

GUIDELINES FOR THE ORGANIZATION AND ADMINISTRATION OF UNIVERSAL NEWBORN HEARING SCREENING PROGRAMS IN THE SPECIAL CARE NURSERY AND NEONATAL INTENSIVE CARE UNIT (NICU)

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INTRODUCTION

The prevalence of hearing thresholds outside the typical range is higher among infants in the neonatal intensive care unit (NICU) than in the well-baby nursery. Therefore, in 2007, the Joint Committee on Infant Hearing (JCIH), advised separate hearing screening practices for infants cared for in the NICU and special care nursery (SCN) versus a well-baby nursery (JCIH, 2007, 2019). This document provides recommended guidelines for newborn hearing screening programs in the SCN and NICU. For hearing screening guidelines in the well-baby nursery, please refer to the [Guidelines for the Organization and Administration of Universal Newborn Hearing Screening Programs in the Well-Baby Nursery](#).¹ To help ensure that every Minnesota newborn is screened for hearing thresholds outside the typical range, [Minnesota statute 144.966](#)² requires that a hearing screen be performed on all newborns prior to hospital discharge. Typical hearing is a range of sound levels measured in decibels (dB HL) between 0 dB HL and 15 dB HL that ensures all the sounds of spoken language are consistently audible. Because of the importance

of early identification of hearing thresholds outside the typical range, all screening, follow-up, and documentation procedures must, at a minimum, be consistent with national Early Hearing Detection and Intervention (EHDI) guidelines and current Minnesota Department of Health (MDH) Newborn Screening Program recommendations. Additional resources are available from the newborn screening program to assist hospitals and hearing screeners with specific issues of program development and management such as training, supervision, equipment options, and quality assurance issues.



BACKGROUND

The goal of an EHDI program is to promote communication and access to language from birth for all children through the early identification of hearing thresholds outside the typical range and the initiation of appropriate intervention services. Newborn hearing screening and follow-up play a critical role in the EHDI process by identifying newborns who are at risk for hearing loss and connecting them with diagnostic, support, and intervention services. Without EHDI, infants who are deaf or hard of hearing may experience delays in a variety of developmental areas, including vocabulary, articulation, intelligibility, social adjustments, and behavior.

National standards specify that hearing screening should be completed as soon as possible, but at no later than one month of age; hearing thresholds outside the typical range should be clinically diagnosed as soon as possible, but at no later than three months of age; and intervention should be initiated as soon as possible, but at no later than six months of age or as soon as medically feasible, for infants with a prolonged stay in the SCN or the NICU (JCIH, 2019).

Early identification and intervention can substantially reduce, or even eliminate entirely, the developmental delays that too often stem from late detection of hearing loss. For many children who are deaf or hard of hearing, early identification and intervention enables them to perform at the same level on spoken language assessments as their peers with typical hearing and similar cognitive ability (Yoshinaga-Itano, Sedey, & Coulter, 1998). Passing the newborn hearing screening does not guarantee that hearing will remain typical,

nor does it eliminate the need to monitor the infant's or child's speech and language development. Audiological re-evaluation during early childhood is recommended when parent(s)/guardian(s) are concerned about hearing and/or speech/language development, as well as for those infants with risk factors for emergent hearing loss.

CHILD-AND FAMILY-CENTERED COMMUNICATION

[Minnesota statute 144.966](#)² requires newborn hearing screening programs to present information to parent(s)/guardian(s) that covers the following topics:

- Potential risks and effects of hearing loss
- Benefits of early detection and intervention
- Nature of the screening procedure
- Applicable costs of screening procedure

[Minnesota statute 144.125](#)³ provides parental options regarding screening refusal and storage and use of hearing screening results:

- Parent(s)/guardian(s) who choose to refuse or delay hearing screening must complete and sign the [Parental Refusal or Delay of Newborn Screening Form](#).⁴ The signed form must be entered into the child's medical record and submitted to MDH.
- Parent(s)/guardian(s) who request that their infant's newborn hearing screening results be destroyed after notification must complete and sign the [Directive to Destroy Newborn Screening Blood Spots and Test Results Form](#).⁵ The signed form must be submitted to MDH. If no destruction request is received, hearing screening results are kept for 18 years.

Best practice includes providing the following to parent(s)/guardian(s) along with their infant's hearing screen result:

- The [Newborn Hearing Screening Fact Sheet](#),⁶ which is available to order on the [MDH Newborn Screening Orderable Education Materials and Forms](#)⁷ webpage at no cost, provides basic parental information. Information on [Risk Factors for Early Childhood Hearing Loss](#).⁸
- Possibility of late or progressive onset of hearing loss, including otitis media.



- [Developmental Milestones for Speech, Language, and Hearing](#).⁹

Per JCIH, screeners must clearly communicate that both ears must pass in the same screening session to have a passing outcome. Parent(s)/guardian(s) should be counseled that follow-up testing is needed for all non-passing outcomes and that follow-up testing must be completed for both ears.

Use of a [Teach Back Tool](#)¹⁰ is recommended to ensure that families of infants who need outpatient follow-up clearly understand what next steps are needed.

PERSONNEL PERFORMING HEARING SCREENING

Screening may be performed by trained personnel, including the following:

- Audiologists, audiological technicians/assistants
- Nurses
- Nursing assistants
- Other trained medical personnel

Although licensed audiologists do not need to conduct the actual hearing screening, audiologists are uniquely qualified to develop and implement all aspects of an EHDI program. Newborn hearing screening programs benefit from direct access to audiological consultation to address screening criteria, quality assurance, follow-up assessment, and intervention services.

Training qualified screeners

Ensuring that all screeners are competent is critical for every screening program. Training qualified screeners is an ongoing process and should be based on current best practice procedures as reported in

professional literature and recommended by the newborn screening program. Training typically includes three phases: initial training and demonstration of competency and skills, ongoing quality assurance, and refresher training.

The initial training may need to be provided using multiple resources and over several days. Initial

training and demonstration of competency and skills shall include the following, at a minimum:

- ✓ Completion of required hospital/birthing center orientation, including:
 - Infection control policies and procedures
 - Hospital infant security procedures
 - Cultural sensitivity
- ✓ Completion of instructional training for newborn hearing screening:
 - Benefits of early detection of hearing loss
 - Hearing screening equipment use and care instruction
 - Knowledge of hospital or birth facility hearing screening policy and procedures
 - Documentation of screening results
 - Communicating screening results to the infant's parent(s)/guardian(s) and appropriate medical staff personnel
- ✓ Demonstration of competency and skills to perform hearing screening should be completed annually and documented appropriately:
 - Measure the trainee's competency based on performance in the nursery environment using the [Performance Based Criterion Checklist](#)¹¹ or a similar performance evaluation tool. Ongoing quality assurance of screeners shall include the following, at a minimum:
 - Performing periodic observations of each screener in the nursery environment by a skilled professional such as an audiologist and/or program manager.
 - Review of hearing screening data (e.g., total number of screens and number of failed screens) by an audiologist and/or program manager for each screener to determine their effectiveness.

Refresher training should be completed annually, with individual trainings available as needed. Refresher trainings should measure the trainee's competency

based on performance in the nursery environment using the [Performance Based Criterion Checklist](#)¹¹ or a similar performance evaluation tool.

Resources for training may include experienced screening program managers; local, licensed clinical and educational audiologists; MDH audiologists; hearing screening equipment manufacturers; national online training modules such as the [Newborn Hearing Screening Training Curriculum](#)¹² offered by the National Center for Hearing Assessment and Management (NCHAM); or other online resources as recommended by the MDH Newborn Screening Program. It is not a requirement that all nursery personnel be trained to perform newborn hearing screening. Each facility may select appropriate staff to carry out the hearing screening and related duties.



expertise in ABR testing and interpretation in the newborn population.

Default stimulus parameters for AABR equipment should be reviewed by skilled professionals such as the screening program's consulting audiologist or MDH audiologists to ensure they are appropriately set or to adjust them to be in accordance with clinically accepted national practices (Ontario Infant Hearing Program, 2019). The equipment vendor will need to be contacted to complete an annual equipment calibration. Screening staff should conduct regular equipment performance quality checks. A "test mode" is sometimes built into the equipment.

HEARING SCREENING EQUIPMENT

Screening programs must use objective physiological screening methods. All hearing screening equipment must meet technical specifications, calibration standards, and hospital safety standards. A quality screening program benefits from incorporating new and improved evidence-based technologies and procedures as they become available.

Given the higher risk of auditory neuropathy/dys-synchrony in the NICU population, JCIH 2007 and 2019 both recommend the use of Automated Auditory Brainstem Response (AABR) technology for infants who have received care in the NICU. MDH recommendations align with this guidance. A detailed discussion of screening technology factors can be found in *Year 2019 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs* (JCIH 2019, p.9-10).

Stimulus parameters

Newborn screening AABRs are typically are evoked using click stimuli at 30 to 35 dB nHL at a moderate rate. Non-automated ABR screening is only appropriate if performed by audiologists who have

Criteria for a passing result

Pass/did not pass criteria need to be selected and monitored carefully to maximize sensitivity and specificity. In most cases, pass/did not pass criteria are already preset into the hearing screening equipment by the manufacturer. When hearing screens are administered, a pass or did not pass result should automatically appear. There should be no interpretation of results by the hearing screener at the time of the screen. Pass/did not pass criteria should be reviewed regularly by a consulting audiologist or MDH audiologist and should be in accordance with clinically accepted national practices. Some equipment will use the terminology "pass/fail."

AABR

Screening AABR pass criteria for newborns typically require repeatable Wave V evoked responses to clicks at ≤ 35 dB nHL for each ear, within specific latency parameters.

HEARING SCREENING PROTOCOL

The following screening protocols have been developed by local experts and are based on nationally accepted guidelines put forth by the JCIH (2019). They have been tailored to fit Minnesota's system of care to help ensure that every infant receives quality screening and follow-up throughout the state. See details about the [Hearing Screening Result and Follow-up Process for NICU Graduates](#)¹³ and a sample [Newborn Hearing Screening Flowchart for the NICU Nursery](#)¹⁴ that outlines this process

Inpatient hearing screening

If the newborn is expected to remain in the hospital for a prolonged period, screening needs to be performed as soon as medically feasible or prior to three months corrected age. Avoid delaying hearing screening in infants who have been on aminoglycosides (JCIH, 2019). Hearing screening for these infants should occur when the infant is stable rather than waiting for a completion of a course of antibiotics. If the infant's health status changes and includes new risk factors for hearing loss after passing an initial hearing screen, another screen prior to discharge is warranted. Infants who receive a refer/did not pass result on the initial hearing screen should be rescreened prior to discharge.

Inpatient hearing screening should consist of **no more than two attempts** using the same screening



technique for each ear—assuming the infant is calm and quiet and there are neither equipment problems nor environmental interference during either test. The likelihood of obtaining a pass by chance alone is increased when screening is performed repeatedly, which means a child with hearing loss may go undetected and may experience a variety of developmental delays.

Both ears must pass in a single screening session to be considered an overall passing result. If the screener stops the session and returns to screen at a later time, that is considered a separate screening session. Combining passing results in opposite ears on successive screens does not make a passing result.

If an infant from the NICU does not pass the final screening before discharge, diagnostic audiological assessment prior to discharge is optimal. If it is not possible to test prior to discharge, audiological assessment must be completed on an outpatient basis as soon as medically feasible. Otoacoustic Emissions (OAE) are not an appropriate screening tool for children who have spent time in the NICU

Missing hearing screen

Rarely, hearing screening is not completed prior to hospital discharge. If this occurs, the hospital or unit discharging the infant home should:

- Report that the hearing screen was “missed” in MNScreen in a hearing case note or general case note.
- Indicate in the discharge summary that the hearing screen was missed and ensure that the infant's parent(s)/guardian(s) and primary care provider receives this notice.
- Schedule the infant for screening as soon as medically feasible following discharge and communicate this appointment information to the parent(s)/guardian(s), primary care provider, and in MNScreen as a hearing case note or general case note.

If the infant returns to the nursery for screening, follow the process above for follow-up/documentation of inpatient hearing screening.



- For infants with refer/did not pass results, and if inpatient audiological diagnosis cannot be completed prior to discharge, an outpatient follow-up appointment for a pediatric audiological evaluation should be scheduled before the infant is discharged from the hospital.
- The infant's primary care provider and newborn screening program staff should be promptly notified of the date/location of the diagnostic appointment to help facilitate timely follow-up. Hospital staff can add a hearing case note in MNScreen containing this information.
- Families of infants who receive refer / did not pass results on newborn hearing screening should be provided information about the importance of timely follow-up.

Follow-up/documentation of inpatient hearing screening

[Minnesota statute 144.966](#)² requires the following:

- Screening results must be documented in the infant's medical record. Consistent documentation in all areas of the medical record should be verified (discharge summary, flowsheets, charting summary, printouts from screening device, etc.) and should be consistent with results submitted electronically through the MNScreen secure platform.
- Screening results **must** be communicated to the infant's parent(s)/guardian(s) both verbally and in writing. The newborn screening program has parent PASS/REFER notification sheets available in multiple languages and are available to order at no cost on our [MDH Newborn Screening Orderable Education Materials and Forms](#)⁷ webpage.
- Screening results **must** be exported daily to MDH via the MNScreen secure electronic platform (minimum one to two times per week for facilities with less than ten babies per week). Staff must be available to complete this task during vacation, illness, or unexpected absences.

Minnesota best practice recommends the following:

- For infants with refer/did not pass results who have an inpatient audiology assessment, audiology is responsible for reporting the results to the family, the infant's primary care provider and the MDH Newborn Screening Program.

Outpatient follow-up

General outpatient rescreening for NICU infants (i.e., through primary care clinic or as an outpatient in the hospital nursery) is not recommended. Ideally, any audiological follow-up and diagnosis should happen prior to the infant's discharge from the hospital. If inpatient diagnostic assessment cannot be completed for infants who do not pass their final inpatient screening, JCIH 2019 guidelines recommend direct referral to an audiologist for a comprehensive outpatient audiological assessment as soon as possible. When outpatient follow-up is needed for NICU graduates, Minnesota best practice recommends the following:

- Follow-up must occur within one month of final hospital screen.
- Both ears must be assessed.
- If AABR technology was utilized and the infant received a refer/did not pass result for inpatient screening/rescreening, the infant should not be assessed using OAE alone.

Follow-up/documentation of outpatient results

[Minnesota statute 144.966](#)² requires the following:

- Outpatient audiological results must be documented in the infant's medical record.
- Outpatient audiological results must be communicated to the infant's parent(s)/guardian(s) both verbally and in writing. The newborn screening program has parent PASS/REFER result notification sheets available in multiple languages and these are available at no cost on the [MHD Newborn Screening Orderable Education Materials and Forms](#)⁷ webpage.
- Outpatient audiological results must be communicated to the infant's primary care provider in writing within one week.
- Outpatient audiological results must be reported to the newborn screening program staff within one week.

Minnesota best practice recommends the following:

- For infants who do not receive a definitive diagnosis at the initial inpatient audiological visit, the next diagnostic audiology appointment should be scheduled for the infant before they leave. The primary care provider and newborn screening program staff should be promptly notified of the date/time of the diagnostic audiology appointment to help facilitate timely services.
- Families of infants who do not have a definitive audiological diagnosis at the outpatient audiological visit should be provided information about the importance of follow-up.



Refusal/opt out

Refusing newborn hearing screening is a serious decision and could result in long-term developmental delays if hearing loss is not identified early. Parent(s)/guardian(s) should discuss the risks and consequences of this choice with their infant's neonatologist/primary care provider to make a fully-informed decision. Parent(s)/guardians(s) who choose to refuse newborn hearing screening must complete and sign the [Parental Refusal or Delay of Newborn Screening Form](#)⁴ prior to hospital discharge. The hospital/unit discharging the infant to home is responsible for faxing this form to the newborn screening program and providing copies to the parent(s)/guardian(s) and primary care provider.

Parent(s)/guardian(s) also have the option to destroy newborn screening blood spots and test results and/or hearing screening test results after screening is complete. A copy of the necessary form can be found on the [Newborn Screening Program Orderable Education Materials and Forms](#)⁷ webpage.

Transferred infants

If an infant is transferred to a different hospital or unit within the same hospital, conduct the newborn hearing screening before transfer, if possible, and communicate the results with the receiving facility or unit. It is important for the transferring hospital/unit to inform the receiving hospital/unit about all screening that has been done. If newborn hearing screening cannot occur before the transfer, alert the newborn screening program of the infant's transfer using the TRANSFER function in MNScreen to enter the receiving hospital/unit or facility name. Transfers between various units within the same hospital (e.g., NICU to PCVICU or PICU) frequently result in missed hearing screening. Clear communication about the hearing screening status can avoid a missed screen. **The hospital or unit that discharges the infant home is responsible for screening the infants hearing and reporting the results to the family, primary care provider, and MDH Newborn Screening Program.**

Readmitted infants

Infants readmitted to the hospital during the first month of life who have conditions associated with potential hearing loss (e.g., hyperbilirubinemia, sepsis) need to have an AABR screen performed prior to discharge even if the baby passed newborn hearing screening prior to re-admission (JCIH, 2019).

Because of the high incidence of neural hearing loss associated with significantly elevated bilirubin, these infants should be referred for audiological assessment to include ABR measures. It is possible that infants with total serum bilirubin concentrations lower than the total serum bilirubin concentration at which exchange transfusion is indicated may develop auditory neuropathy spectrum disorder. Until further evidence exists of a safe total serum bilirubin level for bilirubin-induced auditory toxicity, an exchange transfusion should be used as the criterion for triggering comprehensive auditory evaluation.

Diagnostic follow-up for cases of bacterial and viral meningitis is recommended (JCIH, 2019). Bacterial meningitis is more highly associated with hearing loss. Following bacterial meningitis infants should have diagnostic audiology testing as soon as possible.

If a hearing re-screen or diagnostic hearing testing prior to discharge cannot be completed for infants that are readmitted during the first month of life, then an appointment with an audiologist experienced in testing children should be scheduled.

Out-of-hospital births

[Minnesota statute 144.966](#)² requires all health professionals attending a birth outside of a hospital to provide information (orally and in writing) to parent(s)/guardian(s) about the importance of hearing screening and where they can have their infant screened.

For infants born outside of a birthing hospital (e.g., at home or a non-hospital birth center), there are several options available to ensure that newborn hearing screening is performed. There are many midwives throughout the state of Minnesota with access to screening equipment who have been

trained by newborn screening program audiologists to perform newborn hearing screening. The Minnesota Council of Professional Midwives (MCCPM), for example, has distributed hearing screening equipment to trained members practicing across the state to screen newborns for hearing loss. MCCPM members also offer newborn hearing screening to families who are not clients in their practice. Midwives who do not have access to hearing screening equipment are encouraged to educate parent(s)/guardian(s) about newborn hearing screening and set up a hearing screening appointment with another provider before the infant is one month of age. See the [Guidelines for the Organization and Administration of Universal Newborn Hearing Screening Programs for Out-of-Hospital Births](#)¹⁵ for additional information.

TIMELY CASE MANAGEMENT

The purpose of hearing screening is to identify infants who need further testing. It is important to remember that a hearing screening is not a diagnostic tool. EHDI is part of a continuum of care that progresses from parental education to screening, to assessment, to amplification (if elected), to educational intervention. Many professionals working in different facilities and at different phases of the EHDI process need to work together and clearly communicate follow-up steps in order to provide quality care and ensure access to language and early detection of children who are deaf or hard of hearing. Hospital screening staff plays a critical role in this process. For infants who do not pass newborn hearing screening and subsequent rescreening, timely assessment referrals must be made to audiologists with expertise in pediatric physiological and behavioral assessment and management. See the [Minnesota EHDI Website](#)¹⁶ to locate providers that offer pediatric diagnostic assessments and habilitation services in Minnesota.

The nationally recommended timeline for hearing screening and follow-up is commonly referred to as the 1-3-6 plan. The timeline includes the following benchmarks:

- Screening is complete no later than **one month** corrected age or as soon as medically feasible.

- Diagnostic audiological assessment is complete no later than **three months** corrected age or as soon as medically feasible.
- Intervention services, including amplification (if elected), are initiated no later than **six months** corrected age or as soon as medically feasible.

In order to provide appropriate access to language stimulation and intervention services as soon as possible, the earliest possible age of identification is encouraged for two reasons. First, the infant can receive earlier intervention for auditory and/or visual access to language. Second, objective audiologic testing can be completed without sedation during the natural sleep that occurs when newborns are young enough to sleep for prolonged periods of time (JCIH 2019).

Without an adequate follow-up plan, even the best EHDl program is ineffective. Please refer to the current [Early Hearing Detection and Intervention \(EHDl\) Guidelines for Audiologists – Section 1: Guidelines for Infant Audiologic Assessment](#)¹⁷ and [Early Hearing Detection and Intervention \(EHDl\) Guidelines for Audiologists – Section 3: Guidelines for Pediatric Amplification](#)¹⁸ for additional information on recommended best practices.

Follow-up for middle ear effusion

Although persistent middle ear effusion often involves medical referral, which might delay the evaluation timeline several weeks, diagnostic audiological evaluation must not be repeatedly postponed solely due to middle ear dysfunction and should be completed before three months corrected age. The information from the diagnostic audiological evaluation is valuable both in determining the extent of the effect of the middle ear condition on the infant's hearing and identifying whether an underlying sensorineural hearing condition exists, thereby impacting the course of both medical and educational intervention.

Follow-up for Infants with Risk Factors for Early Childhood Hearing Loss (JCIH, 2019)

Routine surveillance of all infants for speech and language milestones and signs of hearing loss is a standard part of well-child care provided by the medical home provider. Given that an additional one to two children per thousand will develop hearing loss after birth and by early school age, children who pass newborn hearing screening and have a risk factor for delayed onset or progressive hearing loss should receive more targeted monitoring.

The timing and number of hearing re-evaluations for children with risk factors was updated by JCIH, 2019. See [Risk Factors for Early Childhood Hearing Loss](#)⁸ for a detailed list.

- Monitoring for most risk factors begins at nine months of age.
- Earlier follow-up beginning at three months after occurrence is indicated for children with head trauma, culture positive post-natal infections associated with sensorineural hearing loss (meningitis or encephalitis), or caregiver concern.
- Infants diagnosed with congenital Cytomegalovirus (cCMV) infection will need earlier and more frequent audiologic monitoring beginning by one month of age (or no later than one month after cCMV is confirmed with urine test) to detect emerging hearing thresholds outside the typical range or vestibular dysfunction, identify progression of existing hearing levels, and plan appropriate intervention. As of February 2023, Minnesota began screening all infants for cCMV, and will notify and work with primary care providers to ensure that an initial diagnostic audiology assessment is scheduled as soon as possible when an infant has confirmed cCMV. Refer to [Audiology Guidelines for Infants with Congenital Cytomegalovirus](#)¹⁹ for additional information.

QUALITY ASSURANCE/QUALITY IMPROVEMENT

The health department and hospitals work together to ensure and improve the quality of screening programs across the state so that every Minnesota infant receives comprehensive screening and follow-up. To help hospitals evaluate and improve their performance, MDH sends semi-annual quality assurance reports to each hospital's nursery manager and laboratory director. Currently, MDH does not have separate reports for the SCN and NICU. Each hospital can contribute to quality assurance by monitoring and improving the quality of its own screening program.

Hospitals should establish a quality assurance protocol and be able to report critical performance data annually including, but not limited to, the following:

- Total number of live births
- Number of newborns screened
- Number of newborns who passed the hearing screening
- Number of newborns who did not pass the hearing screening (results by right ear, left ear, and both ears)
- Number of newborns whose parent(s)/guardian(s) refused newborn hearing screening. Number of newborns whose parent(s)/guardian(s) did not refuse screening but who were "missed" (not screened)
- Number of follow-up appointments scheduled for newborns who did not pass the hearing screen or were missed
- Total number of newborns transferred in/out of the facility
- Number of newborns screened who were transferred in/out of the facility
- Number of deceased newborns

At a minimum, methods should be in place for monitoring refer/did not pass rates to ensure effective screening and for monitoring parent(s)/guardian(s) satisfaction with the hearing screening process.

A hospital NICU nursery with an effective hearing screening program is expected to have a referral rate between seven and ten percent.

All hospital birth facilities need written protocols for newborn hearing screening that include quality assurance practices. Components of a quality assurance program include data management, screener performance, site performance, outcome measures, and follow-up compliance. The overall goal of quality assurance is information management and accountability to the following stakeholders:

- Infants and their families
- Advocates
- Clinical and educational audiologists
- EHDI managers
- Hospitals
- Medical and educational specialists
- Otolaryngologists
- Primary care providers
- Screeners
- State of Minnesota





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SELECTED LINKS

- 1 Guidelines for the Organization and Administration of Universal Newborn Hearing Screening Programs in the Well- Baby Nursery <https://www.health.state.mn.us/docs/people/childrencyouth/improveehdi/guidewbn.pdf>
- 2 Minnesota Statute 144.966 <https://www.revisor.mn.gov/statutes/cite/144.966>
- 3 Minnesota Statute 144.125 <https://www.revisor.mn.gov/statutes/cite/144.125>
- 4 Parental Refusal or Delay of Newborn Screening Form <https://www.health.state.mn.us/people/newbornscreening/materials/legalforms/refusaldelay.pdf>
- 5 Directive to Destroy Newborn Screening Blood Spots and Test Results Form <https://www.health.state.mn.us/people/newbornscreening/materials/legalforms/2020directivetodestroy.pdf>
- 6 Newborn Hearing Screening Fact Sheet <https://www.health.state.mn.us/people/newbornscreening/materials/hearingscreeningfactsheet.pdf>
- 7 MHD Newborn Screening Orderable Education Materials and Forms <https://www.health.state.mn.us/people/newbornscreening/materials/education.html>
- 8 Risk Factors for Early Childhood Hearing Loss <https://www.health.state.mn.us/docs/improveehdi/riskindicators.pdf>
- 9 Developmental Milestones for Speech, Language, and Hearing <https://www.health.state.mn.us/docs/people/childrencyouth/improveehdi/hearingspeechmilestones.pdf>
- 10 Teach Back Tool <https://www.health.state.mn.us/docs/people/childrencyouth/improveehdi/teachback.pdf>

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11 Performance Based Criterion Checklist <https://www.health.state.mn.us/docs/people/childreneyouth/improveehdi/compchcklst.pdf>

12 NCHAM Newborn Hearing Screening Training Curriculum <http://www.infanthearing.org/nhstc/index.html>

13 Hearing Screening Result and Follow-up Process for NICU Graduates <https://www.health.state.mn.us/docs/improveehdi/hrscrfunicugrads.pdf>

14 Newborn Hearing Screening Flowchart for the Neonatal Intensive Care Unit <https://www.health.state.mn.us/docs/improveehdi/flowmythsnicunrsry.pdf>

15 Guidelines for the Organization and Administration of Universal Newborn Hearing Screening Programs for Out-of-Hospital Births <https://www.health.state.mn.us/docs/people/childreneyouth/improveehdi/guideooh.pdf>

16 Minnesota EHDl Website <https://www.health.state.mn.us/people/childreneyouth/improveehdi/providers.html>

17 Guidelines for Infant Audiologic Assessment <https://www.health.state.mn.us/docs/people/childreneyouth/improveehdi/guideehdiaudiol.pdf>

18 Guidelines for Pediatric Amplification <https://www.health.state.mn.us/docs/people/childreneyouth/improveehdi/guideamplification.pdf>

19 Audiology Guidelines for Infants with Congenital Cytomegalovirus <https://www.health.state.mn.us/docs/people/childreneyouth/improveehdi/audiogdlnccmv.pdf>

