

HEARING SCREENING FACT SHEET



NATIONAL CENTER ON
Early Childhood Health and Wellness



Parents¹ and early care and education staff cannot always tell when a child is deaf or hard of hearing. Observation alone isn't enough. This is why implementing evidence-based hearing screening throughout early childhood is important.

Introduction

Hearing helps us communicate with others and understand the world around us. However, about 2 to 3 of every 1,000 children in the United States are born deaf or hard of hearing.² A child may also experience a decline in hearing ability at any time caused by illness, physical trauma, or environmental or genetic factors. It is estimated that the incidence of permanent hearing loss doubles by the time children enter school.³ A child may have difficulty hearing in one ear or both ears. The difficulty may be temporary or permanent. It may be mild or it may be a complete inability to hear spoken language and other important sounds.

1. The term "parents" represents all of the people that may play a parenting role in a child's life such as grandparents or other family members in a caregiving role who have legal guardianship, and foster parents.
2. Centers for Disease Control and Prevention. [Identifying infants with hearing loss - United States, 1999-2007](#). MMWR Morb Mortal Wkly Rep. 2010;59(8):220-223.

Any inability to hear clearly can get in the way of a child's speech, language, social and emotional development, and school readiness. Intervention may improve social and emotional and academic achievement when children who are deaf or hard of hearing are identified early.

Evidence-based Hearing Screening

Evidence-based is an umbrella term that refers to the use of the best research evidence (found in health sciences literature) and clinical expertise (what health care providers know).

Adapted from Office of Disease Prevention. Evidence-based practices and programs. National Institutes of Health

<https://prevention.nih.gov/resources-for-researchers/dissemination-and-implementation-resources/evidence-based-programs-practices>

An evidence-based hearing screening is a way to identify children who need an evaluation to determine if they are deaf or hard of hearing. Prior to discharge from the hospital, almost all newborns are screened and an evaluation is necessary for those who do not pass the screening.

You can learn more about the [purpose of newborn screening](#) from the American Academy of Pediatrics. Newborn hearing screening results are an important part of each child's health history.

Head Start and Early Head Start programs are required to obtain results from or perform an evidence-based hearing screening. Conducting hearing screening in early childhood settings is relatively simple and usually takes only a few minutes to complete by individuals trained to perform hearing screening.

3. Bamford J, Fortnum H, Bristow K, et al. [Current practice, accuracy, effectiveness and cost-effectiveness of the school entry hearing screen](#). Health Technol Assess. 2007;11(32):1-168. <https://www.ncbi.nlm.nih.gov/pubmed/25760393>.

Hearing Screening Fact Sheet

The [Early Childhood Hearing Outreach \(ECHO\) Initiative](#) promotes otoacoustic emissions (OAE) evidence-based hearing screening and follow-up for newborns, infants, and toddlers.⁴ The ECHO Initiative is part of the National Center for Hearing Assessment and Management at Utah State University. It serves Early Head Start and Head Start programs as the National Resource Center on Early Hearing Detection and Intervention.

The OAE screening does not require a behavioral response from the child. An individual trained in OAE screening places a small probe into the ear canal. The probe emits a low-volume sound. The OAE screening equipment measures the inner ear's response, called the *otoacoustic emission*. The equipment provides an automated response of either pass or refer.

Another evidence-based practice is pure tone (PT) hearing screening.⁵ The PT screening can be used to screen children 3 years and older who are able to follow the instructions required by the procedure. When performing PT screening, an individual trained in PT places headphones over the child's ears. As a tone is presented, the child is taught to respond by raising a hand or dropping a block in a bucket. First, they determine if the child is able to listen for the tones and respond correctly. They complete the process by presenting a specific sequence of soft tones to each ear and documenting the child's response or lack of response. They then determine whether the child passes or needs a referral.

The [American Academy of Audiology \(AAA\)](#) recommends otoacoustic emissions (OAE) screening for newborns, infants, and children birth–3 years of age. The AAA recommends pure tone (PT) screening for children 3–5 years of age. OAE screening is also recommended for preschool-aged children unable or unwilling to engage in the PT screening process. <http://www.audiology.org>

4. Prieve BA, Schooling T, Venediktov R, Franceschini N. [An evidence-based systematic review on the diagnostic accuracy of hearing screening instruments for preschool- and school-age children](#). *Am J Audiol*. 2015;24(2):250–267.

5. *Ibid.*

45 CFR §1302.42 Child health status and care. (b)(2-3) [Ensuring up-to-date child health status](#).

(2) Within 45 calendar days after the child first attends the program or, for the home-based program option, receives a home visit, a program must either obtain or perform evidence-based vision and hearing screenings.

(3) If a program operates for 90 days or less, it has 30 days from the date the child first attends the program to satisfy paragraphs (b)(1) and (2) of this section.

<https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii/1302-42-child-health-status-care>



OAE Screening. Image used with permission from the Early Childhood Hearing Outreach (ECHO) Initiative at Utah State University.



PT Screening. Image used with permission from the Early Childhood Hearing Outreach (ECHO) Initiative at Utah State University.

If your program performs a hearing screening and a child does not pass, it is important for you to collaborate with and support the parents to complete all recommended follow-up steps.

- The child is typically screened a second time within about 2 weeks.
- If the child does not pass, the child should be referred to a health care provider for a middle ear evaluation. A health care provider can diagnose and treat common problems such as earwax buildup or middle ear infections. A third screening is necessary after the medical examination.
- If a child still does not pass, request a referral to a pediatric audiologist for a complete diagnostic evaluation.⁶

It is also important for you to support families to follow up if the program obtains results from the child's health care provider indicating that the child did not pass a hearing screening.

6. Subpart D – Health Program Services. 1302.42 Child health status and care. (d) Extended follow-up care. <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii/1302-42-child-health-status-care>.
7. Subpart D – Health Program Services. 1302.46 Family support services for health, nutrition, and mental health. <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii/1302-46-family-support-services-health-nutrition-mental-health>.
8. Subpart D – Health Program Services. 1302.42 Child health status and care. (c)(2) Ongoing care. <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii/1302-42-child-health-status-care>.

Engaging Families and Promoting Health Literacy

It is easier for parents to partner with you and health care providers when they understand how hearing influences their child's speech and language development, socialization, and learning. Preparing parents about what to expect from a hearing screening helps them know how to prepare their child. It is also important to talk about who will have access to their child's screening results.

When a child does not pass a hearing screening, you can provide support to help parents follow up with referrals and any recommended treatment. If a child is identified as deaf or hard of hearing, collaborating with the child's audiologist and other early intervention providers will be helpful. Share information with the parents about the importance of hearing for children's language development and communication. This supports a family's health literacy,⁷ and it may help them complete the follow-up steps.

See [Hearing Screening Resources for Families](#) for links to family-friendly materials in multiple languages that explain developmental milestones, hearing screening, and hearing loss.

Preparing Staff and Building Community Partnerships

Early care and education programs can develop evidence-based hearing screening practices. One way to begin is to find an audiologist, preferably a pediatric audiologist, whom you can invite to join your Health Services Advisory Committee. The audiologist can be helpful with equipment selection and preparing and training screeners.

Screening results are just a picture of a child's hearing at one moment in time. Screening is not perfect, and ongoing observations by families, teachers, home visitors, and other staff provide an important aspect of monitoring a child's hearing and speech.⁸ Encourage families to speak with their child's health care provider anytime they express a concern about their child's hearing or language development.

Hearing Screening Fact Sheet

The ECHO Initiative staff offers technical assistance, training, educational resources, and implementation tools to support early care and education programs. You can explore ECHO's many print, audio, video, and online materials. For more information, see [Hearing Screening Resources for Staff](#) for links to these and other materials.

Hearing Screening Resources for Staff

- The [Early Childhood Hearing Outreach \(ECHO\) Initiative](#) has online resources for training, planning, accessing audiologists, equipment selection, screening protocols and forms, letters to parents and providers, and systems for tracking and follow-up and what to do for children identified with hearing loss. Send questions to echo.ncham@usu.edu.
- *Probes and Tips* is a monthly electronic newsletter from the ECHO Initiative. Complete this [form](#) to subscribe and receive announcements about the latest hearing resources.
- The following resources on the Early Childhood Learning and Knowledge Center (ECLKC) can help you plan and implement a comprehensive hearing screening program:
 - [“Promoting Early Hearing Screening and the Use of Assistive Technology”](#)
 - [“Screening: The First Step in Getting to Know a Child”](#)
 - [“When Health Affects Assessment”](#)
- Use the [Checklist for Supporting Families When a Child is Identified with a Permanent Hearing Loss](#) to learn about the important role that you play in helping families find the resources and information they need.
- [“Hearing Loss in Children”](#) from the Centers for Disease Control and Prevention (CDC) has basic information, data, research, guidelines, state-specific contacts, and English and Spanish resources to share with families.

- The [American Speech-Language-Hearing Association](#) (ASHA) is the national professional, scientific, and credentialing association for audiologists; speech-language pathologists; and speech, language, and hearing scientists (and other specialists). The ASHA Action Center takes questions and requests for information from members and nonmembers.
- Find an audiologist near you from the [American Academy of Audiology](#).
- Read [“The Audiologist’s Role in Advancing Periodic Hearing Screening in Early Childhood Education Settings”](#) to learn more about other potential collaborations with these specialists.

Hearing Screening Resources for Families

- [“Purpose of Newborn Hearing Screening”](#): Audio and print materials are available in English and Spanish from the American Academy of Pediatrics.
- [“How Does Your Child Hear and Talk?”](#): Milestones for the first 5 years of life are available in English and Spanish from the American Speech-Language-Hearing Association.
- [Communicate With Your Child](#): Brochures in English, Spanish, Chinese, Vietnamese, Korean, and Tagalog answer families’ questions when they find out their child has a hearing loss.
- [“Reading & Language Milestones”](#): Explore listening and talking milestones for infants, toddlers, and preschoolers from PBS Parents and how families can help children develop by talking, reading, and writing together every day.
- [“What’s Your Baby’s Hearing Screening Result?”](#): A resource in English and Spanish from CDC explains what families can do when they learn the results of their child’s hearing screening.
- [“A Parent’s Guide to Hearing Loss”](#): A resource in English and Spanish from the CDC offers information and practical steps for families caring for a child with hearing loss.



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