

Helping Your Baby Effectively Hear and Speak

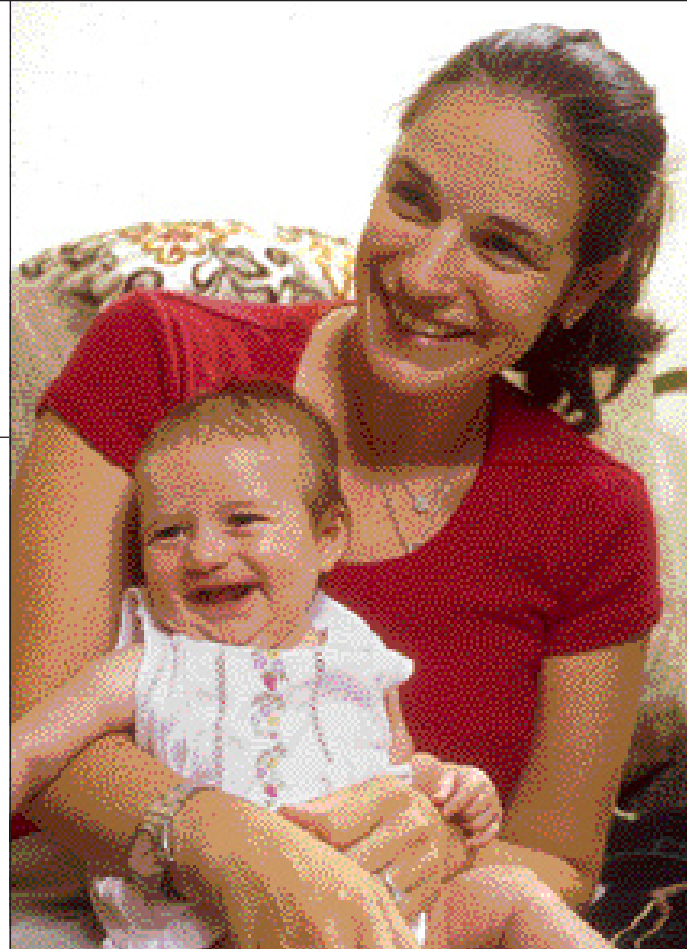
Hearing loss is the most frequent congenital (from birth) condition in the United States. Every day, approximately 33 infants are born with some degree of hearing loss (American Academy of Pediatrics, 2006). Therefore, hearing screening for newborns before they leave the hospital or maternity center is common practice in today's hospitals.

Without newborn hearing screening programs, hearing loss identification typically occurs between 12-25 months of age. When a hearing loss is present, language (receptive and expressive use of speech) development is frequently delayed. A severe hearing loss impacts language development far more than a mild hearing loss. Receptive language delays translate to delayed speech as well as academic and social progress in school. However, children who are identified early and receive early intervention develop communication skills far more effectively than children who are not identified and treated early (College of Physicians and Surgeons, Columbia University, 2006).

Hearing Screening

Many states mandate newborn hearing screenings. The following Web address will take you to information that identifies the status of each state's Early Hearing Detection and Intervention (EHDI) Law: www.asha.org/about/legislation-advocacy/state/bill_status.htm. The states listed at this site have passed Early Hearing Detection and Intervention laws. Visit the Web address to view the full text of the law. If your state is not listed, contact your local hospital's neonatal department or your county's health office for more information (ASHA, 2006).

The current position statement of the Joint Committee on Infant Hearing Screening Techniques provides recommendations for the hearing screening process (ASHA, 2006). Screening procedures for newborns and infants may help alert professionals of a possible permanent or fluctuating bilateral (two



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SCREENING SCRIPT: Because hearing impacts language development in children, it is important to screen for hearing problems in newborns. Later, screen if family history or acquired conditions place the child at risk for hearing loss. Early identification can lead to effective treatment and developmental success.

ears) or unilateral (one ear) hearing loss; it may also help to alert professionals to a sensory or conductive hearing loss of 30 to 40 dB (dB = decibel) or more in the frequency region important for speech recognition (approximately 500-4000 Hz). The screening of newborns and infants involves the use of non-invasive tests like pure-tone beeps, otoacoustic emissions (OAEs: sonar type technology) and/or auditory brainstem response (ABR: recording electrical pulses from the head area). These technology procedures are completed painlessly while the infant is resting quietly.

What Happens Next?

What if an infant does not pass the hearing screening? Infants who do not pass the first screening are typically given a second screening. Infants who do not pass the second screening are referred for audiological (audiologist) and medical evaluations that should occur no later than 3 months of age. These follow-



hearing loss, determine the type of hearing loss, frequently the cause of the hearing loss, and help to identify treatment options. Even if the infant passes screening, certain hearing conditions do not produce immediate hearing loss. Rather, the hearing loss may occur later in the child's life.

Children with hearing loss may benefit from medical intervention and/or audiologic intervention. Medical intervention may range from minimal treatment (medication), major treatment (surgery), with some hearing losses that are not medically

5 syphilis and toxoplasmosis;

Neonatal indicators—specifically hyperbilirubinemia at a serum **6** level requiring exchange transfusion, persistent pulmonary hypertension of the newborn associated with mechanical ventilation and conditions requiring the use of extracorporeal membrane oxygenation (ECMO);

Syndromes associated with progressive hearing loss such **7** as neurofibromatosis, osteopetrosis and Usher's syndrome;

Neurodegenerative disorders, such as Hunter syndrome, or sensory motor neuropathies, such as Friedreich's ataxia and **8** Charcot-Marie-Tooth syndrome;

9 Head trauma;

10 Recurrent or persistent otitis media (ear infection) with effusion for at least 3 months.

Preparing for School

The Individuals with Disabilities Education Improvement Act (IDEIA, 2004) regulates states to develop and implement a statewide system of early intervention services for infants and toddlers. IDEIA requires that infants and toddlers with disabilities be identified and evaluated using at-risk criteria (as noted above 1-10) and appropriate audiologic examination techniques to identify children with hearing loss. After a hearing loss is confirmed and assessed by an audiologist, coordination of educational services should be facilitated by the child's audiologist, the child's medical manager, your child's local school district, and the school district's teacher of the hearing impaired. Your local school district and/or state/local health department will help you to receive more information about hearing screenings/evaluations and intervention services through your state's Early Intervention (EI) program.

In summary, hearing loss impacts language (listening and speaking) development. Children who have more extensive hearing losses generally experience more developmental problems than children with mild hearing losses. The key to your child's developmental success is to screen for hearing problems early in their lives, screen when the child's developmental history or family history places the child at risk for a hearing loss, and screen for hearing loss when your child's behavior suggests that a hearing loss may be present. Finally, with early identification and effective treatment, children with hearing loss do become successful in school and in their community.

moreinfo

For more information, contact:
American Academy of Pediatrics:
www.medicalhomeinfo.org/screening/hearing.html

ASHA, American Speech-Language Hearing Association
[www.asha.org/public/hearing/testing#newborns and infants](http://www.asha.org/public/hearing/testing#newborns%20and%20infants)

College of Physicians and Surgeons, Columbia University:
www.entcolumbia.org/babyscrn.htm

IDEIA, Individuals with Disabilities Education Improvement Act:
www.pde.state.pa.us/special_edu/cwp/view.asp?a=177&q=111436

or surgically treatable. Audiologic intervention may range from simple to complex therapeutic intervention with intervention by a teacher of the hearing-impaired to the use of both therapeutic and technology interventions like hearing aids, assistive listening devices, etc.

Delayed-Onset Hearing Loss

An infant with any of the following symptoms may have a delayed-onset hearing loss and should receive audiologic monitoring every six months until age 3 years (College of Physicians and Surgeons, Columbia University, 2006):

- 1** Parental or caregiver concern regarding hearing, speech, language, and/or developmental delay;
 - 2** Family history of permanent childhood hearing loss;
- Characteristics or other findings associated with a syndrome
- 3** known to include a sensorineural and/or conductive hearing loss;
 - 4** Postnatal infections associated with sensorineural hearing loss including bacterial meningitis;

In utero infections such as cytomegalovirus, herpes, rubella,

