Administration Instructions

The participant must have completed the Visual Acuity Test before starting this measure. If he/she has not completed the Visual Acuity Test, it will be administered automatically as a part of the DVA program before the DVA testing begins. If this is the case, review Visual Acuity Test instructions that are appended to the end of these instructions.

Show the headgear with rate sensor to the child, saying something like the following (adapt as needed): Now we are going to do the same activity, but this time you will move your head back and forth as if saying NO. If you move it just right, the letters will appear. This special hat will be on your head so the computer can know if your head is moving just right. If it is, the pictures will show up!

Say: To make a picture appear on the screen, you need to move your head, like you are saying NO, or UH-UH. Watch me. Demonstrate; then say: Now you try it. Shake your head like you are saying NO. Give appropriate feedback until the child demonstrates an understanding of the required motion.

Then say: Now let's put the special hat on and try this. Can you help me put the hat on your head? Place the headgear securely on the child's head, making sure it is comfortable and correctly adjusted (rate sensor should be on right side of head, with headgear adjustment knob at the back of the head). For small children, the examiner may need to put a stocking cap or other type of form-fitting, child-pleasing hat under the headgear to ensure a snug fit.

A brief training is followed by practice items. If participants do not succeed on the practice, testing will be discontinued.

Training

When the headgear is properly positioned, say: This time when you shake your head, a picture will flash on the screen. I want you to tell me, or point to, what you see each time. It is OK to make your best guess. When you see the picture flash on the screen, stop shaking your head.

Practice:

Once the child has learned to move his/her head correctly, there is a practice series with the HOTV letters at size 20/400. The child receives ten trials (each trial involves up to three flashes of each letter) and is asked to identify the letters by either pointing to or saying the letters. The child needs to achieve 60 percent (six of the ten trials) correct to continue with testing. When five practice trials are incorrect, the test is automatically discontinued. Alternatively, as soon as the child gets six practice items correct, the program moves on. The practice items will measure leftward head rotation; testing begins with rightward rotation.
Testing:

Click the **START TEST** button and say: **Now we are going to do some more of these. Ready? Go ahead.** The letters will begin at three sizes above the achieved Visual Acuity Test score and will become progressively smaller or larger, depending on the child’s performance. A given letter will flash up to three times during head rotation. The child should be encouraged not to answer until he/she is certain which letter flashed; however, after three letter flashes, the letter will no longer appear, regardless of head movement.

If the child has not responded, seems uncertain about his/her answer, or has not used all three trials, **the examiner should prompt the child each time by saying something like: Go ahead or Now shake your head NO.** If the child is trying but struggling to verbalize the letters, remind him/her that pointing is OK, saying: **You can show me what you saw.** The examiner should provide encouragement and praise regardless of whether the letter identified is correct, so that the child will continue.

The examiner should record whether the response was correct or incorrect by clicking either the **Yes** or **No** button. The next item will not appear until the examiner has scored the item currently on screen.

The examiner should remind the child as needed that after he/she says or points to a letter in response to what flashed on the screen, he/she should **stop the head-shaking and wait for the examiner to indicate that it is time for the next item** (the letter flashes up to three times and the examiner may need to remind the child to stop shaking his/her head while the examiner enters the response).

If the child sees the presentation of a letter multiple times (up to three are possible) and provides different responses, the examiner should go with the dominant response. In a case where the child gives different responses each time, the examiner should score the child’s last response to the flashing letter presentation. The test will progress and automatically end when the child reaches the discontinue criterion, or he/she has correctly identified the smallest-size letters presented.

The test is divided into Part 1 (right) and Part 2 (left). Since the participant makes head rotations to both sides (as if saying NO), not in one direction only, no change in instructions is necessary. When the test is completed, the letters will no longer flash.

The computer automatically ends the test after it has determined the dynamic acuity score; then say: **We’re all done with this activity.**
Visual Acuity Test Instructions

A laminated card with four letters is used with young participants.
If the child does not succeed in the training (as outlined below), testing should be discontinued.

Training:

Once the child is seated in a chair that is 12.5 feet from the monitor, say: Now we are going to do an activity that shows us how well you can see pictures on the TV screen. Hand the child the laminated card and say: Everything you will see is shown on this card. This is a picture of an H, this is a picture of an O, this is a picture of a T, and this is a picture of a V (point to each letter while naming). Now, you try to name the pictures.

Encourage the child to name the letters as best he/she can. If the child names all four letters correctly, say: Good job. If any are named incorrectly, point to each letter and say only one time as before: This is a picture of an H, this is a picture of an O, this is a picture of a T, and this is a picture of a V. (Because letter naming is not required to complete the test, it is OK if the child does not correctly name each letter. Encourage the child’s efforts without providing negative feedback.) Then say: Let’s do some more.

Say: You are going to look on this screen (point to monitor); then, you will see a picture (for children who clearly know the alphabet, it is OK to say letter instead of picture). Each time, I want you to tell me or point on this card to what you saw on the screen. If you are not sure, it is OK to guess. Are you ready to start? Let’s begin.

Practice:

The examiner should click the START TEST button on the examiner’s screen. The examiner will present one set of practice visual acuity trials (four letters) at size 20/400.

a. If the child gets three or more correct, continue to visual acuity testing.

b. If the child misses two or more of four, review the laminated ‘pointing chart’ and ask him/her to identify (either orally or by pointing) the four letters HOTV. If all are done correctly, see step c below. If child cannot correctly identify the optotypes on the HOTV set, repeat the training above one more time.

c. Proceed to a second practice trial set. If three or more of four are done correctly, proceed to live visual acuity testing. If not, repeat (third practice trial set). If three or more are correct on the third practice trial, begin visual acuity testing. If two or more are incorrect, stop the test since this is the third practice trial (step d below).

d. Practice trials should be limited to a total of three sets. If, after three trials, the criterion of three or more of four correct is not achieved, then stop the test.
Visual Acuity Testing:

The examiner should say: You did great. Now, the letters will get smaller and smaller until you cannot really see them. That is ok. We want to know how small they can get before you cannot see them.

The examiner should click NEXT on the examiner’s screen. Each time a letter is displayed, say: Tell me or point to what you see.

It is the examiner’s job to use the computer to record (click) whether the response was correct or incorrect. Simply note the child’s verbal or pointing response, compare it to the correct answer listed on the examiner’s screen, and score it accordingly. The next item will not appear until the examiner has scored the item currently on screen. If the child is trying but struggling to verbalize the letters, remind him/her that pointing is OK, saying: You can show me what you see.

The test will progressively present smaller letters if the child answers correctly or larger ones if the child is answering incorrectly, until an acuity score is established. The test will automatically end when the computer has calculated the acuity score. The examiner should click the NEXT button to move on to the next section.
Introduction

The participant must have completed the **Visual Acuity Test** before starting this measure. If he/she has not completed the **Visual Acuity Test**, it will be administered automatically as a part of the **DVA** program before the **DVA** testing begins. If this is the case, review **Visual Acuity Test** instructions that are appended to the end of these instructions.

For participants who wear glasses and can understand the question, the examiner should ask: Are your glasses progressive or multifocal?

- If the answer is YES, then the examiner should administer **Visual Acuity Test 2** if he or she plans to administer the **Dynamic Visual Acuity Test**. If this is the case, review **Visual Acuity Test** instructions that are appended to the end of these instructions.

- If the answer is NO, the examiner should not administer **Visual Acuity Test 2** – only the **Dynamic Visual Acuity Test** (and one **Visual Acuity Test**, if it has not been already administered).

**NOTE:** For participants with glasses that are multifocal or who have progressive lenses, **DVA** testing should be done without glasses. A second administration of the **Visual Acuity Test** is included in the **DVA** for these persons. Other participants wearing single-vision lenses should continue to wear them for the **DVA** assessment.

The examiner needs to explain to the participant that he/she must wear the headgear to enable the computer to know if his/her head is turning. Show the headgear with rate sensor to the participant, saying something like the following (adapt as needed): Now we are going to do some more, but this time, you need to wear this special headband to make the letters appear. May I put it on your head now? Place the headgear securely on the participant’s head, making sure it is comfortable and correctly adjusted (rate sensor should be on right side of head, with headgear adjustment knob at the back of the head).

When the headgear is properly positioned, say: To make a letter appear on the screen, you need to move your head, like you are saying **NO**. Watch me. Demonstrate for the participant; then say: Now you try it. Shake your head like you are saying **NO**.

A brief training is followed by practice items. If participants do not succeed on the practice, testing will be discontinued.

**Training:**

Using a practice trial at 20/400 size, sit with the participant and have him/her make the letters appear with the correct head movement. The examiner can judge the correctness of the movement by watching the moving vertical bar on the computer screen and whether it is in the green range or not (between the numbers 180 and 250). If the participant is not making the correct movement, the examiner may need to demonstrate again; the purpose of this training is to make sure the participant has learned to move his/her head correctly.
Practice:

Once the participant has learned to move his/her head correctly, there is a practice series with the letter size set at 20/400. Now the examiner should say: *This time when you shake your head, a letter will flash on the screen. I want you to tell me what you see each time. It is OK to make your best guess. Once you recognize the letter on the screen, stop shaking your head and tell me your answer.*

Testing:

Click **START TEST**; say: *Now we are going to do some more of these. The letters will be smaller than the ones we just practiced with. Ready? Go ahead.* The letters will begin at three sizes larger than the achieved Visual Acuity score and will become progressively smaller or larger, depending on the participant’s performance.

The examiner should use the computer to record whether the response was correct or incorrect by clicking either the Yes or No button. If the participant does not appear to have seen the letter flash or is in any way unsure of his/her response, allow him/her up to the full three attempts at the letter. The examiner should prompt the participant each time by saying something like, *Go ahead* or *Now shake your head ‘NO’ again.*

The examiner should remind the participant as needed that after he/she says a letter in response to what flashed on the screen, he/she should **stop the head-shaking and wait for the examiner to indicate that it is time for the next item** (the letter flashes up to three times and the examiner may need to remind the participant to stop shaking his/her head while the examiner enters the response).

The test is divided into Part 1 (right) and Part 2 (left), meaning that the letter will only flash for a rightward (Part 1) head rotation and then leftward (Part 2) head rotation. Since the participant makes head rotations to both sides (as if saying NO), not in one direction only, no change in instructions to the participant is necessary. When the test is completed, the letters will no longer flash.

The computer automatically ends the test after it has determined the dynamic acuity score; then say: *We’re all done with this activity.*
Visual Acuity Test and Visual Acuity Test 2 Instructions:

Once the participant is seated in a chair that is 12.5 feet from the monitor, say: **Now we are going to do an activity where you will tell me what letters you see on the screen. You are going to look on this screen (point to monitor) and you will see a letter. Each time, I want you to tell me the letter you saw on the screen. If you are not sure, it is OK to guess. The letters will get smaller and smaller until you cannot really see them. That is ok. We are trying to determine how small they can get before you cannot see them. Are you ready to start? Let's begin.**

**Visual Acuity Test 1 (with glasses or contact lenses if usually worn for distance vision):**

The examiner should click the **START TEST** button on the examiner's screen. Each time a letter is displayed, say: **Tell me, what letter is this?** (At the examiner’s discretion, this can be replaced by: **Go ahead** after a few letters have been displayed.)

It is the examiner’s job to use the computer to record whether the response was correct or incorrect by clicking either the **Yes** (correct) or **No** (incorrect) button. Simply note the participant’s response, compare it to the correct answer listed on the examiner’s screen, and score it accordingly. The next item will not appear until the examiner has scored the item currently on screen (but it will appear immediately after the examiner clicks Yes or No).

The test will progressively present smaller letters if the participant answers correctly and larger ones if the participant answers incorrectly, until an acuity score is found. The test will automatically end when the computer has calculated the acuity score.

**Visual Acuity Test 2 (only for those participants with glasses that are multifocal or who have progressive lenses):**

Say: **Now we are going to do this test again, this time without your glasses.**

When the participant has removed his/her glasses, the examiner should click the **START TEST** button on the examiner's screen. Each time a letter is displayed, say: **Tell me, what letter is this?** (At the examiner’s discretion, this can be replaced by: **Go ahead** after a few letters have been displayed.) It is the examiner’s job to use the computer to record whether the response was correct or incorrect by clicking either the **Yes** (correct) or **No** (incorrect) button. Simply note the participant’s response, compare it to the correct answer listed on the examiner’s screen, and score it accordingly. The next item will not appear until the examiner has scored the item currently on screen (but it will appear immediately after the examiner clicks Yes or No).

The test will progressively present smaller letters if the participant answers correctly and larger ones if the participant answers incorrectly, until an acuity score is found. The test will automatically end when the computer has calculated the acuity score.