90 minutes

SESSION III

THE PSYCHOPHYSICAL TESTS

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Upon successfully completing this session the student will be able to:

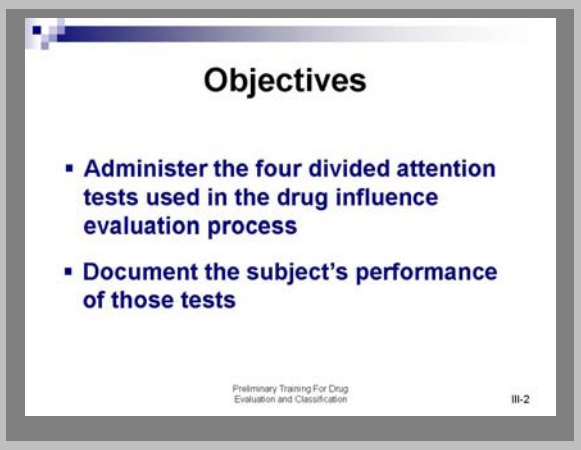
- Administer the four divided attention tests used in the drug influence evaluation process.
- Document the subject's performance of those tests.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Romberg Balance	▪ Instructor-Led Presentations
B. Walk and Turn	▪ Student-Led Demonstrations
C. One Leg Stand	▪ Hands-on Practice
D. Finger to Nose	

I. THE PSYCHOPHYSICAL TESTS

Display Slide III-1: Psychophysical Tests

Display Slide III-2: Objectives



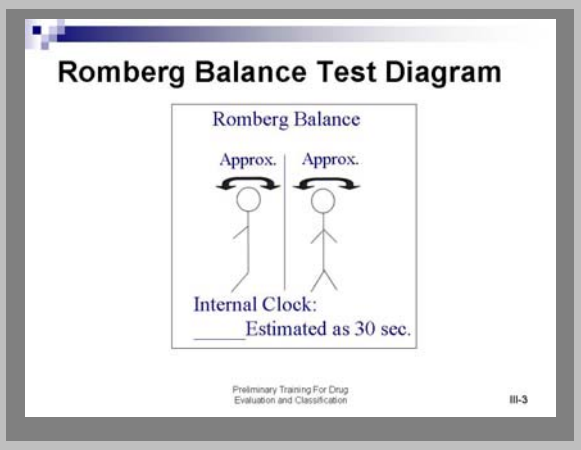
Briefly review the objectives, content and activities of this session.

- Four divided attention psychophysical tests are administered in the DRE evaluation – Romberg Balance, Walk and Turn, One Leg Stand and Finger to Nose.
- The Walk and Turn and One Leg Stand as well as HGN have been scientifically validated by conducting controlled research to demonstrate their reliability. The Romberg Balance and Finger to Nose have not been

subjected to that sort of scrutiny, however, if properly administered and recorded they are very credible evidence of impairment.

- Point out that throughout the evaluation process the evaluator must be cognizant of officer safety issues. Officer survival procedures should be observed and adhered to during the administration of the DRE drug influence evaluation.

Display Slide III-3: Romberg Balance Test Diagram



A. Romberg Balance

Write "Romberg Balance" on the dry erase board or flip-chart.

The Romberg Balance is the first divided attention test that is administered during the drug influence evaluation.

Point out that the Romberg Balance test used by DREs is a modified version of the original test developed in the 19th Century.

- The test requires the subject to stand with the feet together and the head tilted back slightly and with the eyes closed.
- Demonstrate the stance required of the subject.
- The test also requires that the subject attempt to estimate 30 seconds; the subject must be instructed to open the eyes and tilt the head forward and say "stop" when they think thirty seconds has elapsed.

- Emphasize that the DRE must not instruct the subject as to how they are to estimate the passage of 30 seconds.

- Point out that some drugs tend to "speed up" the subject's internal clock, so that the subject may open the eyes after only 10 or 15 seconds have gone by. Other drugs may "slow down" the internal clock, so that the subject keeps the eyes closed for 60 or more seconds. And, sometimes the drugs confuse the subject to the point where they won't remember to open the eyes until instructed to do so by the DRE.

- Point out that the DRE modified version of the original Romberg Balance Test is a divided attention test as well as a possible measurement of the person's internal timing estimates.

- Point out that drug impairment can affect both divided attention and the internal clock and can vary among people. The use of the modified Romberg Test internal clock to predict or relate to certain drug categories is not supported by research at this time. Performance outside the range of plus or minus 5 seconds must be used cautiously and considered with the totality of the decision process.

Emphasize that the DRE must look at a watch as soon as the subject starts the test and must record the actual amount of time that passes by until the subject opens his or her eyes.

Point out that the DRE should not close their eyes while demonstrating this test for safety reasons. Emphasize this to the students.

Two instructors should demonstrate the administrative procedures for Romberg Balance. One instructor will play the role of the DRE, the other the "subject."

- The DRE must record how much time actually elapsed from the start of the test until the subject opened the eyes.

- If the subject continues to keep the eyes closed for 90 seconds, the DRE should stop the test and record the fact that it was terminated at 90 seconds.

Administrative Procedures and Instructions

- Tell the subject to stand straight with the feet together and the arms down at the sides.

- Tell the subject to maintain that position while you give the instructions. Emphasize that he or she must not start the test until told to start.

- Ask the subject if he or she understand so far.

- Tell the subject when you instruct them to begin the test, they must tilt their head back and close their eyes. DEMONSTRATE how the head should be tilted, but DO NOT CLOSE YOUR EYES while demonstrating.
- Tell the subject that when you say "Start", they must keep their head tilted back with their eyes closed until they think that 30 seconds have gone by. DO NOT tell the subject to "count to thirty seconds" or to use any other specific procedure to keep track of time. But on the other hand, DO NOT tell the subject that they are <u>not allowed</u> to count to thirty seconds. SIMPLY SAY, "keep your head tilted back with your eyes closed until you think that thirty seconds have gone by".
- Tell the subject that, when they think the 30 seconds have gone by, they must bring their head forward, open their eyes, and say "Stop".
- Ask the subject if they understand.
- Look at your watch and pick a convenient time to start the test.
- Tell the subject to tilt their head back and close their eyes.
- Tell the subject to begin or start the test.
- Keep track of time while the subject performs the test.
- When the subject opens the eyes, ask them "how much time was that?"
- If 90 seconds elapse before the subject opens their eyes, stop the test.

<u>Instructor-Led Demonstrations</u>

One instructor should administer a complete Romberg Balance test to another instructor.

- Instructor-to-instructor demonstrations.

Solicit students' questions.

- Instructor-to-student demonstration.

Select a student to participate in the demonstration.

The instructor should administer a complete Romberg Balance test to the student.

Thank the student for his or her participation and solicit questions.

Student-Led Demonstrations.

Select two students to conduct demonstrations. Have the first student administer the test to the second.

Offer constructive criticism, as appropriate, about the student-administrator's demonstration.

Have the second student administer the test to the first and offer appropriate constructive criticism.

Thank the students for their participation and solicit questions.

Recording Results of the Romberg Balance Test

- Instruct students to turn to the "Romberg Test Diagram" in their Student Manuals (the same diagram that appears on Visual III-3).

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

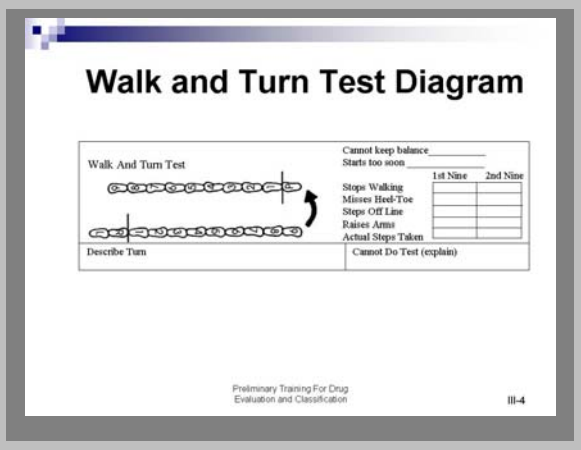
- The amount that the subject sways.
- The actual amount of time that the subject keeps the eyes closed.
- To record swaying, the DRE must estimate how many inches the subject sways, either front-to-back or left-to-right, or both.
    - Example: If the subject sways approximately two inches toward the left and approximately two inches toward the right, the DRE 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.

Solicit students' questions.

Hands-On Practice

- Assign students to work in pairs.
- Instruct teammates to practice administering the Romberg Balance test to each other.

Display Slide III-4: Walk and Turn Test Diagram



B. Walk and Turn

Write "Walk and Turn" on the dry erase board or flip-chart.

- It is suggested a visible line be placed on the floor for use during the demonstration.

Walk and Turn is the second divided attention test administered during the drug influence evaluation.

The test is administered the same way that we have used it for Standardized Field Sobriety Testing purposes.

- Monitor the practice and offer coaching and constructive criticism, as appropriate.

- Review of Walk and Turn administrative procedures.

The test has two stages: the instructions stage and the walking stage.

During the instructions stage the subject must stand heel-to-toe, with the right foot ahead of the left foot with the heel of the right foot against the toe of the left foot, and keeping the arms at the sides.

- Demonstrate the stance that the subject must maintain during the instructions stage. If the subject fails to maintain the starting position during your instructions, discontinue the instructions and direct the subject back to the starting position before continuing.

- The subject is told to not start walking until told to do so.
- The subject must be told to take nine heel-to-toe steps on the line, to turn around keeping the front or lead foot on the line and to turn by taking a series of small steps with the other foot, and to return nine heel-to-toe steps down the line.
- Demonstrate how the steps are taken, counting out loud and demonstrating the turn. Emphasize that the DRE should not turn his/her back to the subject for safety reasons.
- You must demonstrate several heel-to-toe steps, and you must demonstrate the turn.
- If the subject stops or fails to count out loud or watch his/her feet, remind him/her to perform these tasks. This interruption will not effect the validity of the test and is essential for evaluating divided attention.
- The subject must be told to watch his or her feet while walking, and to count the steps out loud.
- The subject must be told to keep their arms at the sides at all times.
- The subject must be told not to stop walking until the test is completed.
- The subject should be asked if he/she understands the instructions.
- Once the subject acknowledges his/her understanding of the instructions, instruct the subject to begin the test.
- Note: Advise the students that there may be instances when the subject may have to be reminded that the first step from the heel-to-toe position is step one.

Note: The Walk and Turn procedures were revised to conform to SFST; these revisions were approved by the IACP Technical Advisory Panel (TAP), November 2008.

Demonstration of Walk and Turn

Select a student to serve as the "subject."

- Instructor-to-student demonstration.

Instructor should administer a complete Walk and Turn test.

Thank the student for his or her participation and solicit questions about test administrative procedures.

- Student-to-student demonstration.

Select two students to conduct a demonstration.

Have one student administer a complete Walk and Turn test to the other. Offer appropriate comments and constructive criticism about the test administration.

Thank the students for their participation and solicit questions.

Recording Results of the Walk and Turn Test

- Instruct students to turn to the "Walk and Turn Test Diagram" in their Student Manuals (the same diagram that appears on Visual III-4).

Ask students: "What are the two clues that we might observe during the instructions stage of the Walk and Turn test?"

- We record the very same clues on this test that we use for Standardized Field Sobriety purposes.

Instruction stage clues:

- Cannot maintain balance while listening to instructions (feet break away from the heel-to-toe stance).

- Starts too soon (i.e., subject starts walking before told to do so).

Walking stage clues:

Ask students: "What are the six clues that we might observe during the walking stage?"

- Stops while walking
- Does not touch heel-to-toe
- Steps off the line
- Uses arms to balance
- Improper turn
- Incorrect number of steps

During the walking stage, clues will be marked in the following manner:

- On the lines indicate the number of times the clue occurred. Draw a slash mark at an angle in the direction the stop was taken.

During the walking stage, clues will be marked in the following manner:

- Indicate by a check the number of times the subject stops, misses heel-to-toe, steps off line, or raises arms.

- Record the actual number of steps taken.

- If the subject stops walking a slash mark should cross between the feet and be labeled with an "S."

    - The "S" indicates "stopped."

- If the subject steps off the line, indicate with a half of slash mark at an angle in the direction the step was taken.

- If the subject misses heel-to-toe, indicate with a slash mark between the feet and label with an "M."

    - The "M" indicates "missed."

Hands-On Practice

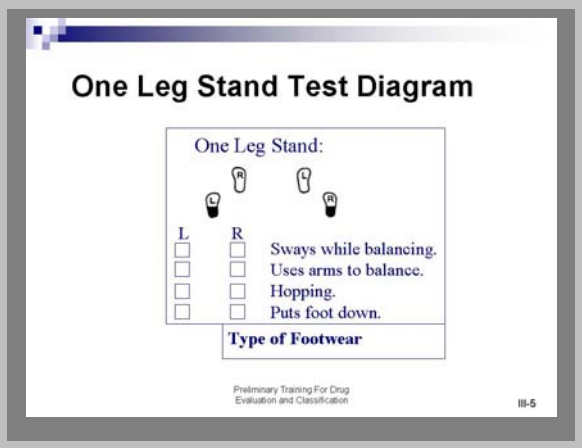
- Assign students to work in pairs. Instruct teammates to take turns administering the Walk and Turn test to each other.

- Note: It is not necessary that the teammate playing the role of the "subject" actually carry out the walking stage of the test.

- The idea is to take turns practicing the proper way to give instructions for the test.

- Monitor the practice and offer coaching and constructive criticism, as appropriate.

Display Slide III-5: One Leg Stand Test Diagram



C. One Leg Stand

Write "One Leg Stand" on the dry erase board or flip-chart.

One Leg Stand is the third divided attention test administered during the drug influence evaluation.

- For drug evaluation purposes, One Leg Stand is given twice to the subject.
- First, the subject is required to perform the One Leg Stand while standing on the left foot.
- Note: The One Leg Stand is administered twice to test both the left and right legs to assist the DRE in making comparisons and identify potential medical conditions that may be present.

Write "given twice" on dry erase board or flip-chart

- Next, they are required to perform the test while standing on the right foot.
- Otherwise, One Leg Stand is used in the same fashion as in Standardized Field Sobriety Testing.

Review of One Leg Stand Administrative Procedures

Two instructors should be used for this demonstration, one as the "subject" and the other as the examiner.

- The test has two stages, the instructions stage and the balance and counting stage.
- During the instructions stage, the subject must stand with the feet together, arms at the side, facing the examiner.
- Demonstrate the stance that the "subject" is required to maintain.
- The subject must be told that they will have to stand on the left foot, and raise the right foot approximately 6 inches off the ground, with the right leg held straight and the raised foot parallel to the ground.
- The examiner must demonstrate the one-leg stance.
- Emphasize that the subject must maintain the foot elevation throughout the test.
- If the subject lowers his/her foot, he/she should be instructed to raise it.
- The subject must be told that they must look at the elevated foot during the test.
- Emphasize that the examiner should not look at his or her own foot while giving the instructions; for safety reasons, the examiner must keep the eyes on the subject at all times.
- The subject must be told that they will have to count out loud in the following manner: "one thousand one, one thousand two, one thousand three" and so on until told to stop.
- After giving the instructions, the examiner should ask the "subject" if they understand.

  Note: If the subject puts the foot down, remind the subject to pick the foot up again and continue counting from the point at which the foot touched.

Solicit students' questions about the administrative procedures for One Leg Stand.

- Point out that the validation of the One Leg Stand was based on a thirty-second time period. Therefore, the DRE must keep track of the actual time the subject stands on each foot. When thirty seconds have passed, stop the test.

- After the subject has completed the test on the left foot, they must be told to repeat the test on the right foot.

- Point out that the DRE should explain the instructions again prior to having the "subject" perform the test on the right foot.

Recording Results of the One Leg Stand

- Instruct students to turn to the "One Leg Stand Test Diagram" in their Student Manuals (the same diagram that appears on Visual III-5).

Ask students: "What are the four clues of the One Leg Stand test?"

For drug evaluation purposes, we use the same clues on the One Leg Stand that we use for Standardized Field Sobriety Testing.

The One Leg Stand clues:

- Sways while balancing
- Uses arms to balance
- Hopping
- Puts foot down

Indicate above the feet the number they were counting when they put their foot down.

Check marks should be made to indicate the number of times the subject swayed, used arms for balance, hopped or put their foot down.

The subjects actual count during the 30 seconds should be documented in the top area of the box above the foot on which the subject was standing.

Solicit questions about documenting the results of the One Leg Stand.

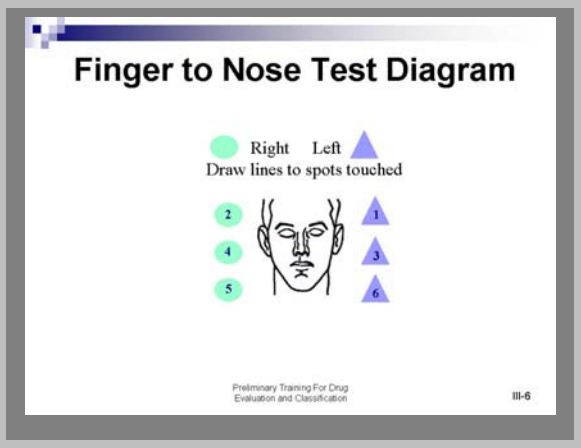
Hands-On Practice

- Assign students to work in pairs.

- Instruct teammates to take turns administering the One Leg Stand to each other.

- Note: It is not necessary that the student serving as the "subject" actually stand on one foot for thirty seconds. The idea is to practice giving the instructions for the test. Monitor the practice and offer appropriate coaching and constructive criticism.

Display Slide III-6: Finger to Nose Diagram



D. Finger to Nose

Write "Finger to Nose" on dry erase board or flip-chart.

The Finger to Nose is the final divided attention test used in the drug influence evaluation.

Finger to Nose differs from the other three tests in that the examiner must continue to give instructions to the subject throughout the test.

Administrative procedures for Finger to Nose

Two instructors should serve in this demonstration, one as the examiner and the other as the "subject."

- The subject must be told to stand with feet together, arms down at the sides, facing the examiner.
- The examiner should demonstrate the stance.
- The subject must be told to close his/her hands, rotate the palms forward and then to extend the index fingers from the closed hands.
- Demonstrate the proper extension of the index fingers.
- The examiner must tell subject that they will be asked to touch the tip of the index finger to the tip of the nose.

- The examiner must demonstrate to the subject how they are expected to touch the fingertip to the nose. (Without actually touching the nose.)

- The subject must be told that he/she will be given a series of commands, i.e., "left, right, etc." to indicate which fingertip is to be brought to the tip of the nose.

- Demonstrate: "When I say 'right,' touch the tip of your right index finger to the tip of your nose.

- The examiner must tell the subject that they are expected to return the arm to the side immediately after touching the fingertip to the nose.

- Demonstrate the movement of the fingertip to the nose by standing at an angle to the "subject" so that he/she can see the proper method for touching the nose.

- The subject must be told to tilt the head back slightly and to close the eyes, and keep them closed until the examiner says to open them.

- Note: The subject's head should be tilted back in the same fashion as in the Romberg Balance test.

- The examiner should demonstrate the stance with head tilted back, arms at the sides with index fingers extended. Remind the students that they should not close their eyes during the instructions for safety reasons.

The test is always given in the following sequence of commands: Write the sequence on the dry erase board or flip-chart.

- left
- right
- left
- right
- right
- left

Solicit students' questions concerning administrative procedures for Finger to Nose.

Instructor-Led Demonstrations

One instructor should give a complete demonstration of Finger to Nose, using another instructor as the "subject."

- Instructor-to-instructor demonstration.

- Instructor-to-student demonstration.

Select a student to serve as the "subject" and administer a complete Finger to Nose test to that student.

Thank the student for his/her participation and solicit questions about the demonstrations.

Student-Led Demonstrations

Select two students and have them take turns administering Finger to Nose tests to each other.

Offer appropriate comments and constructive criticisms about the students' administration of the test.

Thank the students for their participation and solicit questions from the class.

Recording Results of the Finger to Nose Test

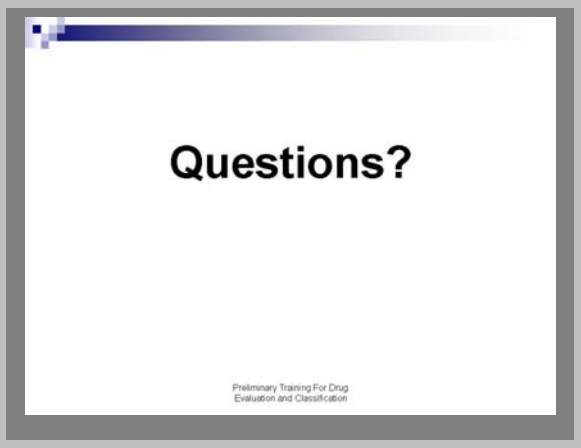
- Instruct students to turn to the "Finger to Nose Test Diagram" in their Student Manuals (the same diagram that appears on Visual III-9).
- The results of Finger to Nose test are recorded by drawing a "map" showing where the fingertips landed on each attempt.
- A line should be drawn to the appropriate triangle to indicate where the subject touched their nose.
- Suggestion: If the DRE draws the line from the place where the subject touches to the appropriate triangle, it enables them to draw a straighter line.

Solicit questions about recording the results of Finger to Nose.

Hands-on Practice

- Assign students to work in pairs. Instruct teammates to take turns administering Finger to Nose tests to each other.
- Note: It is not necessary for the teammate who is the "subject" to carry out the test completely.
- Monitor the practice and offer appropriate coaching and constructive criticism.

Display Slide III-7: Questions



REVIEW QUESTIONS

1. List the four divided attention tests in the sequence in which they are administered in the drug influence evaluation.

   1. Romberg 2. Walk and Turn 3. One Leg Stand 4. Finger to Nose

2. On which foot must the subject stand the first time he or she performs the One Leg Stand?

   Left

3. How much time must the subject estimate during the Romberg Balance?

   30 seconds

4. List all of the scientifically validated clues of impairment for Walk and Turn.

   1. Cannot maintain balance during instructions 2. Starts too soon
   3. Stops while walking 4. Does not touch heel to toe 5. Steps off the line
   6. Uses arms to balance 7. Incorrect turn 8. Wrong number of steps

5. List all of the scientifically validated clues of impairment for Finger to Nose.

   None

6. What sequence of finger commands must you give for the Finger to Nose?

   Left, Right, Left, Right, Right, Left

7. List all of the scientifically validated clues of impairment for Romberg Balance.

   None

8. List all of the scientifically validated clues of impairment for One Leg Stand.

   1. Sways while balancing 2. Uses arms to balance 3. Hopping
   4. Puts foot down