

## Hearing Screening for the Younger Child or Child with a Developmental Delay

The following are excerpts from the **Guidelines for Georgia Public Health Hearing Screening by Audiometer Training Manual (December 2013)**

### PLAY AUDIOMETRY

Play audiometry is 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.

#### 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 the 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.

**Helpful tips:**

- 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.
- 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.
- 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 the child and reduce apprehension.

**Pass:**

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

**Rescreen/Refer:**

Missing a single tone in either ear results in the child not passing the screen.

- A child may be immediately rescreened 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 conducted by a second, different screener.
- If time or site protocol does not permit immediate rescreen, hearing rescreen should be scheduled for not more than two weeks from the initial screening.
- For children not passing the immediate rescreening or rescreening at two weeks, child should be referred to their primary care physician or audiologist for follow-up.

**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](http://www.cdc.gov/ncbddd/actearly/pdf/parents_pdfs/hearinglossfactsheet.pdf) or <http://www.babyhearing.org/Audiologists/factSheets/LateOnsetArticle.pdf>).

**Helpful Tips:**

- 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 two 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.