



Department of Health
Children with Special Health Needs
Hearing Advisory Council
108 Cherry Street,
PO Box 70, Drawer 28
Burlington, VT 05402

CHILDREN WITH SPECIAL HEALTH NEEDS ADVISORY COUNCIL

Suggested Protocols for Hearing Screening in Children (birth – 18 years)

The following suggestions are based on guidelines recommended by the American Speech, Language, and Hearing Association (*ASHA Desk Reference, Volume 4, Audiologic Screening, 1996*).

Birth-3 years:

Universal Newborn Hearing Screening (UNHS):

Every baby born in Vermont is offered an initial hearing screening prior to discharge from the hospital; or on an outpatient basis if born at home or not screened in the hospital. Newborn hearing screening is conducted by using objective, physiological testing, such as Otoacoustic Emissions (OAE) or Automated Auditory Brainstem Response (AABR).

Outpatient Hearing Screenings:

- Newborns that do not pass or do not receive an initial hearing screening from the hospital should be referred for an outpatient hearing screening.

~Outpatient screenings are available at many of Vermont's birthing hospitals, through the Hearing Outreach Program (HOP), and some audiology facilities throughout the state and region. Newborn hearing screenings should be conducted using objective testing methods, such as, OAE or AABR. All newborns admitted to the Neonatal Intensive Care Unit (NICU) should be screened by AABR per the Joint Committee on Infant Hearing (JCIH) Year 2007 Position Statement. Call the Vermont Early Hearing Detection and Intervention (EHDI) Coordinator at 800-660-4427 ext 1330 or 865-1330 for outpatient screening options in your area.

- Newborns that pass their initial hearing screening, but have a risk factor for late onset hearing loss, should be monitored periodically (see attached list of high-risk factors).
- Toddlers for whom there is concern about hearing, speech or language development should be referred for a current hearing screening.

Important: With the exception of UNHS, hearing screenings on any child under the age of 3 years should be performed only by a licensed audiologist who has an expertise in the evaluation of children.

For a list of audiologists and facilities, visit:

http://www.healthvermont.gov/family/hearing/regional_aud.aspx

Age 3-18 years:

All personnel providing in-office hearing screenings (i.e., nurse, assistant, or technician) should receive training from a licensed audiologist prior to performing behavioral hearing screenings.

Behavioral Testing Methods

Conditioned play audiometry:

This is a testing method which uses a conditioned play response from the child and is recommended for any child who is unable to respond via the conventional hand-raising method.

Traditional audiometric procedure:

This is a testing method which uses the conventional hand-raising method of response and is recommended for any child who understands the task.

Preliminary Testing Considerations

- all screening equipment should be calibrated on an annual basis
- prior to performing the hearing screening, a listening check of the equipment should be performed by the screening personnel
- testing should be conducted in a quiet environment, free of visual distractions or cues
- testing should be conducted under headphones so ear specific information can be obtained

Testing Method:

- *test frequencies:* 500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz in both ears
- *familiarization & conditioning of the task:* initial presentations of test frequencies should be clearly audible (i.e., 40-50 dB HL)
- *passing response at a test frequency:* appropriate response at 20 dB HL at least two out of three times
- test one ear at a time; raising either hand, regardless of which ear you are testing, is considered a response

Results of Testing:

PASS: child must respond to each test frequency consistently at 20 dB HL in each ear

REFER: child does not respond at 20 dB HL at any one test frequency in either ear *

** if the child does not pass, re-instruct, reposition headphones, and re-screen within the same session using the same testing procedure*

Hearing Loss: unilateral or bilateral sensorineural and/or conductive hearing levels greater than 20 dB HL.

Next Steps:

- Any newborn or child who passes the re-screening is considered a PASS
- Any newborn or child who does not pass the re-screening, or who does not condition properly to the test procedure, should be referred to a licensed audiologist for further testing
- Follow-up hearing diagnostic testing with a licensed audiologist should be performed within 1 month (no later than 3 months) from the initial hearing screening

The following are considered inappropriate hearing screening methods according to the guidelines set forth by ASHA:

- behavioral measures to screen newborns and very young infants up to 6 months of age.
- presentation signals that are not frequency specific (i.e. speech, music, and broadband noises)
- use of non-calibrated signals (i.e. rattles, noise-makers, and finger snapping)