

GUIDELINES FOR HEARING SCREENING

A goal of newborn hearing screening is to ensure that all newborns receive a hearing screen before discharge from the hospital or before one month of age. All hospitals performing hearing screening services should inform families that their newborn will have a hearing screen as part of the hospital's standard of care. The family should have the opportunity to waive this service if desired. The importance of newborn hearing screening and early identification of potential hearing loss should be relayed to parent(s)/caregiver(s) relative to its impact on speech, language, social, emotional, and cognitive development. Information on developmental milestones for speech and language development should also be made available to families of newborns. The brochure, *Michigan's Hearing Screening Program: Information for Parents* can assist with this information. Brochures are available, free of charge, in English, Spanish, and Arabic by contacting the Michigan Department of Community Health, Early Hearing Detection and Intervention (MDCH/EHDI) Program at (517) 335-9560.

Costs of hearing screening, rescreening and/or diagnostic services may be covered by third-party insurers, Medicaid, Early On, MI-Child, and/or Children's Special Health Care Services.

I. PROTOCOL FOR INITIAL HEARING SCREEN

Hearing Screen: A pass/refer type of hearing test designed to identify newborns who require additional audiological assessment to rule out or confirm the presence of a hearing loss.

A. All Michigan hospitals that provide birthing services will complete a newborn hearing screen prior to discharge of the newborn.

1. Hospitals will provide the service 365 days/year.
 - a. AABR (Automated Auditory Brainstem Response).
 - b. DPOAE (Distortion Product Otoacoustic Emissions).
 - c. TEOAE (Transient Evoked Otoacoustic Emissions).
 - d. Combination of the above (a/b, a/c).
 - e. New objective hearing screening equipment approved by the MDCH/EHDI Program.
2. Hospitals will follow the most current policies and procedures recommended by the American Academy of Pediatrics and Joint Committee on Infant Hearing (AAP 1999; JCIH, 2000). If a risk indicator for hearing loss is identified, it should be reported to the MDCH/EHDI, hospital's audiology consultant, and primary care physician (see Medical Home Attachment A: JCIH Risk Indicators).
3. If the initial hearing screen indicates a refer result, a hearing rescreen should be completed in-hospital before discharge or as soon as possible, but no later than by one month of age or one month after discharge.
4. Written results will be provided to the family, Medical Home and the MDCH/EHDI Program (FAX: (517) 335-8036).

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5. Hospitals will provide the family with a copy of the *Michigan's Community Hearing Screening Program: Information for Parents* (MDCH-0474 7/01). Copies can be ordered, free of charge, from the MDCH/EHDI Program at (517) 335-9560.
- B. Missed hearing screen:
Missed hearing screen: A hearing screen not performed before discharge.
1. Written notification of a missed hearing screen will be sent to the Medical Home by the screening hospital.
 2. Hospital personnel will retain initial responsibility for recall and completion of the hearing screen as soon as possible, but at least before one month of age.
 3. Written notification will be sent to the Medical Home and the MDCH/EHDI Program (FAX: (517) 335-8036) if the infant does not return for the hearing screen by one month of age or one month after discharge.
- C. Newborns born outside of a birthing hospital:
1. Health professionals who provide birthing services outside of a hospital will ensure that a newborn hearing screen is completed within one month of birth.
 2. The provider who delivers the baby will provide the family with the name, address and telephone number of a local birthing hospital and/or audiology site where a hearing screen can be completed.
 3. The screening facility will report the outcome of the hearing screen to the Medical Home and the MDCH/EHDI Program (FAX: (517) 335-8036).
- D. Newborns being transferred to another facility for care:
1. The birthing hospital will be responsible for reporting the hearing screening status and outcome to the receiving hospital.
 2. The receiving hospital to which the baby is transferred will be responsible for ensuring that the newborn has a hearing screen.
- E. Newborns receiving care at tertiary care facilities:
1. The transferring hospital will be responsible for reporting the hearing screening status and outcome to the tertiary care facility.
 2. The tertiary care facility to which the baby is transferred will be responsible for ensuring that the newborn has a hearing screen.
 3. When an infant receives a hearing screen at the tertiary care facility and is reverse transferred to the hospital that provided his/her initial care, the tertiary care facility will be responsible for reporting the hearing screening outcome to the hospital to which the infant is reverse transferred.
 4. When the hearing screen cannot be provided at the tertiary care facility due to the medical status of the infant and the infant is reverse transferred to another hospital for further medical management, the tertiary care facility will be responsible for reporting the hearing screening status to the hospital to which the baby is reverse transferred.

II. PROTOCOL FOR HEARING RESCREEN (in-patient and out-patient)

Hearing Rescreen: A refer result from the initial hearing screen that requires additional audiological assessment to rule out or confirm the presence of a hearing loss.

A. Completion of Hearing Rescreen:

All hearing rescreens should be completed in-hospital before discharge or as soon as possible, but no later than by one month of age or one month after discharge.

B. Scheduling Hearing Rescreen:

The hospital conducting the initial hearing screen will assume responsibility for scheduling hearing rescreens.

C. Need for Diagnostic Audiological Assessment:

If the hearing rescreen indicates the need for diagnostic audiology assessment, the Program Manager in the hospital will provide the parent(s)/caregiver(s) with a written list of facilities that provide audiological assessment for infants and young children.

1. If possible, the hospital should assist the family, before discharge, in making an audiological appointment.
2. Written notification will be sent to the Medical Home and the MDCH/EHDI Program (FAX: (517) 335-8036) identifying the hearing rescreen results and need for diagnostic audiology assessment.
3. If hospital protocol requires that only the Medical Home relay hearing rescreen results to the parent(s)/caregiver(s), then it is the responsibility of the Medical Home to ensure that newborns, who do not pass the hearing rescreen, receive an audiological assessment.

D. Referral Resource for Hearing Rescreen:

The local health department and/or *Early On* ® Michigan (1-800-327-5966) may be offered as referral resources to help facilitate the hearing rescreen if there is difficulty establishing a Medical Home.

E. Unable to locate family for the hearing rescreen:

1. Two attempts will be made by the screening hospital to contact the family by phone and/or letter. A minimum of one notification will be made to the last known Medical Home.
2. If no response is received from these attempts, a certified letter will be sent to the family.
3. If there is no response from the certified letter or if it is undeliverable, the child will be considered lost to follow-up.
4. The hospital screening program will notify the MDCH/EHDI Program and the last known Medical Home that the child was lost to follow-up.

III. REPORTING PROCESS

A. Documentation in Hospital:

1. Outcome of all newborn hearing screens, attempts, and refusals should be documented in the medical chart.
2. The parent(s)/caregiver(s) should sign a waiver in the hospital if the hearing screen is refused as a service.
3. The newborn hearing screen reporting card (i.e., part of newborn bloodspot card) should be completed relative the hearing screen result or incomplete hearing screen.

B. Notifications:

1. The hearing screen outcome will be reported, in writing to:
 - a. Medical Home within 10 days of the test date.
 - b. Parent(s)/Caregiver(s) before discharge or based on physician notification protocol but no later than 14 days of the test date.
 - c. The MDCH/EHDI Program within 14 days of the test date (FAX: (517) 335-8036).
2. **Bilateral Refers**
If the newborn has a bilateral refer status, immediate notification will be sent to the MDCH/EHDI Program (FAX: (517) 335-8036) using the Bilateral Refer Form. This form contains a section for parental/caregiver release of information and referral authorization allowing for collaborative agencies to ensure follow-up diagnosis and intervention. The bilateral referral form should be completed with the current Medical Home information and alternate contact numbers for the parent(s)/caregiver(s)

IV. PROGRAM MANAGEMENT

A. Program Manager's Responsibilities:

The Program Manager will hold ultimate responsibility for program coordination. If the Program Manager is other than a certified audiologist, collaboration with the hospital audiologist, if applicable, or a community audiologist for technical assistance should be established to help with program coordination.

1. Equipment maintenance and annual calibration.
2. Screener training.
3. Program/screener quality assurance.
4. Communication of hearing screen results with appropriate persons/agencies.
5. Statistical maintenance and analysis.

V. SCREENER PROFICIENCY AND EVALUATION

A. Responsibility for Training Screeners

The Program Manager, in consultation with an audiologist, will be responsible for the training of all screeners.

B. Evaluating Screener Competency

The Program Manager, in consultation with an audiologist, will be responsible for evaluating screener competency annually.

C. Content of Screener Training

Training will include an in-depth presentation with clinical instruction.

1. The screener will complete a hearing screen on a minimum of five newborns with supervision.
2. Screeners will not become independent until they are proficient and competent in the hearing screening process. Screeners should achieve a 95% or better pass rate on a minimum of 10 newborns.
3. The screener will demonstrate the ability to inform parent(s)/caregiver(s) of test purpose and procedure.
4. The screener will demonstrate the ability to perform an equipment function check prior to usage.
5. The screener will be educated about the risk factors for hearing loss.
6. The screener will demonstrate accuracy in the record keeping process.
7. The screener will demonstrate accuracy in the operation of the hearing screening equipment.
8. The screener will demonstrate the ability to interpret hearing screen results and to notify parent(s)/caregiver(s) of outcome according to hospital protocol.
9. The screener will demonstrate the correct handling of the baby and hearing screening equipment (probe, earphone) placement.
10. The screener will demonstrate infection control procedures.

VI. HEARING SCREENING CRITERIA

A. Screening Equipment

Many of the manufacturers of automated hearing screening equipment have internal computerized settings for what constitutes a pass or refer for the hearing screen. The equipment manufacturer presents this criterion and the screener makes no decision. However, if a facility is not using automated hearing screening equipment, there will need to be judgment as to what response level constitutes a pass versus a refer outcome. Each program must have as a part of their program plan, documentation that identifies their testing/pass-refer criteria based on current technology and research findings. Related articles can be found in the reference page.

B. Risk Indicators

When possible hearing screen results should also include known risk indicators for delayed onset or progressive hearing loss.

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C. Calibration

Each program must have documentation indicating the scheduled periodic calibration of hearing screening equipment.

D. Definition of Hearing Loss

The Joint Committee on Infant Hearing defines the targeted hearing loss for universal newborn hearing screening programs as permanent bilateral or unilateral, sensory or conductive hearing loss, averaging 30 to 40 dB or more in the frequency region important for speech recognition (approximately 500 through 4000Hz).

VII. QUALITY INDICATOR

A. Number of Newborns Screened

A minimum of 95% of newborns will have a hearing screen during the birth admission or prior to one month of age.

B. Referral Rate

The referral rate for audiologic and medical evaluation should be $\leq 4\%$ subsequent to a two-step hearing screen.

C. Follow-Up

Documentation will be present of the efforts to obtain follow-up on a minimum of 95% of the newborns who do not pass the hearing screen.

D. Parental/Caregiver Information

Parent(s)/Caregiver(s) will receive written results about the newborn hearing screen in the language of any group that comprises at least 10% of the obstetrical service population. Accommodations will be provided as outlined in the Americans with Disabilities Act (ADA, 2000).