The California Program: Newborn Hearing Screening through Infant Diagnostics

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California Department of Health Care Services, Newborn Hearing Screening Program
Why Are We Screening?

- Previous strategies missed 50% of the newborns with hearing loss.
- Hearing loss occurs more frequently than any other congenital condition.
Incidence per 10,000 Congenital Conditions

- Hearing Loss: 30
- Cleft lip or palate: 12
- Down Syndrome: 11
- Limb defects: 6
- Spina bifida: 5
- Sickle Cell Anemia: 2
- PKU: 1
Effects of Age at Identification on Language Development

California Program Statistics

- **2009 Program Data**
  - Total births: 527,897
  - Total screened prior to hospital discharge: 517,247
    - 98% of California births
California Program Statistics

- Refer rate: 2.0%
- Miss rate: 0.3%
- Waive rate: 0.1%
California Program Statistics

- Identified with hearing loss: 932
  - Incidence 1.8/1000 screened
- Identified by 3 months of age: 620 (67%)
- Enrolled in Early Start: 805 (86%)
  - By 6 months of age: 638 (79%)
  - Lost to Follow Up 5%
Geographic Service Areas
Hearing Coordination Center Staff

- Director
- Audiologist
- Registered Nurse
- Clerical Support
- Parent
HCC Responsibilities

- Hospital Certification
- Quality Assurance Monitoring
- Infant Tracking and Monitoring
The Process of the CA NHSP

WBN

Outpatient Re-screen*
(ABR required for NICU)

Pass*

Refer*

NICU

Diagnostic Evaluation*

*results reported to the Hearing Coordination Center
Hospital Responsibilities

• Hospitals that have been certified by the HCC report individual results on babies that have:
  o Referred
  o Missed
  o Waived
  o Expired
  o Transferred
  o Been determined not medically indicated by a physician
Hospital Responsibilities

- For Infants who refer, the Hospital must:
  - Schedule an appointment for outpatient screening
  - Give family appointment info at discharge
  - Report the appointment to the HCC with inpatient screening results
  - Identify PCP
  - Get second contact
  - These are all “safety nets”
    - The safety net philosophy can be applied in any Speech or Audiology practice.
Hospital Responsibilities

- For Infants who are missed, the Hospital must:
  - Contact the family and schedule the follow up appointment
  - Report the appointment to the HCC
  - Identify PCP
  - Get second contact
NEWBORN HEARING SCREENING
Infant Reporting Form

INPATIENT SCREEN COMPLETED

<table>
<thead>
<tr>
<th>OP Screening</th>
<th>RIGHT EAR</th>
<th>LEFT EAR</th>
</tr>
</thead>
</table>
| DATE of Screening | ABR
DPOAE
TECAE | ABR
DPOAE
TECAE | ABR
DPOAE
TECAE |
| TYPE of Screening (circle one) | REREFER | PASS |
| RESULT (circle one) | PASS | PASS | PASS |

INPATIENT SCREENED NOT DONE (fax completed form to HCC)

- Transferred out to: ___________________________ Hospital on (date): ____________
- Missed; discharged without screen (complete Follow Up section below)
- Waived (Face Sheet not required) [ ] NHSP Brochure given to parent [ ]
- Expired or physician determined screening not medically indicated (Face Sheet not filled)
- Baby has atresia [ ] Bilateral [ ] Unilateral: right [ ] left [ ] (complete Follow Up section below)

FOLLOW UP FOR REFERRED / MISSED (fax completed form to HCC)

- Parent/Legal Guardian information on face sheet verified updated
  - Primary Language (circle one): English [ ] Spanish [ ] Other: ________________
  - Secondary contact information/relative or friend verified updated on face sheet or below
    - Contact Name: __________________________ Phone: ________________
    - Address: __________________________________
    - City/Zip: __________________________
  - Primary Language (circle one): English [ ] Spanish [ ] Other: ________________

- Print Infant’s Full/Legal Name: __________________________
- NHSP Brochure given to parent (circle one) Refer to DX
- Follow-Up Appointment made and written on parent brochure:

  APPOINTMENT OP SCREENING [ ] DX EVALUATION FOR NICU PATIENTS OR INFANTS WITH ATRESIA
  DATE: ____________ TIME: ____________
  PROVIDER: __________________________ Phone: ________________

  PCP who will see the infant after discharge: __________________________ Phone: ________________

  Completed form faxed with hospital face sheet to your hearing Coordinating Center at (XX) X0000.
• Refer baby to the Title V Children with Special Health Care Needs Program (CCS Program) if not done by OP screener
• Notify diagnostic provider, PCP, and family when an authorization has been issued.
• Obtain appointment information from diagnostic provider
• Contact diagnostic provider if results are not received within 14 days
HCC Role After Hearing Loss Identified

• Assure referral to the Early Start Program (CA Early Intervention Birth to 3 Program)
• Contact the family 1 week, 2 months and 6 months after diagnosis
Tracking a Baby with the CA Process
• Five Tracking Categories
  o Outpatient Screen Required
  o Diagnostic Evaluation Required
  o Hearing Loss Identified
  o Infant Transferred between hospitals
  o Infant Resides outside of CA
• Provides HCC a framework to follow cases to their conclusion
• Guidance on number and frequency of contacts with providers and families
• Letter content
• When to elevate to the State and when to close a case
• Currently updating to include DMS activities
The manual is available on our website:

Tiered Audiology Centers

- In CA, CCS-approved audiology centers known as Communication Disorder Centers
- Classified as
  - Type A (5-21 years of age)
  - Type B (3-21)
  - Type C (0-21)
- Type designation is based on facility, services offered, equipment and clinician experience
  - Paneling
California Challenges

- Not enough qualified pediatric audiologists
- Inappropriate test procedures
- Parents not scheduling or no showing appointments
- Providers not submitting results
- CCS Program delaying or not issuing diagnostic authorizations
Addressing CA Challenges

• One on one discussion/education with audiologists
• Assist the family in getting the appointment
• Enlist the PCPs help if necessary
• Refer to local EPSDT program (CHDP in CA)
July 2009 Newport Beach, CA
96 Participants; including speakers and guests
One and a half days of instruction and participation in Guideline revision
Infant Audiology Assessment Guidelines Revision

- First issued July, 2000
- Revision required to mirror JCIH 2007
- Use of JCIH alone was insufficient, needed CA specific information on programs, referrals etc.
Participants were divided into 12 pre-determined small groups
- edited specific sections of the document

Experts in their respective fields of audiology were asked to lead corresponding group discussions

Small group format was implemented for two reasons:
1. Revision of the document
2. To allow discourse among the participants
California Newborn Hearing Screening Program

The California Department of Health Care Services (DHCS), Children's Medical Services (CMS) has implemented a statewide comprehensive Newborn Hearing Screening Program (NHSP). The NHSP helps identify hearing loss in infants and guide families to the appropriate services needed to develop communication skills.

Program Overview

Individuals
- Know the Benefits
- Frequently Asked Questions
- Directories
  - Find a provider
- Hearing Coordination Center (HCC) Directory
- HCC Geographical Service Area Map
- Parent Resources
- Training Opportunities
- What's New?

Providers
- Brochures
  - Printed Materials
- CCS Infant Audiology Assessment Guidelines
- Data
  - NHSP Data for Infants Born in 2008
- Data Management Service
  - Technical Requirements Specification Electronic Data Transactions
- Forms
- Health & Safety Code
  - Regarding NHSP
- NEW CCS/GHPP NHSP SAR Referral Form
  - New Referral CCS/GHPP Client Service Authorization Request Form
- PCP Tools
  - Primary Care Provider Tools
- Provider Information
  - Helpful Links to CDC, IP, and OP provider information and resources
- Provider Resources
- Publications
California Infant Audiology Assessment Guidelines

Content

- Role of the audiologist within the medical home
- Infant diagnostic hearing evaluation
- Parent Information
- Early Intervention
- Amplification
- Cochlear Implant Referrals
Role of the Audiologist within the Medical Home

- Pediatric Audiologist is responsible for:
  - Diagnosis, treatment and management of infants & toddlers 0-3 years of age with hearing loss
  - Integration of test battery results to determine type, degree & configuration of hearing loss
  - Initial case management, coordinating services with PCP, medical and educational professionals

- AAP Guidelines for Pediatric Medical Home Providers
Infant Diagnostic Hearing Evaluation

Birth to 6 months

- History
  - Family history
  - Infants’ communication development

- Otoscopic

- ABR
  - High Frequency 500 & 2kHz min.
  - Bone conduction ABR if any threshold is above 20 dB.

- High Frequency Tympanometry
Infant Diagnostic Hearing Evaluation

- Birth to 6 months (cont’d.)
  - Diagnostic OAE (TE or DPOAE)
  - Behavioral Observation (for cross-check, not threshold determination)
- ANSD Evaluation
  - Absent or abnormal ABR results
    - Click stimuli at 80 dB or greater
    - Rarefaction and condensation stimuli
      - Compare results for presence of cochlear microphonic
Infant Diagnostic Hearing Evaluation

- 6-36 months of age
  - History
  - Otoscopic
  - Behavioral evaluation in both ears
    - SAT/SRT
    - Frequency specific thresholds 500-4000 Hz, bone conduction as required
    - ABR if behavioral testing is inconclusive
Parent Information

- Children without hearing loss
  - Remind parents to watch for communication development
  - If risk indicators for late onset or progressive hearing loss are present, counsel on the follow up process
Parent Information

Children with Hearing Loss

- Immediately following diagnosis
  - Discussion of results
  - Provide information on hearing loss
  - Talk about referral to Early Intervention
  - Discuss medical referrals
  - Refer to California Children’s Services (Title V Program, Children with Special Health Care Needs)
  - Inform medical home
Parent Information

At the follow-up visit:

- Discuss Communication Options
  - Provide non-biased information, provide audiologic intervention recommendations
- Discuss Early Intervention Services
- Review Funding and Community Support Services
Early Intervention

- Federal mandate that children with permanent or long term hearing loss be referred to Early Intervention within two working days of diagnosis

- In CA:
  - Single point of entry for 0-3 years
  - School districts for over 3 years
Amplification Reminders

- Fitting should be completed as soon as possible
- CA law requires medical clearance by ENT
- Choose features for young children
  - FM compatible
  - Safety (choking hazards)
Amplification Reminders (cont’d)

- Use fitting method to ensure audibility of soft sounds, conversational speech and comfort for loud sounds
- When possible obtain RECD in 2 cc coupler
- Behavioral observation of comfort for loud sounds can be verified in sound field
- Functional gain is NOT a substitute for electroacoustic response.
Children with bilateral severe to profound hearing loss where oral communication is the preferred method do not delay referral for cochlear implant evaluation.

- Required hearing aid trials and minimum age of twelve months can be achieved while multiple evaluations take place prior to surgery.
- Delayed referrals result in delayed oral language.
Conclusions

- There is ample evidence to support universal newborn hearing screening
- Early intervention is key to language development
- The click ABR is no longer sufficient for infant audiologic diagnostic
- Position statements and resources such as JCIH, IAAG, ASHA exist for audiologists
- Safety nets can be implemented in your clinic or practice to reduce loss to follow up
Questions?