

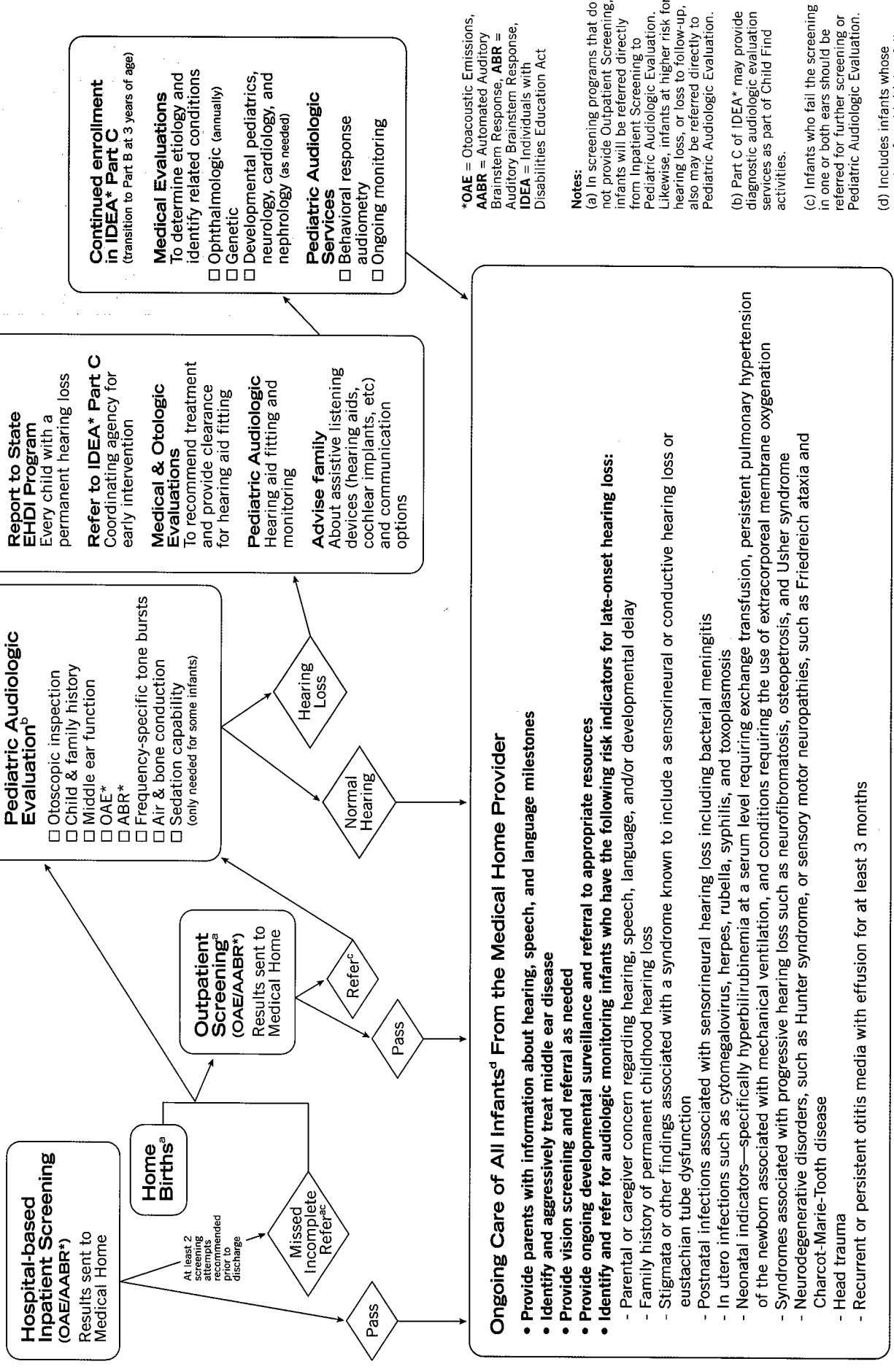
# Universal Newborn Hearing Screening, Diagnosis, and Intervention Guidelines for Pediatric Medical Home Providers

## Birth

Identify a Medical Home for every infant

## Before 1 Month

## Before 3 Months



**Hospital-based Inpatient Screening (OAE/AABR\*)**  
Results sent to Medical Home

**Home Births<sup>a</sup>**

At least 2 screening attempts recommended prior to discharge

**Outpatient Screening<sup>a</sup> (OAE/AABR\*)**  
Results sent to Medical Home

**Missed Incomplete Refer<sup>a,c</sup>**

**Pass**

**Pediatric Audiologic Evaluation<sup>b</sup>**  
 Otoscopic inspection  
 Child & family history  
 Middle ear function  
 OAE\*  
 ABR\*  
 Frequency-specific tone bursts  
 Air & bone conduction  
 Sedation capability  
(only needed for some infants)

**Hearing Loss**

**Normal Hearing**

**Report to State EHDI Program**  
Every child with a permanent hearing loss

**Refer to IDEA\* Part C**  
Coordinating agency for early intervention

**Medical & Otolgic Evaluations**  
To recommend treatment and provide clearance for hearing aid fitting

**Pediatric Audiologic Services**  
Hearing aid fitting and monitoring

**Advise family**  
About assistive listening devices (hearing aids, cochlear implants, etc) and communication options

**Continued enrollment in IDEA\* Part C**  
(transition to Part B at 3 years of age)

**Medical Evaluations**  
To determine etiology and identify related conditions

- Ophthalmologic (annually)
- Genetic
- Developmental pediatrics, neurology, cardiology, and nephrology (as needed)

**Pediatric Audiologic Services**

- Behavioral response audiometry
- Ongoing monitoring

### Ongoing Care of All Infants<sup>d</sup> From the Medical Home Provider

- Provide parents with information about hearing, speech, and language milestones
- Identify and aggressively treat middle ear disease
- Provide vision screening and referral as needed
- Provide ongoing developmental surveillance and referral to appropriate resources
- Identify and refer for audiologic monitoring infants who have the following risk indicators for late-onset hearing loss:
  - Parental or caregiver concern regarding hearing, speech, language, and/or developmental delay
  - Family history of permanent childhood hearing loss
  - Stigmata or other findings associated with a syndrome known to include a sensorineural or conductive hearing loss or eustachian tube dysfunction
  - Postnatal infections associated with sensorineural hearing loss including bacterial meningitis
  - In utero infections such as cytomegalovirus, herpes, rubella, syphilis, and toxoplasmosis
  - Neonatal indicators—specifically hyperbilirubinemia at a serum level requiring exchange transfusion, persistent pulmonary hypertension of the newborn associated with mechanical ventilation, and conditions requiring the use of extracorporeal membrane oxygenation
  - Syndromes associated with progressive hearing loss such as neurofibromatosis, osteopetrosis, and Usher syndrome
  - Neurodegenerative disorders, such as Hunter syndrome, or sensory motor neuropathies, such as Friedreich ataxia and Charcot-Marie-Tooth disease
  - Head trauma
  - Recurrent or persistent otitis media with effusion for at least 3 months

\*OAE = Otoacoustic Emissions, AABR = Automated Auditory Brainstem Response, ABR = Auditory Brainstem Response, IDEA = Individuals with Disabilities Education Act

#### Notes:

- (a) In screening programs that do not provide Outpatient Screening, infants will be referred directly from Inpatient Screening to Pediatric Audiologic Evaluation. Likewise, infants at higher risk for hearing loss, or loss to follow-up, also may be referred directly to Pediatric Audiologic Evaluation.
- (b) Part C of IDEA\* may provide diagnostic audiologic evaluation services as part of Child Find activities.
- (c) Infants who fail the screening in one or both ears should be referred for further screening or Pediatric Audiologic Evaluation.
- (d) Includes infants whose parents refused initial or follow-up hearing screening.

# Appropriate Referrals

## 1. Audiologist knowledgeable in pediatric screening and amplification

Name:
Telephone number:
Fax:
Date of referral:

## 2. Otolaryngologist knowledgeable in pediatric hearing loss

Name:
Telephone number:
Fax:
Date of referral:

## 3. Local early intervention system

Name:
Telephone number:
Fax:
Date of referral:

## 5. Speech/language therapy and/or aural rehabilitation therapy

Name:
Telephone number:
Fax:
Date of referral:

## 6. Sign language classes if parents choose manual approach

Name:
Telephone number:
Fax:
Date of referral:

## 7. Ophthalmologist knowledgeable in co-morbid conditions in children with hearing loss

Name:
Telephone number:
Fax:
Date of referral:

## 4. Family support resources, financial resources

Name:
Telephone number:
Fax:
Date of referral:

## 8. Clinical geneticist knowledgeable in hearing impairment

Name:
Telephone number:
Fax:
Date of referral:

## 9. Equipment vendor(s)

Name:
Telephone number:
Fax:
Date of referral:

## 10. State EHDI coordinator

<http://www.infanthearing.org/status/cnhs.html>

Name:
Telephone number:
Fax:
Date of referral:

## 11. AAP Chapter champion

<http://www.medicalhomeinfo.org/screening/Champions%20Roster.pdf>

Name:
Telephone number:
Fax:
Date of referral:

## 12. Family physician(s)

Name:
Telephone number:
Fax:
Date of referral:

### National Resources

Alexander Graham Bell Association for the Deaf and Hard of Hearing (AG Bell) 202/337-5270 <a href="http://www.agbell.org">www.agbell.org</a>	American Speech-Language-Hearing Association (ASHA) 800/498-2071 <a href="http://www.asha.org">www.asha.org</a>	Families for Hands and Voices 303/300-9763 <a href="http://www.handsandvoices.org">www.handsandvoices.org</a>	National Center on Hearing Assessment and Management (NCHAM) <a href="http://www.infanthearing.org">www.infanthearing.org</a>
American Academy of Audiology (AAA) 800/AAA-2336 <a href="http://www.audiology.org">www.audiology.org</a>	Boys Town Center for Childhood Deafness <a href="http://www.babyhearing.org">www.babyhearing.org</a>	Laurent Clerc National Deaf Education Center and Clearinghouse at Gallaudet University <a href="http://www.clerccenter.gallaudet.edu/infoToGo">www.clerccenter.gallaudet.edu/infoToGo</a>	National Institute on Deafness and Other Communication Disorders <a href="http://www.nidcd.nih.gov">www.nidcd.nih.gov</a>
American Academy of Pediatrics <a href="http://www.aap.org">www.aap.org</a>	Centers for Disease Control and Prevention <a href="http://www.cdc.gov/ncbddd/ehdi">www.cdc.gov/ncbddd/ehdi</a>	National Association of the Deaf (NAD) 301/587-1788 <a href="http://www.nad.org">www.nad.org</a>	Oberkottler Foundation <a href="http://www.oraldeafed.org">www.oraldeafed.org</a>
American Society for Deaf Children 717/334-7922 <a href="http://www.deafchildren.org">www.deafchildren.org</a>	Cochlear Implant Association, Inc. 202/895-2781 <a href="http://www.cici.org">www.cici.org</a>		

The recommendations in this document do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

Copyright © 2002 American Academy of Pediatrics. No part of this document may be reproduced in any form or by any means without prior written permission from the American Academy of Pediatrics except for 1 copy for personal use.

This project is funded by an educational grant from the Maternal and Child Health Bureau, Health Resources and Services Administration, US Department of Health and Human Services.



American Academy  
of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

