

Screening Protocol for Visual Impairments in Children who are Deaf/Hard of Hearing

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The purpose of this instrument is to screen for vision problems that can occur to children who are deaf or hard of hearing. Any problems should be referred to an eye doctor for further evaluation. In no way does this screening take the place of regular ophthalmological exams.

Student's Name: _____ Date of birth: _____
Today's Date: _____ Evaluator: _____
Address: _____

School: _____ County: _____
School Phone number: _____

Summary of Results	Recommendation: ____ Pass ____ Refer for further evaluation
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DIRECTIONS

This screening instrument is recommended for children six years of age and older and it should be repeated at least every two years. Some portions of this screening may require two people to complete.

Part 1 Medical Information

Complete the questions from student's file.

Part 2 Questionnaire

These questions are designed to detect a variety of vision problems such as decreased acuity, visual field loss, or Usher syndrome. Copies of the questionnaire section may be given to the teacher and parent to complete. A phone interview may be used as well.

Questions 16, 17, 18, & 19 address balance problems that are sometimes indicative of a vision problem or Usher syndrome. In some instances, these problems may be unrelated to vision. (See part 4 Usher screening).

All other questions that are answered as "yes" may indicate a vision problem. Most of these may appear as a problem during part 2 and 3 of this instrument and should be referred for follow-up.

Part 3 Vision Screening

This part of the instrument screens across nine items: eye appearance, light reflex, eye position/alignment, fixation, tracking, peripheral vision, acuity for distance vision, acuity of near vision, and color testing. Follow the directions given for each of the nine items. A kit is provided with the materials necessary to complete each part. Questions answered "no" may indicate a vision problem. Any problems in an area should be referred for follow-up.

Part 4 Usher Screening

The first two sections of this instrument include items that may be indicative of Usher syndrome, as well as other vision problems (e.g., peripheral visual field loss). This section addresses two other areas that are often found in Usher Syndrome: dark/light adaptation and balance problems. Follow the directions for each of the four items.

If the student has difficulty with dark or light adaptations, then he/she should be referred for further testing.

Balance problems may be indicative of a variety of problems, some unrelated to vision. If the student has balance difficulties and exhibits all of the following, the student should be referred for further testing: prelingually deaf, no family history of deafness, no multiple organ system involvement, and no mental retardation.

PART 1: MEDICAL INFORMATION

Amount & type of hearing loss:

Cause of hearing loss:

Is there a family history of hearing loss? _____

Does he/she wear hearing aids?

Any known visual problems? (Explain):

Has the student had any eye surgeries? (List type):

Does the student wear glasses?

Last vision exam:

Other Medical Conditions:

PART 2: QUESTIONNAIRE

Directions: Please circle Y for “yes”, N for “no” or U for “unknown” or “Unsure”

- Y N U 1. Has problems seeing objects far away, but sees well up close (near-sighted).
- Y N U 2. Has problems seeing objects up close, but sees well far away (far-sighted)
- Y N U 3. Holds book or other materials close to eyes or bends to read.
- Y N U 4. Has difficulty seeing at night or in the dark.
- Y N U 5. Has difficulty seeing sign language or gestures in dim light.
- Y N U 6. Has problems reading under dimly lit areas.
- Y N U 7. When entering a new place or going from bright light to dim light (or vice versa) does he/she ever stop suddenly, stand still, and look around?
- Y N U 8. Trips over things when light changes or light is dim.
- Y N U 9. Stumbles on stairs and curbs or bumps into things.
- Y N U 10. Fails to glance at another person’s hand waving from the side.
- Y N U 11. Complains of bright light hurting his/her eyes.
- Y N U 12. Squints and shades eyes in bright lights or fluorescent lighting.
- Y N U 13. Likes to wear sunglasses or cap in a building or in bright light.
- Y N U 14. Has difficulty reading light copies.
- Y N U 15. Confuses colors. If yes, the color problem is with:
_____ red & green _____ yellow & blue _____ dark colors
- Y N U 16. Late learning to walk (past 15 months).
- Y N U 17. Loses balance easily in the dark.
- Y N U 18. Is considered clumsy.
- Y N U 19. Cannot ride a bicycle or required a long time to learn.
- Y N U 20. Student complaint such as headaches, blurring, rubs eyes, itching, squinting, blinking, tilts head, sees double. Explain:
- Y N U 21. Has one eye or both eyes that turn in or out.
- Y N U 22. Have you noticed any other vision or balance problem? If so, please explain:

PART 3: VISION SCREENING

1. Eye Appearance

Directions: Look closely at each eye in good light.

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”

- Y N U General appearance of eye appears normal.
If no, circle problem: bloodshot, watery, excessive tearing, discharge, jerky movement, blinks excessively, other (specify).
- Y N U Lids of eye appear normal.
If no, circle problem: swollen lids, reddened, drooping, crusted, other (specify).
- Y N U Pupils of eye appear equal and round
If no, circle problem: unequal pupils, keyhole shape, not round other (specify).

2. Light reflex (pupillary light reflex)

Directions: Shine a penlight from below right eye into pupil. Observe if right pupil constricts (direct reaction) and left pupil constricts (consensual reaction). Both eyes should constrict. Repeat with other eye. Move light from right eye to left eye noting if both eyes react equally.

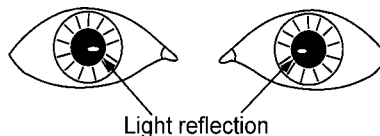
Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”

- Y N U Pupils constrict and dilate equally, If no, please explain:

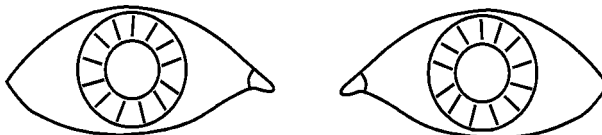
3. Eye position/alignment

Directions: Position student with light sources behind him/her (not shining into child’s face.) Examiner should position his/her face level with student’s face. Hold a well focused pen light 18 inches from the student midway between the two eyes (perpendicular to the eye). Tell the student to look at the light. Observe the position of the light. If difficulty seeing the light reflection, perform this test in a dim room.

Example of Normal Eyes:



- Y N U Light is located in the center of both pupils or just nasal to the center of both pupils.
If no, please draw where light is seen:



4. Fixation

Directions: Present an interesting, high contrast, noiseless item (e.g., colorful finger puppet, colorful toy, light with colored top) approximately 18 inches from the student. Observe if student can maintain a steady gaze on the item without eyes jerking for 3 to 5 seconds. Try this with one eye at a time and both eyes together. (NOTE: Students with severe intellectual disabilities may be able to fixate, but lose interest in the item. Try a different item, or make a note if student held a steady gaze without jerking his/her eyes, but for less time).

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”

Y N U Fixated on an object with each eye and both eyes together.
If no, please explain:

5. Tracking

Directions: Examiner sits in front of the student and asks him/her to follow a bright, interesting item with his/her eyes. Start with item at midline and at eye level. Move item in the following directions:

- 1) horizontal direction
- 2) vertical direction
- 3) diagonal directions
- 4) circular direction

Examiner observes if eyes are able to follow the item, whether eyes become jerky (nystagmus) in extreme lateral or upward gaze, and/or an eye turns inward or outward (strabismus).

Mark Results: Circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”

Y N U Able to track item in all directions. If no, please explain:

Y N U Eyes remained steady and aligned (no nystagmus or strabismus present). If no, please explain:

6. Peripheral vision

Directions: One person sits in front of student to distract student. The examiner takes a brightly colored, desirable item and slowly brings item outward from behind student at a distance of 12 to 18 inches in an outward arc from student. (Bring item out from the left, right, top, and bottom periphery).

Mark Results: Circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”

Y N U Student turns at least 30 degrees from midline to look at the toy in all directions. If no, please explain:

7. Acuity for DISTANCE vision

Chart Selection & Use:

- Determine the appropriate chart for assessing the student's vision.
- If you are using the "LETTER" CHART be sure the student knows all letters by verifying competence with the classroom teacher.
- If you are using the "SYMBOL" CHART, be sure the student knows all the symbols by preconditioning with the individual cards contained in the test kit. (APPLE, HOUSE, CIRCLE, SQUARE) (It doesn't matter what the child names the symbol as long as he names it the same every time (e.g., a square may be called a box, or a circle may be called a ball)).

Chart Placement:

- Testing should be done in a well-lighted room. Control glare by angling blinds upward..
- Secure the appropriate chart to the wall at the student's eye level with masking tape.
- Using a tape measure, measure a viewing distance of 10 feet outward from the chart. Mark this distance with a piece of masking tape. The student will stand with his/her heels on this piece of tape. If the student is not able to stand, he/she may sit in a chair. The seat of the chair should be at the 10-foot distance, and the chart adjusted to eye level.

Directions: Test both eyes first

1. Point to the first symbol/letter in each line in descending order and ask the student to name the symbol
2. Move down the chart until the student hesitates or misidentifies the symbol or letter.
3. Move back up one line: Ask the student to name all the symbols or letters on that line.
4. If the student identifies all symbols or letter correctly go to the next line and follow the same procedure.
5. If the student skips a symbol, ask the student to try again while briefly pointing to that symbol
6. When the student corrects an initial error, that symbol is considered CORRECT.
7. If the student fails any portion of the screening, stop the testing at that point and record as "Fail".
8. The student must get 3 out of 5 symbols correct on the 10/16 line to pass, EXCEPT when a line is read twice, then the student must get 4 out of 5 symbols on the 10/16 line.

Mark Results: Circle "Pass" or "Fail" to indicate if the student was able to read to 10/16 line on the appropriate vision chart.

Pass Fail Using both eyes to read chart at 10/16 line

Directions: After testing with both eyes, proceed with testing individual eyes separately.

1. Give the student a small cup.
2. Ask the student to cover his left eye. Tell the student to keep both eyes open, and look at the chart.
3. Follow the same procedure as for binocular testing. (Steps 1 through 6 above). When testing individual eyes, have the student read the symbols left to right for the first eye, and right to left for the second eye.
4. If the student fails any portion of the screening, stop the testing at that point and record as "Fail".
5. The student must get 3 out of 5 symbols correct on the 10/16 line to pass, EXCEPT when a line is read twice, then the student must get 4 out of 5 symbols on the 10/16 line.

Mark Results: Circle "Pass" or "Fail"

Pass Fail Using right eye, student could read chart at 10/16 line

Pass Fail Using left eye, student could read chart at 10/16 line

Mark Results: Circle Y for "Yes", N for "No", or U for "Unknown" or "Unsure"

Y N U Student was able to read the appropriate line without thrusting head forward, tilting head, eyes watering, squinting, frowning, puckering face, blinking excessively, complaining of eye pain or having unusual eye movement. If no Please explain:

8. Acuity for NEAR vision

Directions: Select the LETTER or SYMBOL NEAR Chart. Be sure student knows the letters or understands the symbols on the near distance chart. (May need to do pretraining with the single large symbol cards.) When testing, hold the near chart 16 inches from student (using the attached measuring cord to verify correct distance). Test with both eyes, then test right and left eye separately. Follow the same procedure as for distance testing. The student must get 3 out of 5 correct on the 20/32 line to pass. (Note: Use side of chart with 20/32 line).

Mark Results: Circle "Pass" or "Fail"

Pass Fail Using both eyes, student could read chart at 20/32 line.

Pass Fail Using right eye, student could read chart at 20/32 line.

Pass Fail Using left eye to read chart at 20/32 line.

Mark Results: Please circle Y for "Yes", N for "No", or U for "Unknown" or

Y N U "Unsure" Student was able to read the appropriate line without thrusting head forward, tilting head, eyes watering, squinting, frowning, puckering face, blinking excessively, complaining of eye pain or having unusual eye movement. If no, please explain:

9. Color Testing

Directions: Present student with a pile of paint strips, blocks, or other items. Need to have red, green, yellow, blue, and brown, & black items represented. Ask student to sort the different colors into piles. (If student is young or has a cognitive impairment, the examiner may need to initially verify that student knows how to sort by color).

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Student was able to correctly sort colors. If no, please explain:

Alternate Test: May use Ishihara test, Good-Lite Pseudo Isochromatic Color Vision Tests. Follow specific instructions enclosed with testing material.

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Student was able to correctly perform alternate color test. If no, please explain:

PART 4: USHER SCREENING

1. Dark/Light Adaptation: Chip sorting

Directions: Place white, red, & blue chips from the Cone Adaptation Test in a pile in a darkened room. Ask the child to pick up the white chips. Ask the child to sort the red chips from the blue chips. Check for difficulty and length of time.

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Able to sort without difficulty in reasonable amount of time. If no, explain:

2. Dark/Light Adaptation: Sign conversation

Directions: In a darkened room, conduct a conversation using sign language (if the student is a sign user) and note if the student misinterprets any signs. Use signs that are similar in configuration and motion.

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Able to interpret signs in a darkened room without difficulty. If no, explain:

3. Dark/Light Adaptation: Environments

Directions: Have student move from outside (or brightly lit room) into a dimly lit room.

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Able to quickly adjust from moving from a bright lit environment into a dark one.

4. Balance

Directions: Have student place heel of one foot in front the toes of the other foot with arms outstretched and eyes closed. (If student is very athletic, may gently push student to see if balanced is maintained, but you MUST have another person ready to catch student if needed.)

Mark Results: Please circle Y for “Yes”, N for “No”, or U for “Unknown” or “Unsure”
Y N U Student is able to maintain balance without falling.

GENERAL COMMENTS:

(For questions or training in using this instrument, please contact the Georgia Deafblind Project, located at Georgia State University (1-800-490-1567 (enter access code 02), 404-651-1262, or park726@aol.com).