Newborn Hearing Screening Flowchart for Out-of-Hospital Births

Minnesota Newborn Screening Program

New Birth
Needs newborn hearing screening

Decline
Fax signed parental refusal to MDH

Not screened

Scheduled Elsewhere
Arrange for screening ASAP & before 1 month of age

Communicate/ Report$^{\Delta}$
Date and location in MNScreen or on MDH Notification of Appointment form

Missed/ Equipment Malfunction
Report missed status to MDH

Schedule
Arrange for screening ASAP and before 1 month of age

Communicate/ Report$^{\Delta}$
Follow-up plan in MNScreen or on MDH Notification of Appointment form

First Screen*
Ideally, 24 hours to 14 days of age

Pass
Document in medical record

Communicate/ Report$^{\Delta}$
Final result to family, primary care, and MDH

Refer

Immediate Rescreen*
Adjust, check probe tip, and rescreen both ears

Refer
Document in medical record

Communicate/Report$^{\Delta}$
Result to family, primary care, and MDH

Pass
Document in medical record

Second Screen*
Rescreen both ears before 1 month of age

Refer
Document in medical record

Schedule
Diagnostic audiology appointment ASAP

Communicate/Report$^{\Delta}$
Final result and follow-up plan to family, primary care provider, and MDH

Screen*:

Infant should be in a "quiet" state and screened in a quiet environment

- Follow hearing screening policy and equipment instructions
- Massage ears to avoid collapsing canals
- Always screen both ears

Communicate/Report/Export$^{\Delta}$:

- **To Family:** communicate results verbally and in writing and provide details about a follow-up plan, if needed
- **To Primary Care Provider:** send final hearing screen results and follow-up plan, if needed, to infant's doctor
- **To MDH:** Fax all screen results to MDH using the Hearing Sreen and Pulse Oximetry Report form or enter into MNScreen if able

Myths vs. Clinical Facts of Newborn Hearing Screening and Early Diagnosis

MYTH: Hearing loss does not occur very often.

FACT: Hearing loss affects about one to three per 1000 births, and is considered to be one of the most common congenital findings.

MYTH: There is no rush to identify hearing loss.

FACT: Infants identified with hearing loss before 3 months of age can begin early intervention and avoid speech and language delays; those with late diagnosis and intervention may never catch up.

MYTH: It is OK to combine results from different screening tests to equal a passing result.

FACT: Combining results from different test sessions is NOT recommended and may miss identifying hearing loss.

MYTH: Parents can test a child's hearing by making loud noises near the child.

FACT: Some babies with hearing loss can still startle to loud noises or respond to some softer sounds, but may not be able to hear all the sounds important for speech. Thorough hearing testing is needed to find all types/levels of hearing loss that can affect speech/language development.

MYTH: There are too many referrals from hospitals.

FACT: The REFER rate at hospital discharge in Minnesota is ~7%. After the first outpatient rescreen, only about 2% of all newborns require diagnostic ABR.

MYTH: Abnormal otoacoustic emissions (OAEs) along with a flat tympanogram (normal volume) confirms a conductive hearing loss.

FACT: Diagnostic ABR including bone conduction testing is needed in combination with OAEs and tympanograms for a complete diagnosis of type and degree of hearing loss in each ear, and to rule out underlying sensorineural hearing loss.

MYTH: Infants who need diagnostic testing with an audiologist must be sedated.

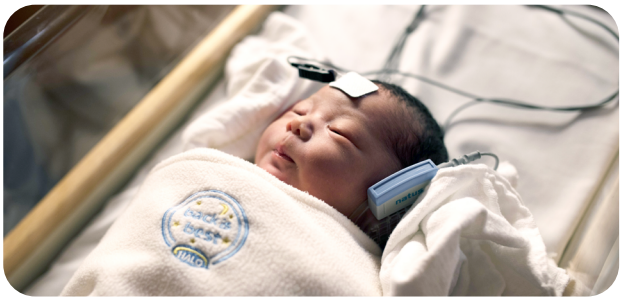
FACT: Younger infants (ideally between 4 to 8 weeks of age) can typically be tested without need for sedation.

MYTH: Repeated outpatient rescreening is more cost-effective than referring for diagnostic ABR.

FACT: Repeated rescreens often cause infants to become lost to follow-up. Those who continue with multiple screens often still require diagnostic ABR—which may require sedation—at a significant cost increase.

MYTH: It is not as important to complete diagnostic testing by 3 months of age for infants with a REFER result in just one ear.

FACT: Prompt diagnosis/intervention of unilateral permanent hearing loss is best practice. This can also lead to more proactive management of middle ear issues that may impact hearing in the better ear.



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Outline of Newborn Hearing Screening Protocol

Parent(s)/guardian(s) decline newborn hearing screening:

- Fax signed Parental Refusal or Delay of Newborn Screening to MDH.

Newborn was not screened by midwife/out-of-hospital birth provider:

- The newborn hearing screen is scheduled elsewhere.
  - Arrange for screening ASAP before 1 month of age.
  - Communicate date and location to family, primary care providers, and MDH.
  - Report date and location in MNScreen or MDH Notification of Appointment form.

Newborn hearing screen is missed or there is an equipment malfunction:

- Schedule newborn hearing screen ASAP and before 1 month of age.
- Communicate follow-up plan to family, primary care provider, and MDH.
- Report in MNScreen or on MDH Notification of Appointment form.

Initial newborn screen:

- Initial hearing screening should ideally be completed when the baby is at least 12 hours to 14 days of age.

Newborn receives passing result:

- Document results in medical record.
- Communicate final result to family, primary care provider, and MDH.

Newborn receives a refer result on first hearing screen:

- Immediate rescreen; adjust and check probe tips and rescreen both ears.

Newborn receives a pass result on immediate rescreen:

- Document results in medical record.
- Communicate final result to family, primary care provider, and MDH.

Newborn receives a refer result on immediate rescreen:

- Document results in medical record.
- Communicate final result to family, primary care provider, and MDH.
- Schedule second rescreen and rescreen both ears before 1 month of age.

Newborn receives passing result on second screen:

- Document results in medical record.
- Communicate final result to family, primary care provider, and MDH.

Newborn receives refer result on second screen:

- Document in medical record.
- Schedule diagnostic audiology appointment ASAP.
- Communicate final result and follow-up plan to family, primary care provider, and MDH.