seconds.</li><li>o If you think you see only slight nystagmus at this stage of the test, or if you have to convince yourself that nystagmus is present, then it isn't really there.</li></ul> <p>(2) Live Demonstration of the Mechanics of Clue No. 2.</p> <ul style="list-style-type: none"><li>o Stimulus initially positioned approximately 12-15 inches (30-38 cm) in front of the participant-subject's nose, slightly higher than eye level.</li><li>o Stimulus moved to the side, drawing the eye to its maximum deviation.</li></ul>	<p>Emphasize this point.</p> <p><b>ONCE AGAIN, EMPHASIZE OFFICER SAFETY.</b></p>
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Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o Hold the stimulus steady at that point for a minimum of 4 seconds, to determine whether or not there is distinct and sustained nystagmus.</li> <li>o Then, move the stimulus back across the subject's face all the way out to the left side (subject's right eye).</li> <li>o Hold the stimulus steady and carefully watch the eye.</li> <li>o Hold the stimulus steady at that point for a minimum of 4 seconds to determine whether or not there is distinct and sustained nystagmus.</li> </ul> <p>(3) Participant practice of the mechanics of Clue No. 2.</p> <ul style="list-style-type: none"> <li>o Practice in groups of two or three, taking turns.</li> <li>o Coaching and critiquing participants' practice.</li> </ul>	<p>Solicit a participant to participate in the live demonstration.</p> <p>Station the participant-subject in a position where eyes can readily be seen by the class. (It may be necessary to conduct the demonstration at two or more locations in the class.)</p> <p>Articulate each step in the procedural mechanics aloud.</p> <p>Instruct each participant to practice conducting the test of maximum deviation, using another participant as a subject.</p> <p>Common initial mistakes to note and correct:</p> <ul style="list-style-type: none"> <li>o not bringing the eye sufficiently far to the side (some white still showing).</li> </ul>

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VIII-15**

- o Participant-led Demonstrations

- g. Clue No. 3: Onset of Nystagmus Prior to 45 Degrees.
  - o Once again, position the stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose.
  - o The angle of onset of nystagmus is simply the point at which the eye is first seen jerking.
  - o Generally speaking, the higher the BAC, the sooner the jerking will start as the eye moves toward the side.
  - o If the jerking begins prior to 45-degrees, that person's BAC could be 0.08 or above.

- o not holding the object steadily for at least four seconds, at maximum deviation.

Allow participant practice to continue until all participants appear reasonably proficient in carrying out the mechanics of Clue No. 2.

Solicit participants' questions concerning the procedural mechanics for Clue No. 2.

**EMPHASIZE OFFICER SAFETY.**

Examples: With someone at a very high BAC (0.20+), the jerking might begin almost immediately after the eye starts to move toward the side. For someone at 0.08 BAC, the jerking might not start until the eye has moved nearly to the 45 degree angle.

**REMIND PARTICIPANTS THAT THE ADMINISTRATION OF HGN IS NOT TO BE USED TO ESTIMATE SPECIFIC BAC LEVEL.**

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o It is not difficult to determine when the eye has reached the 45-degree point, but it does require some practice.</li><li>o If you start with the stimulus approximately 12-15 inches (30-38 cm) directly in front of the nose, you will reach 45-degrees when you have moved the stimulus an equal distance to the side.</li><li>o Two other important indicators can be used to determine if the eye is within 45 degrees:<ul style="list-style-type: none"><li>- at 45 degrees, some white usually will still be visible in the corner of the eye (for most people).</li><li>- If you started with the stimulus approximately 12-15 inches (30-38 cm) in front of the suspect, when you reach 45 degrees the stimulus will usually be lined up with, or slightly beyond, the edge of the subject's shoulder.</li></ul></li></ul> <p>(1) The Mechanics of Clue No. 3.</p>	<p>Instruct participants that whatever distance you position the stimulus from the nose, you will reach 45 degrees when you have moved the stimulus an equal distance to the side. (i.e., If you start with the stimulus 12 inches from the nose, move it 12 inches to the side.)</p> <p>Point out the white showing in the eye portrayed in Slide VIII-15. Note that <u>some</u> people's eyes may exhibit no white in the corner <u>prior</u> to 45-degrees.</p> <p>Point out alignment of stimulus and shoulder in Slide VIII-15.</p> <p>Point out that this latter indicator may not be valid if the suspect is either a very large or a very small person.</p> <p>Remind participants to repeat this step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o The stimulus is positioned approximately 12-15 inches from (30-38 cm) subject's nose.</li><li>o It is necessary to move the stimulus slowly to identify the point at which the eye begins to jerk.</li><li>o Start moving the stimulus towards the right side (left eye) at the speed that would take approximately 4 seconds for the stimulus to reach the edge of the suspect's shoulder.</li><li>o As you are slowly moving the stimulus, watch the eye carefully for any sign of jerking.</li><li>o When you see the jerking begin, immediately stop moving the stimulus and hold it steady at that position.</li><li>o With the stimulus held steady, look at the eye and verify that the jerking is continuing.</li></ul>	<p>Demonstrate stopping the stimulus, and holding it steady.</p> <p>Demonstrate movement at that speed.</p> <p>Point out that nystagmus doesn't go away once the eye stops moving. If the officer actually has found the point of onset, the eye will continue to jerk when the stimulus is held steady.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

- o If the jerking is not evident with the stimulus held steady, you have not located the point of onset. Therefore, resume moving the stimulus slowly toward the side until you notice the jerking again.
  
- o When you locate the point of onset of nystagmus, you must determine whether it is prior to 45 degrees.
  - Verify that some white is still showing in the corner of the eye.
  
  - Examine the alignment between the stimulus and the edge of the suspect's shoulder.
  
- o Start moving the stimulus towards the left side (right eye) at the speed that would take approximately 4 seconds for the stimulus to reach the edge of the suspect's shoulder.

Demonstrate stopping the stimulus, and holding it steady.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o As you are slowly moving the stimulus, watch the eye carefully for any sign of jerking.</li><li>o When you see the jerking begin, immediately stop moving the stimulus and hold it steady at that position.</li><li>o With the stimulus held steady, look at the eye and verify that the jerking is continuing.</li><li>o If the jerking is <u>not</u> evident with the stimulus held steady, you have <u>not</u> located the point of onset. Therefore, resume moving the stimulus slowly toward the side until you notice the jerking again.</li><li>o When you locate the point of onset of nystagmus, you must determine whether it is prior to 45 degrees.<ul style="list-style-type: none"><li>- Verify that some white is still showing in the corner of the eye.</li></ul></li></ul>	<p>Demonstrate movement at that speed.</p> <p>Point out that nystagmus doesn't go away once the eye stops moving. If the officer actually has found the point of onset, the eye will continue to jerk when the stimulus is held steady.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>- Examine the alignment between the stimulus and the edge of the suspect's shoulder.</li></ul> <p>(2) Live Demonstration of the Mechanics of Clue No. 3.</p> <ul style="list-style-type: none"><li>o Stimulus initially positioned approximately 12-15 inches (30-38 cm) in front of participant-subject's nose, slightly higher than eye level.</li><li>o <u>Slowly</u> move the stimulus toward the side, watching the eye for nystagmus.</li><li>o Stop the stimulus and hold it steady when nystagmus is first observed.</li><li>o Verify that the jerking is continuing.</li><li>o Now determine whether the onset of nystagmus is prior to 45 degrees.</li></ul> <ul style="list-style-type: none"><li>- is there white still showing in the corner of the eye?</li></ul>	<p>Solicit a participant to participate in the live demonstration.</p> <p>Station the participant-subject in a position where participant's eyes can readily be seen by the class. (It may be necessary to conduct the demonstration at two or more locations.)</p> <p>Articulate each step in the procedural mechanics aloud.</p>
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Aids	Lesson Plan	Instructor Notes
 <p data-bbox="181 1486 305 1556"><b>Display</b> VIII-16</p>	<ul style="list-style-type: none"> <li>- is the stimulus within or only slightly beyond the edge of the shoulder?</li> </ul> <p>(3) Participant practice of the mechanics of Clue No. 3.</p> <ul style="list-style-type: none"> <li>o Practice in groups of two or three, taking turns.</li> <li>o Coaching and critiquing participants practice.</li> </ul> <p>o Participant-led demonstration.</p> <p>7. Training Aid: The 45 Degree Template</p> <ul style="list-style-type: none"> <li>a. A training aid has been provided to help you practice estimating a 45 degree angle.</li> <li>b. The outline of a square, with its diagonal line, gives us a 45 degree angle.</li> <li>c. This outline, or template, is provided for practice only.</li> </ul>	<p>Solicit participants' questions concerning the procedural mechanics for Clue No. 3.</p> <p>Remind participants to move stimulus slowly.</p> <p>Instruct each participant to practice conducting the test for onset of nystagmus prior to 45 degrees, using another participant as the subject.</p> <p>Common mistakes to note and correct.</p> <ul style="list-style-type: none"> <li>o Incorrect position of stimulus.</li> <li>o Moving stimulus too fast.</li> </ul> <p>Instruct participants to remove their copies of the template from their participant manuals which is located at the back of Session VIII in Attachments.</p> <p>Demonstrate proper placement of the template.</p>
HS 178 R2/06	VIII-31	

**Aids**

**Lesson Plan**

**Instructor Notes**

<p>HS 178 R2/06</p>	<p>d. To use the template, have your training partner hold the corner of the square under the nose.</p> <p>e. When you line up your stimulus with the diagonal line, your partner will be looking along a 45 degree angle.</p> <p>8. Participant practice with 45 degree Template.</p> <p>a. Practice in groups of two or three, taking turns.</p> <p>b. Coaching and critiquing participants' practice.</p>	<p><u>It is not to be used with actual DWI suspects.</u></p> <p>Demonstrate placement of the pencil or penlight.</p> <p>Instruct participants to begin by lining the stimulus up with the diagonal, so they can become familiar with the position of an eye at a 45 degree angle.</p> <p>Point out the amount of white showing in the corner of an eye at 45 degrees.</p> <p>Next, instruct each participant to attempt to locate the 45 degree point <u>without</u> using the template, then to raise the template to check the accuracy of the estimate.</p> <p>Common initial mistakes to note and correct:</p> <ul style="list-style-type: none"><li>o Failing to check for white in the corner of the eye.</li><li>o Failing to check alignment of object with shoulder.</li></ul>
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**Display VIII-17**

- c. Participant-led demonstration.

9. Test Interpretation.

- a. Based upon the original developmental research into Horizontal Gaze Nystagmus, the criterion for this test is 4.
- b. If a person exhibits at least 4 out of the possible 6 clues, the implication is a BAC above 0.10.
- c. Using this criterion, the test is 77% accurate.

10. Test Demonstration.

- o Tending to stop short of 45 degrees.

Choose a participant who appears to be doing a good job in estimating a 45 degree angle, and have the participant come forward to demonstrate to the class.

Resume participant practice, and allow it to continue until all participants appear reasonably proficient in carrying out the mechanics of Clue No. 3.

Note: Remind participants that the SFST field evaluation study conducted in San Diego in 1998 indicated that “HGN alone can provide valid indications to support arrest decisions at 0.08 BAC.”

Choose a participant to serve as a demonstration subject.

Conduct a complete test of that participant-subject, articulating every step in the testing sequence (slide VIII-15 should be redisplayed during this demonstration).



5 Minutes



Display  
VIII-18

**D. Vertical Gaze Nystagmus**

1. The Vertical Gaze Nystagmus test is easy to administer.
  - o Position the stimulus horizontally, approximately 12-15 inches (30-38 cm) in front of the subject's nose.
  - o Instruct the subject to hold the head still, and follow the stimulus with the eyes only.
  - o Raise the stimulus until the subject's eyes are elevated as far as possible. Hold for approximately 4 seconds.
  - o Watch the eyes closely for jerking as they are held at maximum elevation.

Upon completion of the demonstration, solicit students' questions concerning Horizontal Gaze Nystagmus.

If time permits, conduct another complete demonstration of HGN, using another participant.

Point out that vertical nystagmus was not examined in the original research that led to the validation of the Standardized Field Sobriety Test battery (Horizontal Gaze Nystagmus, Walk-and-Turn and One-Leg Stand).

Select a participant or another instructor to serve as a subject and demonstrate the vertical nystagmus test.

Remind the participants to make two checks for Vertical Gaze Nystagmus.

For VGN to be recorded, it must be distinct and sustained for a minimum of four seconds at maximum elevation.



45 Minutes



Display  
VIII-19

2. Vertical Gaze Nystagmus may be present in subjects under the influence of high doses of alcohol for that individual, and some other drugs.

**E. Walk-and-Turn**

1. Review of Divided Attention Definition.
  - a. Walk-and-Turn is a field sobriety test based on the important concept of divided attention.
  - b. The test requires the suspect to divide attention among mental tasks and physical tasks.
  - c. The mental tasks include comprehension of verbal instructions; processing of information; and, recall of memory.
  - d. The physical tasks include balance and coordination; the suspect is required to maintain balance and coordination while standing still, walking, and turning.
2. Test Stages
  - a. The Walk-and-Turn test has two stages, the instructions stage and the walking stage.

Selectively display overhead.



Pose this question:  
"What do we mean by 'divided attention'?"

Lead the discussion, as these items were previously identified in Session VII.

Remind participants that prior to administering this test, ask the subject if they have any physical problems or disabilities.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>b. Both stages are essential parts of the test.</li><li>c. Important evidence of impairment often comes to light during both stages.</li></ul> <p>3. Test Requirements</p> <ul style="list-style-type: none"><li>a. The test requires the suspect to take nine heel-to-toe steps in a straight line; to turn around in a prescribed manner; and, to return nine heel-to-toe steps along the line.</li><li>b. This test should be conducted on a reasonably dry, hard, level, non-slippery surface.</li><li>c. The line should be long enough to permit the suspect to take nine heel-to-toe steps along it.</li><li>d. If a line is not available, the officer may create a line.</li></ul> <p>4. Demonstration of the Instructions Stage.</p>	<p>NOTE: Standardizing this test for every type of road condition is unrealistic. The original research study recommended that this test be performed on a dry, hard, level, nonslippery surface and relatively safe conditions. If not, the research recommends: 1) suspect be asked to perform the test elsewhere; or 2) only HGN be administered. However, recent field validation studies have indicated that varying environmental conditions have not affected a suspect's ability to perform this test.</p> <p>NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.</p> <p>NOTE: If no line exists, it is acceptable to have a suspect walk an imaginary line.</p> <p>When demonstrating the instructions stage, it is very important that the participants be able to see the instructor's feet. It may be necessary to demonstrate at several locations in the classroom.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>a. FOR STANDARDIZATION PURPOSES, instruct suspects to place left foot on the line first.</p> <p>b. Then instruct suspects to place their right foot on the line, ahead of the left foot, with heel of right against the toe of left.</p> <p>c. Tell suspect to place arms down at sides.</p> <p>d. Tell suspect to maintain that position until you have completed the instructions.</p> <p>e. Inform suspect <u>not</u> to begin walking until told to do so.</p> <p>f. At this point, ask suspect: "Do you understand?"</p>	<p><b><u>Remind participants of officer safety precautions.</u></b></p> <ul style="list-style-type: none"><li><b>o keep suspect on left side when initiating demonstrations</b></li><li><b>o never turn back on suspect</b></li><li><b>o aware of surroundings (environment)</b></li><li><b>o left handed officers should demonstrate test at a distance more than arm's length</b></li></ul> <p>Demonstrate placement of both feet.</p> <p>Demonstrate placement of arms at sides.</p> <p>Emphasize that officer must receive some affirmative response before continuing.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>g. Although this position is not a stance that people normally will take of their own choosing, it is not difficult for an unimpaired person to maintain this stance, even for several minutes.</li><li>h. People who are impaired can maintain this stance if they concentrate their full attention on it.</li><li>i. When you are with a suspect who appears to be impaired, you may see the following behaviors during the instructions stage.<ul style="list-style-type: none"><li>o Fail to maintain heel-to-toe stance.</li><li>o Starts walking before commanded.</li></ul></li><li>j. Impaired suspects may concentrate so much on maintaining balance there is little or no comprehension of the subsequent instructions.</li></ul> <p>5. Demonstration of the Walking Stage.</p> <ul style="list-style-type: none"><li>a. Walking stage requires nine heel-to-toe steps along the line, a turn, and nine steps back along the line.</li><li>b. While walking, keep the arms at the sides, count the steps out loud, and keep watching the feet.</li></ul>	<p>NOTE: An impaired person cannot concentrate their full attention on maintaining the stance. They also have to listen to and comprehend your instructions.</p> <p>Demonstrate.</p> <p>Demonstrate.</p> <p>Instructor may break away from the heel-to-toe stance at this point.</p> <p>A straight line must be available for this and subsequent demonstrations.</p> <p>A 10-12 foot strip of masking tape on the floor of the classroom will prove suitable.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VIII-20

- c. Execute Walk-and-Turn.
  
- 6. Walk-and-Turn Administrative Procedures
  - a. Initial verbal instructions
    - o Tell suspect to assume the heel-to-toe stance (left foot on line, then right foot on line, ahead of left).
    - o Tell suspect to place arms down at sides.
    - o Tell suspect not to start walking until told to do so.
    - o Make sure suspect understands instructions.
  - b. Description of basic test requirements.
    - o Tell suspect to take nine heel-to-toe steps on the line, to turn around, keeping one foot on the line, and to return nine heel-to-toe steps.
    - o Demonstrate what you mean by walking heel-to-toe. (3 steps suffice for the demonstration)
  - c. Description of turn procedures.

Instructor's demonstration.  
(repeat if necessary)

Selectively reveal major sections of overhead.

NOTE: FOR STANDARDIZATION PURPOSES, suspect is told to place left foot on line first, then right foot on line, ahead of left in a heel-to-toe position.

**Stress that officers should never turn their backs on suspects while demonstrating. Instead, they should walk at right angle to the line, keeping the weapon away from the suspect.**

**Aids**

**Lesson Plan**

**Instructor Notes**

- o Tell suspect that, on the ninth step, keep the front foot on the line, and turn by taking several small steps with the other foot.

- o Demonstrate the turn for the suspect.

d. Final verbal instructions.

- o Tell suspect that, while walking, to watch feet at all times.
- o Tell suspect to keep arms at sides at all times.
- o Tell suspect to count steps out loud.
- o Tell suspect that, once the walking begins, not to stop until the test is completed.

NOTE: This turn procedure is provided in order to standardize the turn described in the study and for suspects' safety.

**Stress that, when demonstrating the turn, officers should stand at right angle to the line with the suspect to their left. Then, they can turn on the left leg without ever turning their backs to the suspect.**

NOTE: Difference for left-handed officers.

NOTE: The final verbal instructions are provided to further standardize administration of the test described in the study.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o Ask if suspect understands the instructions. Point out that, if suspect doesn't understand some part of the instructions, officer should repeat only that part which suspect doesn't understand.</li> </ul> <p>7. Demonstration of Walk-and-Turn Administrative Procedures.</p> <ul style="list-style-type: none"> <li>a. Tell the participant-subject to assume the instructions stance.</li> <li>b. Tell the participant-subject not to start walking until told to do so.</li> <li>c. Tell the participant-subject of the requirement to take nine heel-to-toe steps, to turn, and to take another nine heel-to-toe steps.</li> <li>d. Tell the participant-subject of the required turn procedures. Demonstrate the proper turn.</li> <li>e. Give the participant-subject the final verbal instructions: <ul style="list-style-type: none"> <li>o Keep watching feet</li> <li>o Count steps out loud</li> <li>o Arms at sides</li> <li>o Don't stop walking until test is completed.</li> </ul> </li> <li>f. Ask participant-subject if instructions are understood.</li> </ul>	<p>Solicit participants' questions concerning the Walk-and-Turn administrative procedures.</p> <p>Select a participant to participate as a subject in the demonstration.</p> <p>Use precise language to direct the participant-subject to assume the instructions stance.</p> <p>Make sure directions are understood.</p> <p>Demonstrate several heel-to-toe steps.</p> <p>Demonstrate the turn.</p> <p>Clarify any parts that are not understandable.</p>



**Display**  
VIII-21

8. Clues for Walk-and-Turn Test

- a. When administering the Walk-and-Turn test, we look for certain specific behaviors, at certain times in the test.
- b. Each behavior, or action, is considered as one clue.
- c. There is a maximum of eight clues on this test.
- d. The first two clues are checked during the instructions stage.
  - o Can't balance during instructions.

At this point, do not instruct the participant-subject to execute the test. Rather, thank the participant-subject for participating and allow the participant to return to the seat.

Solicit participants' questions concerning the test administrative procedures.

Selectively reveal major sections of overhead.

Reveal the first major section of slide VIII-21.

Emphasize that this clue is recorded only if the feet actually break apart.

Note: During the instructions stage, do not record the clue simply because suspect raises arms or wobbles slightly.

Demonstrate actions that constitute "can't balance during instructions", and demonstrate other actions that do not justify recording this clue.



**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>f. The next clue is an <u>improper turn</u>. This clue should be recorded if the suspect:</p> <ul style="list-style-type: none"><li>o Loses balance on turn (staggers, stumbles, etc.); <u>or</u>,</li><li>o Turns other than the way officer demonstrated.</li></ul> <p>g. The <u>next clue</u> is checked on the basis of the number of steps that the suspect actually takes.</p> <ul style="list-style-type: none"><li>o If the suspect takes other than nine steps, in either direction, it is considered only one clue.</li></ul> <p>h. The test may be terminated if the suspect cannot safely complete it. For example:</p>	<p><u>Examples:</u> (Demonstrate)</p> <ul style="list-style-type: none"><li>o pauses while walking <u>and</u> simultaneously raises arms.</li><li>o misses heel-to-toe <u>and</u> simultaneously stops walking.</li></ul> <p>Reveal the next item on slide VIII-21.</p> <p>Reveal the next item on slide VIII-21.</p> <p>Demonstrate various ways of "turning incorrectly" (i.e., pivots, spins).</p> <p>Reveal the next item on slide VIII-21.</p> <p>Emphasize that it is the number of steps that the suspect physically takes that matters here. Mistakes in the verbal count do not justify recording this clue.</p> <p>Reveal the last item on slide VIII-21.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VIII-22**

- o Suspect steps off the line three or more times.
- o Suspect nearly falls.

- o Suspect gets into a "leg-lock" position (legs crossed, unable to move)

9. Walk-and-Turn Test Interpretation

- a. Based on the original developmental research into the Walk-and-Turn test, the criterion for this test is 2.
- b. If a person exhibits at least 2 out of the possible 8 clues, the implication is that the suspect has a BAC above 0.10.
- c. Using that criterion, this test is 68% accurate.

NOTE: If suspect can't do the test, record observed clues and document the reason for not completing the test, e.g. suspect's safety.

Emphasize that officers should be prepared to explain in court why the suspect could not complete the test.

Remember that the SFSTs are a tool to assist you in seeing visible signs of impairment and not a pass/fail test.

Demonstrate "leg-lock".

Emphasize that the test should be stopped if unsafe for the suspect.

Solicit participants' questions concerning the Walk-and-Turn clues.

Based on the original research.

<div data-bbox="230 1360 302 1432" data-label="Image"> </div> <div data-bbox="181 1451 341 1486" data-label="Text"> <p>5 Minutes</p> </div>	<p>d. Restrictions.</p> <p>10. Test Demonstrations</p> <p><b>F. Combining the Clues of The Horizontal Gaze Nystagmus and Walk-and-Turn.</b></p> <p>1. Based on the original research you will be 80% accurate in classifying suspects that are above 0.10.</p>	<p><b>NOTE: The original research indicated that individuals over 65 years of age had difficulty performing this test.</b></p> <p>Choose a participant to serve as a demonstration subject.</p> <p>Conduct a complete test of the participant-subject, carefully carrying out all of the administrative procedures. (Slide VIII-20 should be redisplayed during the demonstration.)</p> <p>Have the participant-subject actually perform the walking stage of the test.</p> <p>Discuss the participant-subject's performance in terms of the test scoring factors. (Slide VIII-25 should be redisplayed during this discussion.)</p> <p>If time permits, conduct another demonstration using another participant-subject.</p> <p><b>NOTE: A combination of four or more clues of HGN and two or more clues of the Walk-and-Turn, suspects can be correctly classified as above 0.10 BAC 80% of the time.</b></p>
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35 Minutes



Display  
VIII-23

### G. One-Leg Stand

1. Review of Divided Attention definition
  - a. One-Leg Stand is another field sobriety test that employs divided attention.
  - b. The suspect's attention is divided among such simple tasks as balancing, listening, and counting out loud.
  - c. Although none of these is particularly difficult in itself, the combination can be very difficult for someone who is impaired.
2. Test Stages.
  - a. Like all divided attention tests, One-Leg Stand has two stages.
  - b. They are the instructions stage and the balance and counting stage.
  - c. Both stages are important, because they can affect the suspect's overall performance on the test.

Selectively display slide.

Remind participants that prior to administering this test, check if the subject has any physical problems or disabilities.

Selectively display remainder of slide.

## 3. Test Requirements.

- a. The test requires the suspect to stand on one leg, with the other leg held out straight, approximately six inches (15 cm) off the ground, for 30 seconds.
- b. This test should be conducted on a reasonably hard, dry, level, and non-slippery surface.

## 4. Demonstration of the Instructions Stage.

- a. The Instructions stage of this test is quite simple.
  - o suspect stands with feet together.
  - o suspect keeps arms at the sides.
- b. Suspect is instructed to maintain that position until told otherwise.

## 5. Demonstration of balance and count stage.

Demonstrate the One-Leg Stand.

NOTE: Standardizing this test for every type of road condition is unrealistic. The original research study recommended that this test be performed on a dry, hard, level, non-slippery surface and relatively safe conditions. If not, the research recommends: 1) suspect be asked to perform the test elsewhere; or 2) only HGN be administered.

However, recent field validation studies have indicated that varying environmental conditions have not affected a suspect's ability to perform this test.

**Remind participants of officer safety precautions.**

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VIII-24

- a. The verbal instructions for this test also are quite simple.
  - o Suspect must raise one leg, either leg, with the foot approximately six inches (15 cm) off the ground, keeping raised foot parallel to the ground.
  - o Suspect is told to keep both legs straight with arms at their sides.
  - o Suspect is told to look at the elevated foot.
  - o Suspect is told to hold that position while counting out loud in the following manner: “one thousand and one, one thousand and two, one thousand and three, and so on, until told to stop.”

6. One-Leg Stand Administrative Procedures.

- a. Instructions stage.
  - o Stand with feet together.
  - o Keep arms at side.

Point out that the officer must demonstrate the stance.

**POINT OUT THE NEED TO TIME THE 30-SECOND COUNT.** Stop test at end of 30 seconds.

Point out that the 30 seconds constitute an important feature of the test. Many impaired persons can maintain balance for 20-25 seconds, but seldom for up to 30.

The suspect may be told at any time to stop counting for their safety or inability to properly perform the test.

Selectively display slide.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display VIII-24A**

- o Maintain position until told otherwise.
- b. Balance and counting stage.
  - o Raise one leg, either leg.
  - o Keep raised foot approximately 6 inches (15 cm) off the ground, foot parallel to the ground.
  - o Keep both legs straight and arms at sides.
  - o Keep eyes on elevated foot.
  - o Count out loud from one-thousand-and-one, one-thousand-and-two, one-thousand-and-three, and so on until told to stop.

7. Demonstration of the One-Leg Stand Administrative Procedures.

- a. Instructions stage: tell subject to:
  - o stand with feet together
  - o keep arms at side
  - o maintain that position until told otherwise (ask if understands)

Selectively display slide VIII-24A.

NOTE: Officer should always time the 30 seconds. If the suspect puts their foot down too soon, tell suspect to keep foot elevated and continue counting. If suspect counts too slow, stop the test at 30 seconds.



**Display**  
VIII-25

- b. Balance and counting stage
  - o Raise one leg (either leg), approximately 6 inches (15 cm) off the ground, foot pointed out.
  - o Keep both legs straight.
  - o Keep eyes on elevated foot.
  - o While holding that position, count out loud in the following manner: one-thousand-one, one to one-thousand-two, one-thousand-three until told to stop.

8. Clues for the One-Leg Stand.

- a. When administering the one-leg stand test, we look for certain specific behaviors.
- b. Each behavior or action is considered one clue.
- c. There is a maximum number of 4 clues on this test.
- d. The first clue is swaying.

Always ask subject if they understand directions before beginning test.

Selectively reveal contents of slide.

Reveal the first item on slide.

Emphasize that swaying means a distinct, noticeable side-to-side or front-to-back movement of the elevated foot or of the suspect's body.

Slight tremors of the foot or body should not be interpreted as swaying.

Demonstrate swaying.

Aids	Lesson Plan	Instructor Notes
	<p>e. The next clue is <u>using the arms</u> to balance.</p> <p>f. The next clue is <u>hopping</u>.</p> <p>g. The next clue is <u>putting the foot down</u>, before 30 seconds elapse.</p> <ul style="list-style-type: none"> <li>o If suspect's foot touches ground, have suspect raise it and continue counting until told to stop.</li> </ul> <p>h. The test may be terminated if the suspect cannot safely complete it. For example:</p> <ul style="list-style-type: none"> <li>o Suspect puts foot down three or more times.</li> <li>o Suspect nearly falls.</li> </ul>	<p>Reveal the next item on slide.</p> <p>Point out that a movement of the arms of six inches or more from the side is sufficient to record this clue.</p> <p>Demonstrate using the arms to balance.</p> <p>Reveal the next item on slide.</p> <p>Demonstrate hopping.</p> <p>Reveal the next item on slide.</p> <p>Demonstrate putting the foot down.</p> <p>Emphasize some suspects count slowly and may stand on the leg for more than 30 seconds. If suspect is counting slowly, terminate the test after 30 seconds have passed.</p> <p>Point out that it is possible to note two clues simultaneously.</p> <p><u>Examples</u> (Demonstrate):</p> <ul style="list-style-type: none"> <li>o hopping <u>and</u> swaying</li> <li>o foot down <u>and</u> arms raised.</li> </ul> <p>Reveal the last item on slide.</p> <p>NOTE: If suspect can't do the test, record observed clues and document the reason for not completing the test, e.g. suspect's safety.</p>



**Display**  
VIII-26

9. Test Interpretation.
- a. Based on the original developmental research for the One-Leg Stand test, the criterion for this test is 2.
  - b. If the person exhibits at least 2 out of the possible 4 clues, the implication is that the suspect's BAC is above 0.10.
  - c. Using that criterion, this test is 65% accurate.
  - d. Restrictions.
10. Test Demonstrations.

Emphasize that officers should be prepared to explain in court why the suspect could not complete the test.

Remember that the SFSTs are a tool to assist you in seeing visible signs of impairment and not a pass/fail test.

Based on the original research.

**NOTE: The original research indicated that individuals over 65 years of age or 50 pounds or more overweight had difficulty performing this test.**

Choose a participant to serve as a demonstration subject.

Conduct a complete test of the participant-subject, carefully articulating the verbal instructions.



5 Minutes

**H. Limitations of the Three Tests.**

1. Nystagmus limitations.
  - a. A small percentage of people may exhibit nystagmus, due to certain pathological disorders.
  - b. Some suspects may exhibit Horizontal Gaze Nystagmus due to the use of alcohol and certain other drugs.
  - c. A small percentage of individuals may exhibit natural nystagmus.
2. Divided Attention test limitations.
  - a. Both the Walk-and-Turn test and the One-Leg Stand test require a reasonably smooth, level surface.
  - b. Persons with injuries to their backs, legs, or inner ear disorders, may have difficulty with these tests or with other balance tests.

Discuss the participant-subject's performance in terms of the test scoring factors. (Slide VIII-30 should be redisplayed during this discussion.)

If time permits, conduct another demonstration using another participant-subject.





20 Minutes

### I. Taking Field Notes on the Standardized Field Sobriety Tests

1. For purposes of the arrest report and courtroom testimony, it is not enough to report the number of clues on the three tests.
  - a. The numbers are important to the police officer in the field, because they help determine whether there is probable cause to arrest.
  - b. But to secure a conviction, more descriptive evidence is needed.
  - c. The officer must be able to describe how the suspect performed on the tests, and what the suspect did.
2. The standard note-taking guide is designed to help develop a clear description of the suspect's performance on the tests.
3. The section on the pre-arrest screening appears at the bottom of the guide's front side.
  - a. Complete the entire procedure for both eyes, writing "yes" or "no" for each clue.
    - o Write "yes" if the clue is present

Instruct the participants to take out a copy of the note-taking guide to follow along with this discussion.

This slide will be left on display throughout the discussion.

NOTE: For standardization, test the suspect's left eye first.




Display  
VIII-27

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Write "no" if the clue is not present</li> <li>b. After <u>both</u> eyes have been completely checked, total the number of HGN clues observed.</li> <li>c. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this procedure.<ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging while checking for nystagmus:<ul style="list-style-type: none"><li>- suspect unable to keep head still;</li><li>- suspect swaying noticeably;</li><li>- suspect utters incriminating statements.</li></ul></li> <li>o Examples of conditions that may interfere with suspect's performance while checking for nystagmus:</li></ul></li></ul>	<p>Then, check for the same clue in the <u>right</u> eye.</p> <p>Emphasize that officers must be careful to place their check marks in the columns corresponding to the eye actually being checked.</p> <p>Point to this item on slide VIII-27. Remind participants that the "number" of clues is used only for administrative purposes and that for courtroom testimony a complete description of each clue is essential.</p> <p>Point to this item on slide VIII-27.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the note-taking guide (i.e., Resting Nystagmus).</p> <p> Ask participants to give additional examples of facts, circumstances, etc., that should be noted.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VIII-28

- wind, dust, etc. (irritating suspect's eyes);
- visual or other distractions impeding the test

4. The section on the Walk-and-Turn test appears at the top of the guide's back side.
  - a. First two clues are checked only during the instructions stage.
    - o In the boxes provided write number of times the clue appears during the instructions stage.
    - o Example: if suspect loses balance twice during the instructions stage, write "2" in that box.
    - o Example: if the suspect does not start too soon, write "0" in that box.
  - b. Record the next four clues separately for each nine steps.
  - c. If suspect stops walking, record it by drawing a vertical line across the toe at the step at which the stop occurred. Do this for each nine steps.

NOTE: Always face suspect away from flashing or strobe lights.

This slide will be left on display throughout the discussion of Walk-and-Turn scoring.

Point to the first two clues on slide VIII-28.

NOTE: Checks (✓) may be used to denote number of clues. However, always write totals (numerically) in box.

Remind participants that the clue "loses balance during instructions" is recorded only if the suspect's feet "break apart".

Emphasize that participants are never to leave a box blank: if the clue doesn't appear, they must indicate that by writing "0".

Point to these items on slide VIII-28.

Instruct participants to place a letter "S" at bottom of vertical line to indicate "stops walking".

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o How many times during first nine steps;</li> <li>o How many times during second nine steps.</li>   <li>d. If suspect <u>fails to touch heel-to-toe</u>, record how many times this happens.</li> <li>e. If suspect <u>steps off the line</u> while walking, record it by drawing a line from the appropriate footprint at the angle in the direction in which the foot stepped. Do this for each nine steps.</li> <li>f. If suspect <u>uses arms to balance</u>, give some indication of how often or how long this happens. <ul style="list-style-type: none"> <li>o <u>Example</u>: suspect raised arms from sides three times;</li> <li>o <u>Example</u>: suspect held arms away from sides during steps 3 through 7;</li> <li>o <u>Example</u>: suspect "flapped" arms continuously.</li> </ul> </li> <li>g. Record the <u>actual number of steps</u> taken by suspect, in each direction.</li> </ul>	<p>Remind participants that, if suspect stops walking even once, that will count as one clue; but in order to prepare a clear, descriptive arrest report, it is best to document how many times suspect paused while walking.</p> <p>Instruct participants to place a letter "M" at bottom of vertical line to indicate missed heel-to-toe.</p> <p>Place three ✓ (check marks) in the box.</p> <p>Write "steps 3-7" in box.</p> <p>Write in box.</p> <p>Point out that Slide VIII-28 states "actual steps taken". Wrong number of steps is the validated clue.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>h. For the next clue, "the turn," record a <u>description</u> of the turn.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: turned incorrectly;</li><li>o <u>Example</u>: stumbled, to left;</li><li>o <u>Example</u>: wrong direction;</li><li>o <u>Example</u>: no small steps.</li></ul> <p>i. If you terminate the test because the suspect "<u>cannot perform test</u>", indicate why.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: off line 3 times;</li><li>o <u>Example</u>: staggered six steps to right, nearly fell;</li><li>o <u>Example</u>: "leg-locked" after fifth step.</li></ul> <p>j. At end of the test, examine each factor and determine the total number of clues recorded.</p> <p>k. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this test.</p> <ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging during Walk-</li></ul>	<p>Point to this item on slide VIII-28.</p> <p>NOTE: Stop test for fear of injury to suspect.</p> <p><b>Remind participants that, even if a clue shows up more than once, each clue is counted <u>only once</u>.</b></p> <p>Point to this item on slide VIII-28.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the</p>
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**Display**  
VIII-29

and-Turn test:

- suspect verbally miscounts steps;
- suspect utters incriminating statements.

o Examples of conditions that may interfere with suspect's performance of the Walk-and-Turn test:

- wind/weather conditions;
- suspect's age;
- suspect's footwear.

5. The section on the One-Leg Stand test appears midway down the page.
  - a. Record the suspect's performance separately.
  - b. For each clue, record how often it appears.
  - c. If suspect sways, indicate how often with a check mark.
  - d. Indicate above the feet the number they were counting when they put their foot down.
  - e. Check marks should be made to indicate the

note-taking guide.



Ask participants to give additional examples of facts, circumstances, etc., that should be noted.

NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.

This slide will be left on display throughout the discussion of one-leg stand clue.

Point out that, by recording when things happen as well as what happens, a more descriptive arrest report can be prepared.

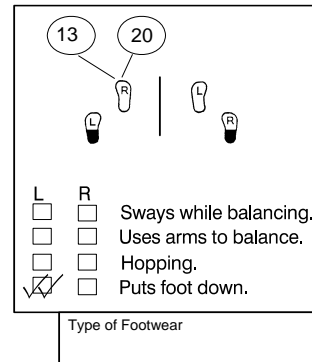
number of times the suspect swayed, used arms, hopped or put foot down.

- o Place check marks in or near the small boxes to indicate how many times you observed each of the clues.

In addition, if the suspect puts the foot down during the test, record when it happened. To do this, write the count number at which the foot came down.

For example, suppose that, when standing on the left leg, the suspect lowered the right foot at a count of "one thousand and thirteen," and again at "one thousand and twenty;" Your diagram should look like the sketch to the right.

- d. If suspect uses arms to balance, indicate how often arms were raised.
- e. If suspect hops, indicate how many hops were taken.
- f. If suspect puts foot down,




Demonstrate the proper documentation for observed clues.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>indicate how many times the foot came down.</p> <p>g. If you terminate the test for "<u>cannot perform test</u>", indicate explicitly why you did so.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: foot down 3 times;</li><li>o <u>Example</u>: staggered three steps to right, then fell;</li><li>o <u>Example</u>: continuous hopping, flailing arms, nearly falling.</li></ul> <p>h. At end of the test, examine each clue and determine how many clues have been recorded.</p> <p>i. Write the number in the "total clues" box.</p> <p>j. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this test.</p> <ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging during one-leg stand test:</li></ul>	<p>Point to this item on slide VIII-29.</p> <p>Remind participants that, even if a clue shows up more than once, each clue is counted <u>only</u> once.</p> <p>Point to this item on slide VIII-29. <b>Remind participants that "number" of clues is utilized only for administrative purposes and that for courtroom testimony a complete description of each clue observed is essential.</b></p> <p>Point to this item on slide VIII-29.</p> <p> Ask participants to give additional examples of facts, circumstances, etc.,</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>- suspect verbally miscounts 30 seconds;</li><li>- suspect utters incriminating statements.</li><li>o Examples of conditions that may interfere with suspect's performance of one-leg stand:<ul style="list-style-type: none"><li>- wind/weather conditions;</li><li>- suspect's age;</li><li>- suspect's footwear.</li></ul></li></ul>	<p>that should be noted.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the note-taking guide (i.e., untied shoelaces, removed footwear, etc.).</p> <p>NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.</p> <p>Solicit participants' questions concerning field note taking.</p>
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## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. Walk-and-Turn is an example of \_\_\_\_\_ field sobriety test.
2. The Walk-and-Turn requires a real or imaginary line and \_\_\_\_\_  
\_\_\_\_\_
3. During the \_\_\_\_\_ stage of the Walk-and-Turn, the suspect is required to count out loud.
4. Per the original research, when properly administered, the Walk-and-Turn can determine whether a suspect's BAC is above or below 0.10, \_\_\_\_\_ percent of the time.
5. In the Walk-and-Turn test, a suspect who steps off the line during the first 9 steps and once again during the second 9 steps and who raises arms for balance twice during the second nine steps has produced \_\_\_\_\_ distinct clue(s).
6. The Walk-and-Turn may not be valid when administered to persons who are over \_\_\_\_\_ years of age.
7. During the \_\_\_\_\_ stage of the One-Leg Stand the suspect must maintain balance for 30 seconds.
8. The One-Leg Stand requires that the suspect keep the foot elevated for \_\_\_\_\_ seconds.
9. Per the original research, when properly administered, the One-Leg Stand can determine whether a suspect's BAC is above or below 0.10, \_\_\_\_\_ percent of the time.
10. In the One-Leg Stand test, a suspect who sways has exhibited \_\_\_\_\_ clue(s).
11. In the One-Leg Stand test, a suspect who raises arms, hops, and puts foot down has exhibited \_\_\_\_\_ clue(s).
12. The maximum number of clues for Horizontal Gaze Nystagmus that can appear in one eye is \_\_\_\_\_.
13. Per the original research, when properly administered, the HGN test can determine whether a suspect's BAC is above 0.10, \_\_\_\_\_ percent of the time.
14. The third clue of HGN is an onset of nystagmus prior to \_\_\_\_\_ degrees.