



SOUND IDEAS

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Some babies are born listeners . . . Others need your help.

Has newborn hearing screening become the standard of care?

During the last 15 years, there has been dramatic growth in newborn hearing screening, diagnosis, and intervention programs—commonly referred to now as EHDI (early hearing detection and intervention). Even though there are important gaps that still need to be addressed, many people believe that hospital-based newborn hearing screening programs have become the medical/legal standard of care in the U.S.

What does this mean and why is it important? In an article on which much of the following information is based, Marlowe (1996) pointed out:

Every medical and allied health practitioner and every hospital administrator should be keenly aware that they are held to a hypothetical standard of care whenever their professional conduct is being evaluated legally.

In other words, when something is judged to be the “standard of care,” it means that health-care providers have a

“Standard of care” means health-care providers have a legal liability if they do not provide these services.

legal liability if they do not provide these services. What many people don’t understand is that there is no committee or policy group that decides when a particular practice

becomes the “standard of care.” Instead, the “standard” evolves as a result of court cases that are litigated when people feel that they have not been provided with appropriate services. Although there have not yet been court cases that establish newborn hearing screening as the legal “standard of care,” the following guidelines have been used by the courts in the past to determine whether a particular practice is considered “standard of care” (see Ginsburg, 1993; Hoffman, 1995).

Expectations for a reasonable practitioner under similar circumstances

An oft-cited case in determining what constitutes a standard of care in a particular situation was the 1898 Pike v. Honsinger case in which the Court of Appeals decision stated that:

A physician . . . impliedly represents that he possesses . . . that reasonable degree of learning and skill . . . ordinarily possessed by physicians in his locality . . . [It is the physician’s]

duty to use reasonable care and diligence in the exercise of his skill and learning . . . [he must] keep abreast of the times . . . departure from approved methods and general use, if it injures the patient, will render him liable.

The fact that newborn hearing screening programs are now operating in every state and more than 85% of all newborns are screened for hearing loss (NCHAM, 2002a) means that it would be difficult for any health-care provider to successfully argue that most people in their area are not doing newborn hearing screening. Health-care providers are also expected to “keep abreast of the times.” Clearly, newborn hearing screening programs can no longer be viewed as being experimental given that hundreds of hospitals have been operating successful EHDI programs for more than a decade.

Endorsement of the practice by governmental, professional, and advocacy groups

Newborn hearing screening has been endorsed by a wide range of authoritative groups, including the American Academy of Pediatrics, National Association of the Deaf, National Institutes of Health, March of Dimes, and others. The only major group that has examined the question of whether all newborns should be screened for hearing loss and not unequivocally endorsed it is the U.S. Preventive Services Task Force (Thompson, et al., 2001). However, the conclusions of this group have been widely misunderstood. Specifically, even though the task force concluded that there is not yet clear evidence about

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AROUND THE WORLD . . . A Universal Newborn Hearing Screening (UNHS) program in Taiwan

Editor's Note: The following is adapted from: Lin, H., Shu, M., Chang, K., & Bruna, S. M. (2002). International Journal of Pediatric Otorhinolaryngology, 63, 209-218.

In November 1998, Mackay Memorial Hospital and the Children's Hearing Foundation established a pilot UNHS program to assess the feasibility of implementing UNHS in Taiwan. To garner support and raise awareness, an initial inservice for hospital professionals was held, and public awareness campaigns were undertaken using press conferences and a series of television advertisements that underscored the need for hearing screening in Taiwan. Several parents reported that they chose Mackay Memorial Hospital for the delivery of their baby partly due to the existence of the hearing screening program. An in-house video describing the importance of hearing screening and demonstrating the screening procedure was also played regularly in maternity ward feeding rooms to remind mothers to check that their child received a hearing screening test prior to discharge.

Between November 1998 and October 2000, a

total of 6,765 infants (representing 90% of all healthy newborns) were screened for hearing loss prior to discharge from the well-born nursery. The screening team included ear, nose, and throat specialists; audiologists; a full-time screening nurse; and part-time screening staff of student nurses and volunteers. Screeners performed an initial TEOAE (transient otoacoustic emissions) screening approximately 36 hours after birth resulting in an initial referral rate of 22%. However, additional screenings were conducted as needed prior to discharge, reducing to just 6% the number requiring follow-up testing at the 1-month immunization appointment.

Of the infants referred for follow-up, 9 were identified with a permanent, bilateral hearing loss; fitted with hearing aids; and enrolled in an early intervention program; and 26

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THE WEB www.infanthearing.org

UNHS, diagnosis, and intervention guidelines for pediatric medical home providers now available on the Web

Editor's Note: The guidelines were developed by the American Academy of Pediatrics (AAP) in collaboration with the National Center on Hearing Assessment and Management (NCHAM) with funding from the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services.

Physicians need to keep track of an amazing amount of information related to the ever-changing issues to children's health. Thus, it is not surprising that they may have questions about what to do next with a child in their practice who may have a hearing loss. The AAP has recently published a flowchart that provides a valuable resource for such situations. These guidelines provide pediatric primary care providers and others involved in the medical care of infants and young children and their hearing health with a step-by-step guide consistent with AAP policy on hearing screening, diagnosis, and management from birth through 6 months of age and beyond. The guidelines also provide detailed information about ongoing hearing-, speech-, and language-related care for all infants, as well as a template for use by physicians' offices to easily customize patient referral information. A listing of national resources on EHDI is also included.

An electronic copy of the guidelines can be printed from the AAP Web site, reproduced, and kept in the office examining rooms for convenient reference (see www.medicalhomeinfo.org/screening/hearing) or order paper copies in limited quantities from NCHAM.



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WE'RE ELECTRONIC!

The newsletter is also available at our Web site, www.infanthearing.org. Send us your e-mail address at nchamhelp@coe.usu.edu, and we will e-mail you each time the newsletter is published. If you would like to submit an article, contact the editor, Karen Ditty, at DittyKM@aol.com.

Historical moments in newborn hearing screening

On July 8, 2003, *USA Today* reported that 86.5% of all newborns in the U.S. are now being screened for hearing loss (the full article is available at http://www.usatoday.com/news/health/2003-07-07-infant-usat_x.htm). Many different groups have been working for almost 40 years to achieve such a high level of screening. Some of the most important are listed below. (Supporting documents for this information are available at <http://www.cdc.gov/ncbddd/ehdi/history.htm>.)

We have come a long way, but more remains to be done!!!

1965 • Babbidge Report (report to the secretary of HEW):

- Recommended the development and nationwide implementation of “universally applied procedures for early identification and evaluation of hearing impairment.”

1967 • Recommendations from the National Conference on Education of the Deaf:

- High-risk register to facilitate identification.
- Public information campaign.
- Testing of infants and children 5-12 months of age should be investigated.

1988 • Commission on Education of the Deaf:

- Reported the average age of identification for profoundly deaf children in the U.S. was 2 years.

1988 • Bureau of Maternal and Child Health Advisory Group:

- Advisory group of national experts selected by the U.S. Department of Education and Bureau of Maternal and Child Health to advise the government about the feasibility of developing early identification guidelines.
- Recommended that the federal government fund demonstration projects to expand and document systematically the cost efficiency of proven techniques already in existence but infrequently used.

1988 • Former Surgeon General C. Everett Koop issued a challenge:

- By the year 2000, 90% of children with significant hearing loss be identified by 12 months of age.

1990 • Joint Committee on Infant Hearing (JCIH) position statement:

- Recommended that high-risk infants be screened prior to their discharge from the hospital and no later than 3 months after their birth.

1990 • Healthy People 2000:

- **Goal:** To reduce the average age at which children with significant hearing impairment are identified to no more than 12 months by year 2000.

1993 • National Institutes of Health (NIH) consensus development program:

- Recommended all newborns be screened for hearing loss before leaving the hospital.

1994—JCIH position statement:

- Recommended that “all infants with hearing loss should be identified before 3 months of age and receive intervention by 6 months of age.”

1999 • The AAP endorses:

- UNHS
- Detection of hearing loss before 3 months of age.

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TECHNIQUES AND TIDBITS

How can your OAE-based UNHS program maintain low refer rates?

- 1 Train *only* as many hearing screeners as necessary. By keeping a small number trained for the procedure, you can ensure that each screener will have ample opportunities to screen infants and will have the experience needed with the screening equipment.
 - 2 Overlap the hiring and/or training of a new screener with one of your experienced screeners.
 - 3 Whenever possible, test infants when they are 6 hours or older. If wetness due to vernix in the ear canal is a problem, this slight delay allows the infant’s ears to “dry.”
 - 4 Optimally, test the infant after he or she is fed to provide a quieter baby and an easier screen.
 - 5 Teach good swaddling techniques for the infant to ensure a secure baby and a quieter test.
 - 6 If the parents approve, quiet a fussy baby with a pacifier during the test. Often a baby will suck for a brief period, and during the time they are not sucking on the pacifier, a good screening result can be obtained.
 - 7 Gently tug up and away on the infant’s ear if the first trial yields poor results. (Infant ear canals are very pliable at this age and sometimes will collapse. The gentle tug will open the ear canal for an easier, accurate screen.)
 - 8 If the infant does not pass the first inpatient screen, repeat the hearing test a second time before discharge.
 - 9 Monitor screening statistics concerning refer rates. For OAE-based programs, they should typically be between 2-8%. Retrain screeners as necessary to maintain a low refer rate.
- Follow-up on referrals from the hospital is one of the weakest links of EHDI programs. It is hard to get infants back for follow-up outpatient testing. If we maintain a low, accurate refer rate, we can reduce the numbers required to return for testing, which will help significantly in operating a cost-efficient EHDI program.

Better hearing and speech promotions

Since 1927, May has been designated “Better Hearing and Speech” month. Every year during the month of May, audiologists, speech pathologists, otolaryngologists, and others have made a special effort to raise public awareness concerning the issues surrounding the 42 million Americans that are affected by speech, language, and hearing disorders. Of these Americans, more than 3 million children have a hearing loss.

Although May 2003 has passed, now is a good time to start planning for activities you can implement in 2004 to promote public awareness of EHDI programs. Hospitals are in a particularly good position to promote their UNHS program, because screening for infants is a year-round job. Not only during May, but every day throughout the year, the importance of early detection of hearing loss can be promoted in the hospital’s prenatal classes, in their early childhood development classes, or their in-house television classes offered to new parents. A specific day could be designated to provide a handout to every new parent, visitor, and employee of the hospital that provides the “facts” of UNHS and the specifics of the hospital’s program. Oftentimes, this event could coincide with other educational hospital events during the year.

Coordinators of hospital-based UNHS programs should take every opportunity to better inform their staff and parents concerning the necessity and advantage of detecting congenital hearing loss as early as possible. Some facts for the fact sheet could include:

- Fact 1** Three of every 1,000 babies are born in the U.S. each year with hearing loss
- Fact 2** With an approximate birth rate of 4 million per year in the U.S., 12,000 infants are born with hearing loss every year.
- Fact 3** The incidence of hearing loss in children is much higher than other birth defects for which children are screened. PKU affects 1 in 10,000 live births; hypothyroidism, 1 in 5,000 live births; and sickle cell anemia, 1 in 12,000 births. In contrast, hearing loss affects 1 in every 300 babies born.
- Fact 4** Before UNHS, the average age that hearing loss was diagnosed was 30 months.
- Fact 5** With UNHS, infants are identified and can receive intervention for their hearing loss by 6 months.
- Fact 6** A discussion of the benefits of early identification, such as the positive impact on cognitive development and speech/language skills.
- Fact 7** Early identification of hearing loss provides infants a greater chance of developing speech and language consistent with their hearing counterparts.

Fact 8 A description of the screening methodology used at your hospital (Otoacoustic Emissions/Auditory Brainstem Response Audiometry)

Activity books for school-aged children, screen savers, posters, lapel pins, and more can be downloaded from the Better Hearing and Speech Month Web site at http://professional.asha.org/resources/bhs_main.cfm. Other Web sites with useful information include: www.audiology.org,
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IN THE NEWS

Louisiana legislature passes Act 816 to provide health insurance coverage for hearing aids for minor children

Louisiana Governor Mike Foster signed Act 816 on July 1, 2003—making Louisiana the sixth state to require health insurance companies to pay benefits for hearing aids for children.

Currently, five other states (CT, KY, MD, MO, and OK) mandate that benefits be paid for children’s hearing aids. Connecticut provides hearing aids for children 12 years or younger, but benefits can be limited to \$1,000 every 24 months. Kentucky covers the cost of a hearing aid for each ear with payment capped at \$1,400 per hearing aid every 36 months. Maryland provides coverage for hearing aids dispensed by a licensed audiologist with a limit of \$1,400 per hearing aid every 36 months. Missouri requires health insurance and Medicaid coverage for infant hearing screenings, audiological assessment, and hearing aids. Finally, Oklahoma requires group health insurance to provide coverage for audiological services and hearing aids for children up to 18 years of age as dispensed by a licensed audiologist and allows a hearing aid benefit every 48 months with no dollar limit.

The Louisiana Department of Education estimates that there are 1,359 hearing-impaired children ages 3-21 in the state of Louisiana. Approximately 35% of that population is Medicaid-eligible, and another significant percentage qualifies for hearing aids through Children’s Special Health Services in the Department of Public Health.

The Louisiana bill mandates insurers, nonprofit health service plans, and health maintenance organizations to provide coverage for hearing aids for a child under the age of 18. The coverage is paid if the hearing aids are fitted and dispensed by a licensed audiologist or licensed hearing aid specialist following medical clearance by a physician and an audiological evaluation medically appropriate to the age of the child. The benefit can be limited to \$1,400 per hearing aid for each hearing-impaired ear every 36 months.

The provision of this Louisiana bill will apply to any new health insurance policy issued on or after January 1, 2004. To view the entire text of this bill, go to www.legis.state.la.us and link to Senate Bill 408 or Act 816.

Has newborn hearing screening become the standard of care?

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whether newborn hearing screening results in better language outcomes, they also concluded that Universal Newborn Hearing Screening is feasible to implement results in earlier identification of hearing loss and can be done with equipment that is accurate, practical to use, and economical (NCHAM, 2002b).

Availability of appropriate technology to implement the practice

Ginsburg (1993) suggested that one of the criteria for establishing a standard of care:

... is when an inexpensive, reliable device comes onto the market, the technology and concept of which have already been adopted by a group who specializes in the concept . . . [A] guideline becomes a standard of care when the device behind the guideline is available and readily usable. (p. 125)

Newborn hearing screening equipment is now widely available and relatively inexpensive. More importantly, the fact that newborn hearing screening equipment is continually improving (i.e., becoming faster and easier to use and less expensive) means that it easily meets the standard defined by Ginsburg of being “available and readily usable.”

Conclusion

The available evidence suggests that newborn hearing screening easily meets the standards that the courts have used previously to judge whether a particular practice has become the medical/legal standard of care. It is important that hospital administrators and public health officials be aware of this as they review what they are doing to provide services to children and families.

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Around the world . . .

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were identified with an unilateral hearing loss and referred for family counseling and audiological monitoring. Similar to the incidence of hearing loss reported in the U.S., 9 out of 6,765 babies found to have a bilateral hearing impairment is almost equivalent to 1.3 children per 1,000. The incidence of 26 out of 6,765 babies found to have a unilateral loss is equivalent to 3.8 children per 1,000.

The average cost of screening one newborn was estimated at U.S. \$16, including labor, disposables, and initial equipment costs. The cost for a child to be detected with a hearing loss was estimated to be U.S. \$3,093, thus demonstrating UNHS to be a cost-effective and feasible method for accurately identifying congenital hearing loss in Taiwan. The authors of the study therefore hope to see more birthing hospitals in Taiwan and around the world adopt UNHS as a standard of care.

Historical moments in newborn hearing screening

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- Intervention services initiated by 6 months of age.
- 2000 • JCIH Year 2000 position statement:**
- Principles and guidelines for EHDI programs.
- 2001—Healthy People 2010:**
- **Goal 28-11:** Increase the proportion of newborns who are screened for hearing loss by age 1 month, have audiologic evaluation by age 3 months, and are enrolled in appropriate intervention services by age 6 months.

Better hearing and speech promotions

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www.hearinghealth.net, www.entnet.org/, www.cdc.gov/ncbddd/ehdi/ehdi.htm

Whatever combination of activities and facts you choose, be sure to make your event fun and educational for all. You are providing infants and children with “Communication for Life.”

WE'RE ELECTRONIC!!!

This newsletter is
primarily distributed
electronically at
www.infanthearing.org.

To have a printed copy sent,
register at www.infanthearing.org.
HEAR's to early hearing screening
for all babies!

UPCOMING EVENTS

July 26-30, 2003 • American Society for Deaf Children Family Reunion, 18th Biennial Conference of ASDC Texas School for the Deaf, Austin, TX. Contact: ercod@tsd.state.tx.us or www.deafchildren.org.

Multiple Dates: August 18, 2003, Pittsburgh, PA; September 12, 2003, Orange Beach, AL; September 18, 2003, Iselin, NJ; October 10, 2003, Rosemont, IL • New Technologies Workshop in Audiological Assessment: Multiple Auditory Steady-State Response (ASSR). A continuing education activity. *Sponsored by* Health Stream with funding from Biologic Systems Corp. **Contact:** www.healthstream.com

September 21-24, 2003 • The American Academy of Otolaryngology, Head, and Neck Surgery, Annual Meeting and EXPO, Orlando, FL. Contact: www.entnet.org.

Multiple Dates: September 26, 2003, Albuquerque, NM; November 8, 2003, Columbus, OH • Advances in Early Hearing Detection and Intervention. A continuing education activity. *Sponsored by* Health Stream with funding from Biologic Systems Corp. **Contact:** www.healthstream.com

October 19-22, 2003 • National Symposium on Childhood Deafness, "The Roads to Literacy for Deaf Children Utilizing Collaboration and Partnerships," Sioux Falls, SD. **Contact:** Joseph J. Innes, Program Director, National Association of the Deaf, 814 Thayer Avenue, Silver Springs, MD 20910-4500 or http://www.c-s-d.org/CSD/NSCD2003_call.pdf.

October 23-24, 2003 • 24th Annual Fall Conference on Mainstreaming Students With Hearing Loss: Developing Self-Advocacy, Springfield, MA. Contact: www.Clarkeschool.org.

November 13-15, 2003 • 2003 American Speech, Language, & Hearing Association Convention, "Exploring New Frontiers in Biology," Chicago, IL. **Contact:** <http://professional.asha.org/events/>.