Georgia Department of Public Health

Guidelines for Georgia Public Health Hearing Screening by Audiometer Training Manual

December 2013

ACKNOWLEDGEMENTS

The guidelines for hearing screening by audiometer nursing practice in Public Health and Public/Private school settings were developed using the concepts of evidence-based practice and interdisciplinary collaboration. These guidelines were developed by a workgroup with representatives from maternal-child health, audiology, public health and school nursing.

WORKGROUP COMMITTEE:

Debbie Cheatham RN, MS, DNP
Consultant
Maternal-Child Health Program
Georgia Department of Public Health

Sherry D. Coleman, DNP, RN, CCRC
School Health Nurse, Director
District and County Operations
Department of Public Health

Kelly A. Hermanns, Au.D.
UNHSI Program Consultant
Georgia Department of Public Health

Gayle D. Jones, Ph.D
Director, Office of Child Health
Maternal and Child Health Section
Georgia Department of Public Health

Sandra Metcalf, RN, MPH
Nurse Consultant
Children's Medical Services
Maternal and Child Health Section
Department of Public Health

Kelli E. Rayford, RN, MSN, PNP
Nurse Consultant
Maternal and Child Health Program
Georgia Department of Public Health

Tammy R. Uehlin, Au.D.
UNHSI Program Coordinator
Georgia Department of Public Health

GEORGIA DEPARTMENT OF PUBLIC HEALTH (DPH)
GUIDELINES FOR HEARING SCREENING BY AUDIOMETER

A. INTRODUCTION

This manual outlines procedures for conducting behavioral hearing screenings by audiometer for children age three and older. The purpose of hearing screening beyond the newborn period is to detect late onset hearing loss in children not identified through newborn screening, to minimize delays in academic achievement, development, especially speech and language development. Congenital permanent hearing loss occurs in approximately 2-3/1000 live births.

The prevalence of hearing loss doubles during early childhood and is estimated at 5-6/1000 children. For a comprehensive background and rational review for hearing screening during childhood, reference the American Academy of Audiology (AAA) Childhood Hearing Screening Guidelines. The guidelines can be accessed at: http://www.audiology.org/resources/documentlibrary/Documents/ChildhoodScreeningGuidelines.pdf.

Facilities should select a screening schedule. It is recommended that the facilities screening schedule follows either the American Academy of Pediatrics (AAP) Bright Futures Periodicity Schedule or the AAA Childhood Hearing Screening Guidelines. The AAP Bright Futures Periodicity Schedule supports screening at 4, 5, 6, 8, and 10 years of age. The AAA guidelines support screening at pre-kindergarten, kindergarten, grades 1, 3, 5 and either 7th or 9th grades. Regardless of which recommendations your facility follows, if the parent or teacher has concerns about a child's hearing, a hearing screening is to be conducted to rule out hearing loss.

Passing criteria for hearing screening by audiometer follows recommendations by AAP Bright Futures guidelines, which is screening at 20 or 25 decibels (dB) at 500, 1000, 2000, and 4000 hertz (Hz). The AAP screening criterion was selected in order to align with what is used for school entry in the state of Georgia and for completion of the Form 3300, Certificate of Vision, Hearing, Dental and Nutrition Screening.

For programs utilizing automated Otoacoustic Emissions (OAE) hearing screening technology to monitor for childhood hearing loss, the Georgia Department of Public Health wants to ensure that those programs operate within the legal requirements imposed by state law O.C.G.A. § 43-44-7(g). In Georgia, automated Otoacoustic Emissions (OAE) and Auditory Brainstem Response (ABR) hearing screenings can only be conducted by an audiologist or a physician for children beyond three months of age (90 days).

B. SELECTING A SCREENING SITE

Selecting an appropriate room that hearing screenings occur is a vital aspect of any hearing screening program. An appropriate room will be away from main hallways and facility noise and be free from ambient noise from fans or other utilities. Based on a 20 dB hearing level (HL) screening level, the allowable ambient noise if an individual has 0 dB HL hearing thresholds is 50, 58, and 76 dB sound pressure level (SPL) respectively for 1000, 2000, and 4000 Hz [American National Standards Institute (ANSI) S3.1- 1999 (R2003)].

Ambient noise sources from ventilation, adjacent hall or room noise, children moving about the room and screening personnel giving instructions all contribute to difficulty screening at levels less than 20/25 dB HL. To ensure the space is quiet enough to perform a hearing screening, a biologic noise level check is required prior to performing hearing screenings. This has been defined as the ability to establish hearing thresholds at least 10 dB below the screening level (e.g., 10 dB HL for screening conducted at 20 dB HL) at all frequencies for a person with known normal hearing. If these thresholds cannot be established, screening is not permissible in that room and another room needs to be selected where these criteria can be met.

In summary, the room should be quiet enough so that the screener can put on the audiometer headphones and screen at the following levels:

- 500 Hz: 10 dB should be audible;
- 1000 Hz: 10 dB should be audible;
- 2000 Hz: 10 dB should be audible;
- 4000 Hz: 10 dB should be audible.

Room Characteristics

- Avoid rooms with no carpeting and no soft surfaces. The acoustic properties of these rooms are highly reverberant and do not minimize ambient room noises.
- Away from main hallways or areas that tend to have higher noise levels such as waiting rooms.
- Avoid rooms with loud ventilation or with air conditioning units outside the window.
- Room should be uncluttered and free of visual distraction.
    - Avoid mirrors or reflecting surfaces.
    - Avoid child facing a window.

C. SELECTING AN AUDIOMETER

When selecting an audiometer for a screening program or location, it is recommended that the audiometer be a single channel audiometer with two earphones. Preferably the earphones will be circum aural headphones. Programs are discouraged from purchasing audiometers with the capability only for insert earphones. The audiometer should be capable of testing frequencies ranging from 250 Hz through 8000 Hz. The loudness level should be capable of presenting tones ranging from 0 dB HL through 90

dB HL. Screening audiometers that have limited frequency and loudness level operation are discouraged. Although they cost less than a single channel audiometer, screening audiometers lack functionality and flexibility.

D. AUDIOMETER MECHANICAL FUNCTION CHECK

Before using the audiometer, plug it in for ten minutes and then check the mechanical function. Checking function prior to using is important to minimize the number of children that are referred unnecessarily. If parts of the audiometer become worn and no longer function, it is not allowable to interchange parts between audiometers. Contact the audiometer dealer to obtain replacement parts and for the machine to be calibrated. A log to indicate and track audiometer function is suggested to ensure all performance checks are completed. An example log can be found in the appendix (Appendix A).

1. **Power On**
   Make sure there is power to the audiometer when the switch is turned on and the audiometer is plugged in.

2. **Jacks Seated**
   Make sure the jacks (where the headphones and power cord are plugged in) are in the proper receptacle and are pushed in all the way. Occasionally, moisten the receptacle with an alcohol wipe and push into the jack and rotate it; this breaks up dust.

3. **Earphone Cushions**
   The cushions should be clean, flexible and free from breaks or tears. Cushions should be cleaned with mild soap and water. **NEVER** use alcohol wipes on the cushions as this breaks down the earphone cushion material.

4. **Dials Tight**
   Turn the frequency and attenuator (loudness) dials to check for slippage. Loose dials should be tightened before the audiometer is used.

5. **Headband Tension**
   Put on the earphones. There should be enough tension so that when positioned on the head, the earphones rest snugly on the ears.

6. **Cords OK**
   While wearing the headphones, present an audible tone to the right headphone. Gently twist the cord by the right earphone and at the jack position. Repeat for left ear. If the sound cuts out or becomes scratchy, the connections must be tightened or cords must be replaced. If static is heard, static may indicate dirty contacts. “Clean" the contacts by rotating the dials quickly.

7. **Volume Increase/Decrease**
   Present a tone to one ear and then increase and decrease the volume of the tone. Ensure change in volume when volume wheel turned. Repeat for the other ear.

8. **Pitch Change**
   Present a tone to one ear and then increase and decrease the pitch for all the testing frequencies. Ensure change in the frequency when dial is manipulated. Repeat for other ear.

9. **Tone Presenter**
   Press the tone switch/button and the sound should be audible and present. The tone should be audible when pressed and discontinue as soon as switch/button not deployed. Check both tone presenter switches/buttons if the audiometer is so equipped.

10. **Cross Talk**
    As you listen to the left phone with a sound presented, no sound should be present in the right phone and vice versa.

E. HEARING SCREENING BY AUDIOMETER PROCEDURES: CASE HISTORY

Before performing a hearing screening on a child, a case history should be obtained. The objective is to determine if the child may be at risk for a hearing loss or is demonstrating signs of hearing loss. Questions should be reviewed with the parent/caregiver and child when age appropriate.

1. Procedure

Child is asked to report any complaint about his/her ears. Parents/caregivers are asked to report any abnormal listening behaviors. Positive findings should be documented in the patient's file, when applicable. If abnormalities are present or there are any overriding concerns refer the child for further evaluation.

COMPLAINTS	BEHAVIORS
Cannot hear	Tugging at ear
Difficulty understanding	Asks to have things repeated
Pain in the ear	Turns side of head toward the speaker
Fullness in ear	Inattentive in class discussion
Drainage from the ear	Watches speakers' lips
Difficulty with phonics	Shows strain when listening
Frequent mistakes in following directions	Has a speech problem
Tires easily	Tends to be passive

F. VISUAL INSPECTION OF EAR

Prior to proceeding with hearing screening, it is important to check for signs of ear disease and/or abnormal development. When conducting mass screenings, at minimum an external inspection of the ear is to be completed and internal inspection may be deferred if staff does not have training in otoscopy or time does not permit. If any significant abnormalities are observed through visual inspection, the child is to be referred for a medical evaluation. Additionally, if the child currently wears an assistive listening device such as a hearing aid or cochlear implant, the child should not be screened for hearing loss. Children that utilize assistive listening devices such as hearing aids have already been identified with hearing loss and should be referred back to their primary care physician or audiologist for testing.

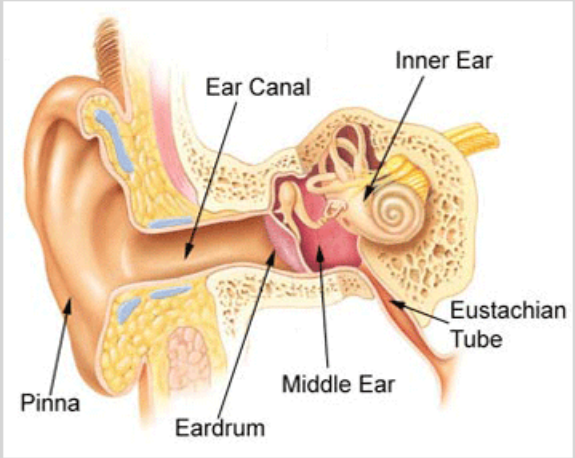

Figure 1. Basic anatomy of ear

1. Procedure
    a) External: Inspect the pinna and the area around it for set (position) of the ears, skin tags or pits, tenderness, redness or edema, signs of drainage or wax build-up in the outer 1/3 of the canal. The position of the ears should be so that the top of the pinna is in line with the eyes. Ear tags and pits are generally found directly in front of (towards nose) the ear canal opening.

    b) Internal: With the otoscope, inspect the ear canal and tympanic membrane for signs of drainage, wax build-up, foreign bodies, and redness of the skin or to the ear canal. Also note whether normal landmarks on the tympanic membrane can be seen. *Note, if the screener lacks training and experience in using the otoscope, the visual inspection should be limited to the external visual inspection.*

Document positive findings observed through visual examination in the child's record and on parent letter (Appendix D). If there are signs of drainage or foul odors are present, DO NOT proceed with audiometer screening; this would be an automatic referral to a physician.

G. PROCEDURES FOR PURE TONE SCREENING

1. Room Arrangement
    a) Seat the child so they cannot see the front of the audiometer or cannot see the audiometer dials.
    b) Avoid seating the child so that he/she is facing a window.
    c) If performing mass screenings, arrange room so that the children are separated with enough space to allow for individual instruction and minimal distraction from other children.

Correct Arrangement

Incorrect Arrangement

2. Audiometer Set Up
    a) Once audiometer has been turned on and mechanical check does not suggest a possible equipment failure, set the audiometer to present pulsed stimuli. Check audiometer manual if unsure how to set tone presentation.

        i. If the audiometer does not have pulsed tones, it is okay to use a steady state tone. Pulsed tones are recommended so that if there is any ambient noise in the room, the tone is easier to differentiate from background noise.

3. Procedure
    a) Instruct the child to raise their hand when a tone is heard.

        i. Example instructions: *"I am going to place these headphones on your ears. You are going to hear beeps. Every time you hear a beep, beep, beep (mimic tone) raise your hand as fast as you can".*

        ii. When providing instructions, it's important to show enthusiasm for task and readiness to improve child cooperation and participation.

        iii. Depending on the child's reaction and age, asking the child after the instructions what they are supposed to do can be useful to

determine level of understanding. For the purposes of the screening, the child can raise either hand in response to hearing an audible tone. It is not necessary for the validity of the screening that the student raises only the hand on the side he or she hears the sound.

b) Place headphones securely over ears (red right and blue left) and tighten headband.

i. Do not allow the child to put on the headphones themselves.

ii. Remove eyeglasses, head bands, large earrings, etc. and place hair behind the ears to ensure secure placement of headphones.

iii. Proper placement of headphones should be visually inspected to ensure that headphones are secure with no gaps between earphone and side of head.

iv. Do not put extra pressure by holding down the headphones during screening. The headband has enough tension. Holding down the headphones can cause the ear canal to collapse.

4. Screening
   a) Present the 1000 Hz 50 dB HL conditioning tone for 1-2 seconds to the right ear.
   b) If the child does not respond, reinstruct child and represent tone at 50 dB HL.
   c) If no response after two presentations and reinstruction, it is suspected child does not understand task, proceed to attempt play audiometry (see below for screening instructions).
   d) If the child responds appropriately; Turn HL dial to 20 dB.
   e) Present tone at 1000, 2000, 4000 and 500 Hz.
   f) Turn selector switch to Left.
   g) Optional: Tell the child being screened when you are changing to the other ear.
   h) Present the tones at 1000, 2000, 4000, and 500 Hz.
   i) If the child responds appropriately for all 8 tones at 20 dB HL, the child “passed” the hearing screening and headphones can be removed.
   j) If the child did not hear one or more tones in either ear, turn HL dial to 25 dB HL and immediately rescreen both ears at 25 dB HL at 500, 1000, 2000, and 4000 Hz.
   k) If the child hears all 8 tones at 25 dB HL, the child “passed” the hearing screening.

Tip: Seeing the child's eyes and facial expressions is helpful in determining the accuracy of responses, however, it is important that the child not see the tester's hands, the audiometer, or the screening record form.

5. Common Errors in Behavioral Hearing Screening
    a) Fatigue caused by extended screening time. Each child fatigues during screening at a different rate, depending on variables such as age, attention span, interest in task, etc.
    b) Rushed screening process.
    c) Inaccurate or unclear directions to the child, such as providing instructions in a non-native language or by using words that are not developmentally appropriate for the child.
    d) Child in direct view of the audiometer control panel or the motions of the operator.
    e) Earphone on the wrong ear.
    f) Visual cues given through eye movement or body movement of the examiner.
    g) Repeating tone presentation multiple times when the child does not respond on the first attempt.
    h) Tone presentation in a rhythmic manner.
    i) Unnecessary talking during screening.
    j) Adding pressure by holding down the headphones during screening, this collapses the ear canals and may cause a temporary threshold shift.
    k) Screening a child with known hearing loss that wears an assistive listening device. These children should not be screened and should be referred back to their primary care physician.

6. Pass
   Child hears all eight tones at 20 dB HL or 25 dB HL at 500, 1000, 2000, and 4000 Hz.

7. Rescreen/Refer
   Missing a single tone in either ear results in the child not passing the screen.
    a) A child may be immediately rescreened directly after not passing first screen. Screening level for rescreen may be conducted at 25 dB HL. It is optional to have the second, immediate screen to be conducted by a second, different screener.
    b) If time or site protocol does not permit immediate rescreen, hearing rescreen should be scheduled for not more than 2 weeks from the initial screening.
    c) For children not passing the immediate rescreening or rescreening at 2 weeks, the child should be referred to their primary care physician or audiologist for follow-up.

8. Documentation of results
   Results of the screening should be documented in the child's record and on Form 3300 (Appendix E) when appropriate.
    a) Parents should receive notice of hearing screening results in writing and verbally when present. Appendix D has a sample written notification of hearing screening results to be provided to parents to share with the child's primary care physician.

b) Optional: Primary Care Physicians should receive notice of hearing screening results in writing.
c) Optional: Facilities performing mass screenings can keep a log of children who pass and refer screening to determine overall referral rates.
d) Referral rates on screening should not exceed 10%.
e) If rates exceed 10%, programs should consider retraining staff conducting the screens.

H. PLAY AUDIOMETRY (younger children or child with a developmental delay)

A modification of the standard pure tone screening procedure in which the child is conditioned to respond to the sound by performing a task such as dropping a ball in a bucket or giving a high-five to someone assisting with hearing screening. The purpose is to incorporate a fun and engaging task that encourages the child to participate and that is developmentally appropriate for younger children being screened for hearing loss or with developmental delays. The screening levels, frequencies and pass/refer criteria remain the same.

1. Procedure
    a) Place the headphones on the table facing the child with the audiometer set at 2000 Hz and at 60 dB HL to insure the tone is audible.
    b) Screener holds the toy near their own ear and assumes a “listening” attitude and presents the tone. Indicate through facial expression (and can also say, “I heard it”) that the sound was heard and then drops the toy in a pail. This may be repeated as often as necessary until the child shows interest.
    c) Screener offers the toy to the child and places their hand on the child’s to guide the first responses. Encourage the child to wait until the sound is heard. When the child appears ready, present the sound and guide the child’s hand to put the toy in the container. Child may give consistent responses after only one demonstration or may need several to respond on their own. Demonstrate first without and then with the headset on.
    d) Once child is conditioned to task with headphones on, proceed with hearing screening by:
        i. Turn HL dial to 20 dB.
        ii. Present tone at 1000, 2000, 4000 and 500 Hz to the right ear.
        iii. Turn selector switch to Left.
        iv. Optional: Tell the child being screened when you are changing to the other ear.
        v. Present the tones at 1000, 2000, 4000, and 500 Hz.
        vi. If the child responds appropriately for all 8 tones at 20 dB HL, the child “passed” the hearing screening and headphones can be removed.
        vii. If the child did not hear one or more tones in either ear, turn HL dial to 25 dB HL and immediately rescreen both ears at 25 dB HL at 500, 1000, 2000, and 4000 Hz.
        viii. If the child hears all 8 tones at 25 dB HL, the child “passed” the hearing screening.

2. Helpful tips
    a) Reward the child with praise after the initial responses when conditioning the child and intermittently throughout testing as needed to reinforce the child's responses. If this is not effective, a tangible reward, like a sticker, may be given if the parent agrees.
    b) The response interval (tone to response time) varies between children. Some children will drop the toy as soon as the tone is heard; others will wait until the sound goes off before dropping the toy.
    c) If the child does not accept the headset, sometimes it helps for the child to see another child performing a hearing screening or a family member wearing the headphones to calm child and reduce apprehension.

3. Pass
   Child hears all eight tones at 20 dB HL or 25 dB HL at 500, 1000, 2000, and 4000 Hz.

4. Rescreen/Refer
   Missing a single tone in either ear results in the child not passing the screen.
    a) A child may be immediately rescreened directly after not passing first screen. Screening level for rescreen may be conducted at 25 dB HL. It is optional to have the second, immediate screen to be conducted by a second, different screener.
    b) If time or site protocol does not permit immediate rescreen, hearing rescreen should be scheduled for not more than 2 weeks from the initial screening.
    c) For children not passing the immediate rescreening or rescreening at 2 weeks, the child should be referred to their primary care physician or audiologist for follow-up.

I. NUMBER OF PRESENTATIONS

Screening implies that a specific pass/refer criterion is applied to all results. It is not unusual for children to fail to respond to a single pure tone presentation when hearing screening is performed in the presence of varying levels of ambient noise, when young children have limited attention spans, or when the intensity of the pure tone is close to threshold. Because of this, it is assumed that a pure tone will be presented more than once if a child fails to respond.

Caution is warranted to prevent presenting so many repetitions of the tone that the eventual false positive responses from a child will be considered a pass. Therefore, it is reasonable that more than one, but no more than several (i.e., 4) pure tone presentations occur if a child does not respond to the first pure tone presentation. Other than for training purposes, it is important that the decibel level (20 dB for initial screen; 25 dB for immediate rescreen if appropriate) be adhered to throughout the hearing screening. The screening level is not to be increased if a child fails to respond greater than 20 dB for initial screen and 25 dB for immediate rescreen when appropriate.

J. REFERRAL AND FOLLOW-UP

Screening is only effective if children that do not pass the screening receive timely follow-up evaluation to determine if a condition of concern is present. Some children identified by pure tone screening may have persistent or recurrent middle ear effusions that place them at higher risk for developmental, medical, and subsequent educational consequences. Accomplishing follow-up evaluations with a medical physician or audiologist for every child is often challenging as it can require health care workers and caregivers to devote time, resources and funding to set up, transport and complete medical or audiological evaluation appointments.

It is important that screening results and referral information be presented to the family in their native language and to include a pamphlet describing childhood hearing loss (e.g., http://www.cdc.gov/ncbddd/actearly/pdf/parents_pdfs/hearinglossfactsheet.pdf or http://www.babyhearing.org/Audiologists/factSheets/LateOnsetArticle.pdf).

It is recommended for the facility and/or individual(s) coordinating the hearing screenings to develop relationships with the local medical community to inform them of the screening protocols used and encourage their collaboration in returning results of medical or audiological evaluation following a hearing screening referral.

Strategies to reduce the number of children who do not receive a follow-up screening after not passing the initial screening include scheduling the patient for a repeat screening in less than 2 weeks, maintaining a log of children who do not pass screening to contact if no follow-up within an established time frame, and providing written results of screening to caregiver and physician.

K. INFECTION CONTROL

Basic infection control precautions are recommended including:

1. Wash your hands or use hand sanitizer before and after every hearing screen.
2. Wear bandages and/or gloves if cuts or open sores on hands.
3. Avoid wearing rings and jewelry to allow for proper hand cleansing.
4. Do not allow any food or beverage into the screening area.
5. Wipe down headphones, cables, and equipment daily or as needed when visibly soiled.
6. Do not allow children to touch equipment.

L. CARE OF THE AUDIOMETER

1. General care
    a) Handle gently and avoid dropping or rough treatment.
    b) When transporting the audiometer, place in a secure location so that it can't fall during a sudden stop or slide during a turn.
    c) Avoid extreme temperatures (below freezing 32^0 and above 90° F).
    d) Keep all cords free of tangles and twists.

e) Check all electrical connections, dials and switches for signs of problems, the earphone jacks should be occasionally removed from their plugs and wiped with an alcohol pad to improve the connection.
f) Proper care must be taken to prevent moisture from getting inside the audiometer. The case should be kept closed to prevent dust build-up. If case or exposed surfaces become dirty, soap and water is usually sufficient to clean them.
g) Mechanical and biological function checks must be done each day, on each audiometer, before use (Appendix A).

2. Earphones
    a) Clean routinely with cleaning agent, alcohol free wipes. Do not use alcohol because it may dry out the rubber cushions on earphones.
    b) When the earphone cushions need cleaning, remove them from the headset, clean and dry thoroughly before replacing. Keep all moisture away from the diaphragm (hole in the center of the earphones).

3. Calibration
    a) An electric calibration check needs to be done yearly by a trained professional. If you are unsure where or how to get the equipment calibrated, call the state office for assistance.
    b) It's recommended, but not required that an extensive calibration, which includes internal cleaning and lubrication, done at a repair facility or the factory about every fifth year. Having an extensive calibration performed may extend the life of the audiometer.

4. The Audiometer needs repair if:
    a) Tone does not sound normal or sound is not produced when tone lever or button is pressed or static is heard.
    b) Earphones do not remain in proper position over ears.
    c) A dial or switch does not function or indicator lights do not illuminate.

M. REFERENCES

American Academy of Audiology. (2012). Audiologic Guidelines for the Assessment of Hearing in Infants and Young Children, retrieved from <http://www.audiology.org/resources/documentlibrary/Documents/201208_AudGuideAssessHear_youth.pdf>

American Academy of Pediatrics. (2008). Performing Preventative Services: A Bright Futures Handbook, retrieved from <http://brightfutures.aap.org/pdfs/Preventive%20Services%20PDFs/Screening.PDF>

Appendix A

Mechanical Function Check Sheet

Date																	
Power On																	
Jacks Seated																	
Earphone Cushions																	
Dials Tight																	
Headband Tension																	
Tone on/off																	
Cords OK																	
Volume Change																	
Pitch Change																	
Cross Talk																	

Appendix B

Hearing Screening By Audiometer Quiz

1. An audiometer mechanical function check is only needed when a problem with the equipment is noticed.
    a. True
    b. False

2. The child does not need to raise their right hand for responding for the right ear and the left hand for responding for the left ear.
    a. True
    b. False

3. The frequencies that should be screened consist of:
    a. 1000, 2000, and 4000
    b. 1000, 2000, 4000 and 6000
    c. 2000, 3000, and 4000
    d. 500, 1000, 2000 and 4000

4. If the child did not respond at the screening level (20 or 25 dB HL) at any frequency, you should:
    a. Continue to present the tone until the child responds
    b. Ask the child if they heard the sound and if they say yes, proceed to screening next frequency
    c. Increase the volume of the tone in 5 dB increments until the child responds
    d. None of the above

5. You should obtain how many correct responses for each frequency:
    a. at least 1
    b. at least 2
    c. more than 2
    d. 3

6. Common errors in behavioral screening by audiometer include:
    a. Tone presentation in a rhythmic manner
    b. Child in direct view of the audiometer control panel or the motions of the operator
    c. Repeating tone presentation multiple times when the child does not
    d. respond on the first attempt
    e. Inaccurate or unclear directions to the child
    f. All of the above

7. When testing a child with known hearing loss that wears amplification (cochlear implant or hearing aid), you should:

a. allow the child to put the earphones comfortably over their ears
b. allow the child to put the earphones comfortably over their hearing aids
c. never screen a child that wears amplification
d. ask them to turn the volume control down on their hearing aids

7. A child may miss up to two frequencies (not respond) and pass the hearing screening.

a. True
b. False

9. When placing headphones on the child, you should:

a. Allow the child to place the headphones on themselves and verify correct placement
b. Have the child remove earrings, headbands, and pull hair behind ears before placing headphones on and visually inspect to ensure that headphones are secure with no gaps between earphone and side of head
c. Place headphones on so that red is on right and blue is on left
d. Answers b and c

10. As long as documentation of the hearing screening is provided to the parents, the facility does not have to document the hearing screening results for each child.

a. True
b. False

**To pass quiz, a score of 80% or greater is required.

Appendix C

Hearing Screening by Audiometer Quiz Key

To pass quiz, a score of 80% or greater is required.

1. b

2. a

3. d

4. d

5. a

6. e

7. c

8. b

9. d

10. b

Appendix D

Sample Letter to Parents on Hearing Screening Results

To Parent/Guardian:

Your child, ___(name of child) _____ had a hearing screening

on __(date)____.

The results of your child's hearing screening are:

□ **Your child passed.** Even though your child passed the screening, your child's hearing could change at any time. Signs of hearing loss include saying "huh" or "what" a lot, making mistakes when following instructions, and speech problems. If you ever have concerns about your child's hearing, talk with your child's doctor about making an appointment for a full hearing test.

□ **Your child did not pass.** Not passing the hearing screening suggests your child could have a hearing problem. It is recommended your child see his/her doctor for a medical evaluation as soon as possible. Your doctor may recommend your child have a full hearing test with an audiologist (hearing specialist).

□ **Other:**_____

_____

_____

Please keep a copy of this letter for your records and take to your child's next doctor's appointment.

If you have any questions, please contact _____

Form 3300: Certificate of Vision, Hearing, Dental and Nutrition Screening

Georgia Department of Public Health
Form 3300
Certificate of Vision, Hearing, Dental, and Nutrition Screening

PLEASE SEE THE INSTRUCTIONS ON THE BACK OF THIS FORM

FILE THIS FORM WITH THE SCHOOL WHEN YOUR CHILD IS FIRST ENROLLED IN A GEORGIA PUBLIC SCHOOL
SCREENER CONTACT INFORMATION IS REQUIRED

Parent/ Guardian Name:_____ first _____ middle _____ last **Child's Name:**_____ first _____ middle _____ last

Parent/ Guardian Contact Information: **Date of Birth:** ____/____/____ **Gender:** ❑Male ❑Female

Daytime phone number:_____

Evening phone number:_____

Cell phone number:_____ **Child's Home Address:**

street _____ city _____ state _____ zip code _____ county _____

VISION

❑ Unable to screen (explain why below)
❑ Uses corrective lenses
❑ Worn for testing

❑ Passed (20/30 in each eye for age 6 and above, 20/40 in each eye for below age 6)
❑ Needs further evaluation
❑ Under professional care (explain below)

Screening completed by:
❑ Physician
❑ Local Health Department
❑ Optometrist
❑ "Prevent Blindness Georgia" employee
❑ School Registered Nurse

Screener's Signature _____ **Date** _____
I certify that this child has received the above screening.
Contact Information:

HEARING

❑ Unable to screen (explain why below)
❑ Uses hearing aid / assistive device

❑ Passed at 500, 1000, 2000, and 4000 Hz with audiometer at 20 or 25 dB
❑ Needs further evaluation
❑ Under professional care (explain below)

Screening completed by:
❑ Physician
❑ Local Health Department
❑ Audiologist
❑ Speech-Language Pathologist
❑ School Registered Nurse

Screener's Signature _____ **Date** _____
I certify that this child has received the above screening.
Contact Information:

DENTAL

❑ Unable to screen (explain why below)

❑ Normal appearance
❑ Needs further evaluation
❑ Emergency problem observed
❑ Under professional care (explain below)

Screening completed by:
❑ Physician
❑ Dentist
❑ Local Health Department Registered Nurse
❑ Registered Dental Hygienist
❑ School Registered Nurse

Screener's Signature _____ **Date** _____
I certify that this child has received the above screening.
Contact Information:

NUTRITION

❑ Unable to screen (explain why below)

Height: _____ Weight: _____
BMI: _____ BMI%: _____

❑ 5th to 84th percentile - Appropriate for age
❑ < 5th percentile - Needs further evaluation
❑ ≥ 85th percentile - Needs further evaluation
❑ Under professional care (explain below)

Screening completed by:
❑ Physician
❑ Local Health Department
❑ Registered Dietician
❑ School Registered Nurse

Screener's Signature _____ **Date** _____
I certify that this child has received the above screening.
Contact Information:

FOR SCHOOL SYSTEM ONLY Follow up for further evaluation

	1st attempt	2nd attempt	Actions reported (if any)
Vision			
Hearing			
Dental			
Nutrition			

Student support services initiated on: _____

Screeners' Comments:

DPH Form 3300 Rev. 2013