

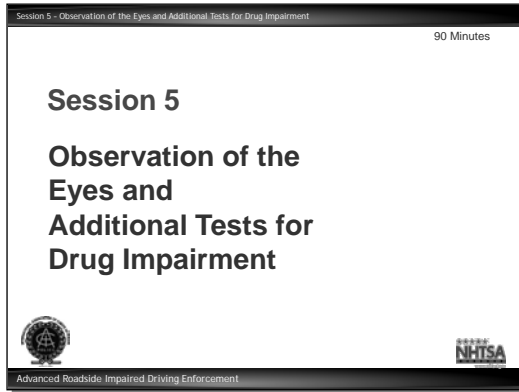
# **Advanced Roadside Impaired Driving Enforcement (ARIDE)**

**R5/13 Edition**

**Participant Manual**



# Participant Manual ARIDE - Session 5 – Observation of the Eyes and Additional Tests for Drug Impairment



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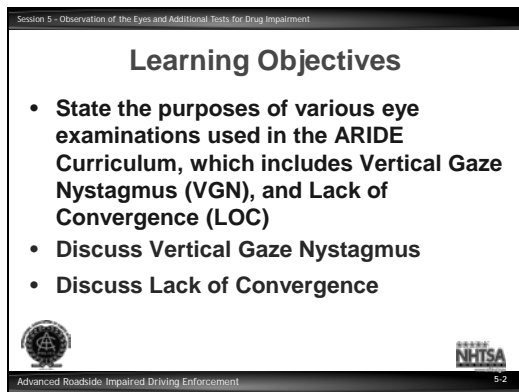
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Upon successfully completing this session, the participant will be able to:

- State the purposes of various eye examinations used in the ARIDE Curriculum, which includes Vertical Gaze Nystagmus (VGN), and Lack of Convergence (LOC)
- Discuss Vertical Gaze Nystagmus: How to administer properly and describe what the results indicate.
- Discuss Lack of Convergence: How to administer properly and describe what the results indicate.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Learning Objectives (Cont.)

- Describe the difference in pupil size
- Discuss Modified Romberg Balance test: How to administer properly and describe what the results indicate
- Explain the relationship between eye examinations and the seven drug categories

Advanced Roadside Impaired Driving Enforcement 5-3

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- Describe the difference in pupil size.
- Discuss Modified Romberg Balance test: How to administer properly and describe what the results indicate.
- Explain the relationship between eye examinations and the seven drug categories.

### Content Segments

- A. Discuss Vertical Gaze Nystagmus  
How to administer properly  
Describe what the results indicate  
Practice VGN
- B. Describe the difference in pupil size
- C. Discuss Lack of Convergence  
How to administer properly  
Describe what the results indicate  
Practice LOC
- D. Modified Romberg Balance test  
How to administer properly  
Describe what the results indicate  
Practice Modified Romberg Balance test
- E. Relationship between eye examinations and the seven categories
- F. Frame the discussion for the seven drug categories
- G. Blank Drug Indicator Matrix


### Learning Activities

- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation
- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

## Vertical Gaze Nystagmus (VGN)

- How to administer properly
- Describe what the results indicate
- Practice VGN



Advanced Roadside Impaired Driving Enforcement 5-4

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**A. Discuss Vertical Gaze Nystagmus**

*Discuss Vertical Gaze Nystagmus*


- How to administer properly
- Describe what the results indicate
- Practice VGN

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

## Documenting Observations

- HGN / VGN
- Walk and Turn
- One Leg Stand

The information collected at roadside is critical to the entire impaired driving enforcement process



Advanced Roadside Impaired Driving Enforcement 5-5

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*Documenting Observations*


- HGN / VGN
- Walk and Turn
- One Leg Stand

The information collected at roadside is critical to the entire impaired driving enforcement process.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

## Administration and Interpretation of Additional Roadside Sobriety Tests

- Pupil size observations
- Lack of Convergence (LOC)
- Modified Romberg Balance test



Advanced Roadside Impaired Driving Enforcement 5-6

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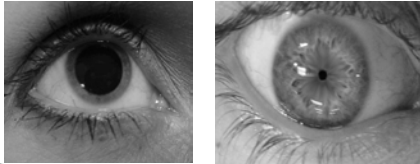

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Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

## Pupil Size Observation

The eyes are often referred to as “The windows to the soul”

Advanced Roadside Impaired Driving Enforcement 5-7

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### **B. Describe the Difference in Pupil Size**



#### *Pupil Size Observation*

- The pupil is basically a circular hole in the middle of the iris, which regulates the amount of light that passes through into the retina.
- The pupils of the eyes continually adjust in size to accommodate different lighting conditions and refocus according to focal length.
- When placed in a darkened environment, the pupils will normally expand in size, or dilate, to allow the eyes to capture as much light as possible.
- When the lighting conditions are very bright, the pupils will normally shrink or constrict, to limit the amount of light that passes through and to keep the eyes from being over stimulated.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Limits on Constriction and Dilation

- Recognize noticeable differences in the pupils
- Each of the seven drug categories has a predictable effect on the pupils

Advanced Roadside Impaired Driving Enforcement 5-8

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- This process of constriction and dilation normally occurs within certain limits.
- This course trains officers to recognize the noticeable differences in the pupils.
- When ingested, each of the seven drug categories has a predictable effect on the eyes, which will be discussed in the subsequent sections.

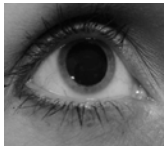


Example: If a stop is made during the day, you should expect to see the pupils somewhat smaller, because of the bright lighting conditions

Note: If you make a stop at night and the pupils are somewhat constricted, then there may be a drug causing the pupil reaction.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Dilated Pupils

Observed when the pupils are larger than expected for the given lighting condition, resulting in a very large opening (circle) in the center of the eye

Advanced Roadside Impaired Driving Enforcement 5-9

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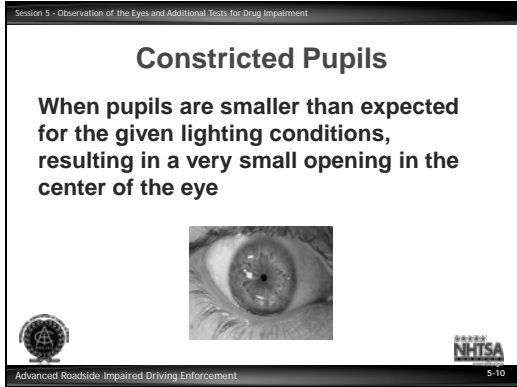
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### *Dilated Pupils*

The pupils appear larger than expected for the given lighting condition, resulting in a noticeably larger opening (circle) in the center of the eye.

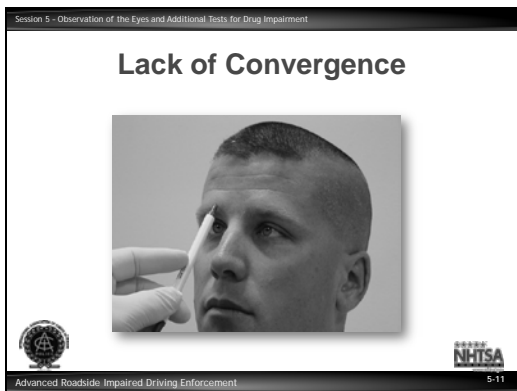


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*Constricted Pupils*

When pupils appear smaller than expected for the given lighting conditions, resulting in a noticeably smaller opening in the center of the eye.

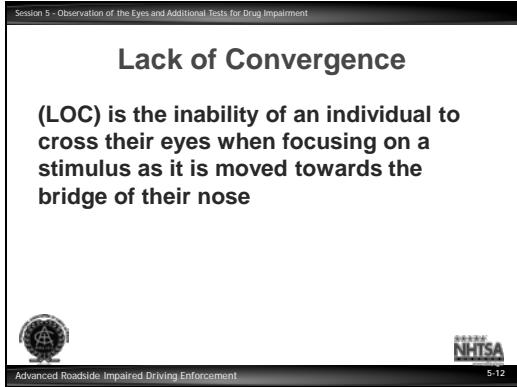
The effects that drugs have on the eyes are involuntary reactions, which mean they cannot be controlled by the individual.



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**C. Discuss Lack of Convergence**

*Lack of Convergence (LOC)*



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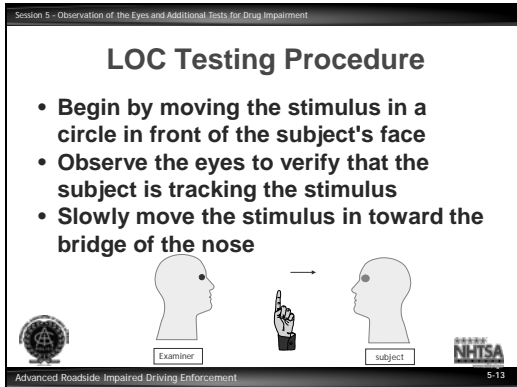
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### Definition of LOC

The inability of a subject to cross their eyes when focusing on a stimulus as it is moved towards the bridge of their nose.



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### Administration of LOC

#### Instructional Stage

- Inform the subject that you will be moving the stimulus around in a circle, and will be moving it toward the bridge of their nose. In addition, inform the subject that you will not actually touch the nose with the stimulus. This notice is important so the individual will not move their head away.
- Instruct the subject to keep their head steady and to follow the stimulus with their eyes only.
- Position the stimulus approximately 12-15 inches in front of the subject's nose in the same position as used in the HGN test.
- Law enforcement officers should not touch the bridge of the nose with the stimulus.



Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Normal Convergence

- A distance approximately two inches (2") from the bridge of the nose
- If the eyes converge (cross) when the stimulus is approximately two inches from the bridge of the nose, the Lack of Convergence is "not present"

Advanced Roadside Impaired Driving Enforcement 5-14

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### Test Interpretation

- The subject's eyes should come together and cross (converge) as they track and remained aligned with the stimulus.
- If the eyes are able to cross (converge), i.e., if they both come together when the stimulus is stopped approximately 2" from the bridge of the subject's nose, lack of convergence is "not present."

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

Lack of convergence is present if the subject's eyes do not come together and cross as they track and stay aligned on the stimulus

Advanced Roadside Impaired Driving Enforcement 5-15

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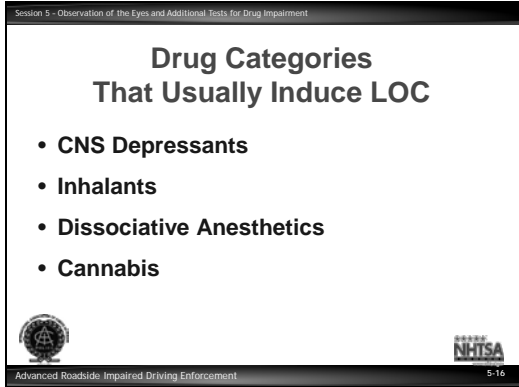
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LOC is "present" if one eye, or both eyes drift away or outward toward the side instead of converging toward the bridge of the nose.



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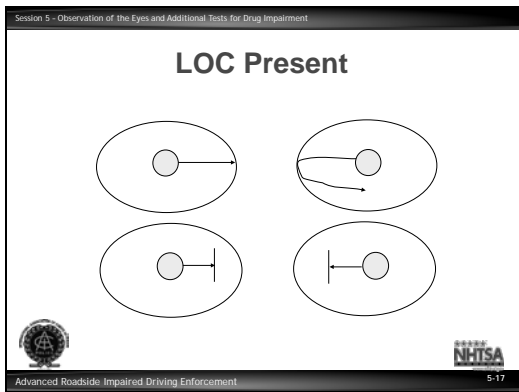
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The following drug categories usually will induce Lack of Convergence:

**CNS Depressants**

- Inhalants
- Dissociative Anesthetics
- Cannabis



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*Left Eye Unable to Converge*

- Both eyes began to converge, however the left eye bounced down and back out

*Both Eyes Unable to Converge*

- Both eyes began to converge, however they both stopped before the convergence was completed.



There are no validated clues associated with the LOC test, the officer should note all observations associated with this test.

- The law enforcement officer should note whether or not convergence is present and document their observations as to the movement of the eyes during this test.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Modified Romberg Balance Test

- Checks a subject's internal clock, balance and presence of tremors (eye and body)
- Ensure the test is conducted on a level surface

Advanced Roadside Impaired Driving Enforcement 5-18

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### D. Modified Romberg Balance Test



The Modified Romberg Balance test is adapted and modified from its original use as a neurological assessment tool in order to check a subject's internal clock, balance and presence of tremors (eye and body).

Since part of the Modified Romberg Balance test checks for balance, care should be taken to ensure the test is conducted on a level surface and in an environment, which is appropriate for this type of test when conducted at roadside.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Three Parts of Modified Romberg Balance Test

- Estimate the passage of 30 seconds
- Observation of tremors
- Observation of sway

Advanced Roadside Impaired Driving Enforcement 5-19

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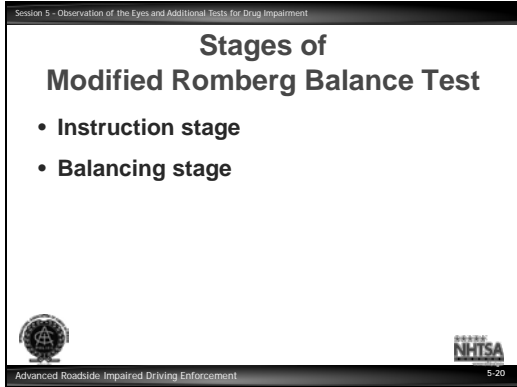
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The Modified Romberg Balance test is divided into three parts which are conducted simultaneously.

- Estimation the passage of 30 seconds
- Observation of tremors
- Observation of sway



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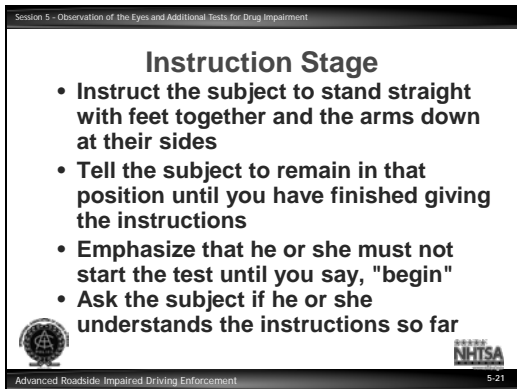
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There are two stages to the Modified Romberg Balance test:

- Instruction stage
- Balancing stage



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*Administrative Procedures*

*Instruction Stage*

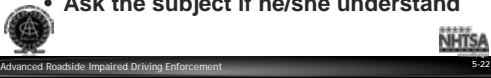
- Instruct the subject to stand straight with their feet together and their arms down at their sides.
- Tell the subject to remain in that position until you have finished giving the instructions. Emphasize that they must not start the test until you say, "begin".
- Ask the subject if they understand the instructions so far.

Note: Make sure to obtain a verbal response from the subject.

Section 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Instruction Stage (Cont.)

- Tell the subject, "When I tell you to tilt your head back slightly and close your eyes"
- Estimate the passage of 30 seconds
- Tell the subject, "When you think 30 seconds has gone by, bring your head forward, open your eyes, and say "Stop""
- Ask the subject if he/she understand



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*Instruction Stage (Cont.)*

4. Tell the subject, "When I tell you to tilt your head back slightly and close your eyes."

Note: Demonstrate this without closing your eyes.

5. Emphasis that they will estimate the passage of 30 seconds.

6. Tell the subject, "When you think 30 seconds has gone by, bring your head forward, open your eyes, and say "Stop"."



7. Ask the subject if they understand the instructions.

Note: Make sure to obtain a verbal response from the subject.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Balancing Stage

1. Instruct the subject to tilt his or her head back and close their eyes
2. Use a timing device, and pick a convenient time to start the test
3. Tell the subject to begin
4. Keep track of time while the subject performs the test
5. Check subject for presence of tremors (eyelid and/or body) and sway

Advanced Roadside Impaired Driving Enforcement 5-23

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### *Balancing Stage*

- Instruct the subject to tilt his or her head back and close their eyes.
- Use a timing device, and pick a convenient time to start the test.
- Tell the subject to begin.
- Keep track of the time while the subject performs the test.
- Check subject for presence of tremors (eyelid and/or body) and sway.

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Balancing Stage (Cont.)

6. When the subject opens his/her eyes ask, "How much time was that?"
7. Record how much time actually elapsed from the start of the test until the subject opened the eyes or was told to stop.

Advanced Roadside Impaired Driving Enforcement 5-24

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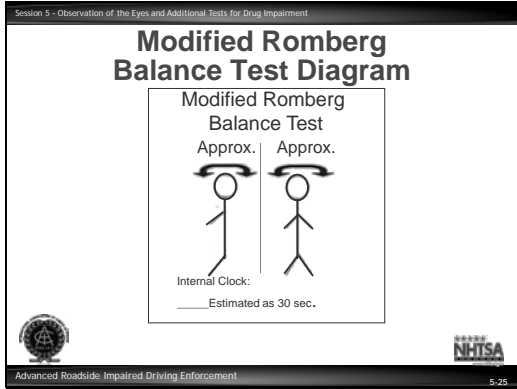
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### *Balancing Stage (Cont.)*

6. When the subject opens his/her eyes ask, "How much time was that?"  
Note: Make sure to document their "exact" verbal response.
7. Record how much time actually elapsed from the start of the test until the subject opened the eyes or was told to stop.



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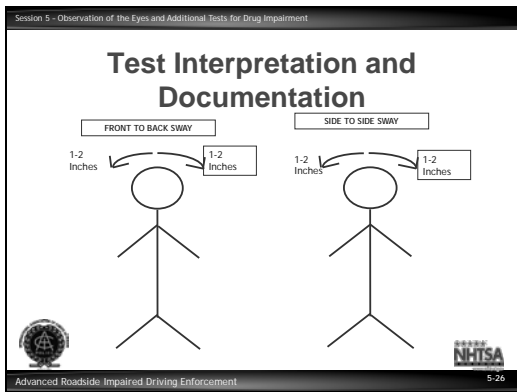
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*Instructor-Lead Demonstrations*



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*Recording Results of the Modified Romberg Balance Test*

The major items that need to be recorded for the Modified Romberg Balance test are:

- The amount that the subject sways.
- The actual amount of time that the subject keeps the eyes closed.
- To record swaying, the officer must estimate how many inches the subject sways, either front-to-back or left-to-right, or both.



Example: If the subject sways approximately two inches toward the left and approximately two inches toward the right, the officer should write the number “2” on each side of the “stick figure” that shows left-to-right movement. To record the subject’s time estimate, simply write the number of seconds that the subject kept his or her eyes closed.

Session 5 – Observation of the Eyes and Additional Tests for Drug Impairment

### Relationships to the Categories

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present (1)*	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (2)*	Dilated (4)*	Dilated (4)*	Normal	Constricted	Normal (3)*	Dilated (4)*

1. \*High dose for that individual  
 2. \*Pupil size may be dilated for Soma, Quaaludes, and some anti-depressants  
 3. \*Normal (average ranges) but may be dilated  
 4. \*Dilated, but may be normal (average ranges)

Advanced Roadside Impaired Driving Enforcement 5-27

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## E. Relationship Between the Eye Observations and the Drug Categories

### *Eye Observations*

- Eye observations can provide valuable information, which can help determine impairment.
- Additionally, we discussed in Session 2 that HGN is a critical part of assessing subjects suspected of being under the impairment of alcohol.
- HGN also plays a significant part in the evaluation of individuals who might be impaired by drugs alone or in combination with alcohol.

In addition to HGN, VGN, and LOC, pupil size can also provide information, which contributes to the overall process in determining whether or not an individual is impaired by alcohol and/or drugs.

We have included a chart to assist the law enforcement officer in recognizing signs of alcohol, drug, or a combination of both alcohol and drug impairment relative to eye observations.



This chart or any of the other information presented in this course relative to a specific drug category is not meant to encourage the officer to connect their observations to a specific drug category.



Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

### Caution

- Although effects displayed in the table are what you will usually find when observing a subject impaired by various types of drugs, you may not always find them
- Not everyone is affected the same way by drugs

Advanced Roadside Impaired Driving Enforcement 5-28

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The law enforcement officer who successfully completes this course shall use only their roadside observations to make a decision as to whether the subject is impaired or not impaired according to their specific state's statutes and support an arrest or no arrest decision.

*Important Note: (Caution)*

*Although effects displayed in the table are what you will **usually** find when observing a subject impaired by various types of drugs, you **may not always** find them.*

*Not everyone is affected the same way by drugs. You need to remember this when describing drug effects. It is best "never to say never" and "always avoid saying always."*

**The officer who completes this course is NOT certified as a DRE and does not have the training required to support the selection of a specific drug category, which may be the source of the subject's impairment.**

Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment

## QUESTIONS?




Advanced Roadside Impaired Driving Enforcement 5-28

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