

Indiana State Department of Health  
Genomics and Newborn Screening Program

GNBS TECHNIQUE REFERENCES

HEARING SCREEN

HEALTHY NEWBORN: After six (6) hours of age AND prior to discharge

- Screening may occur twice (max) for inpatients.

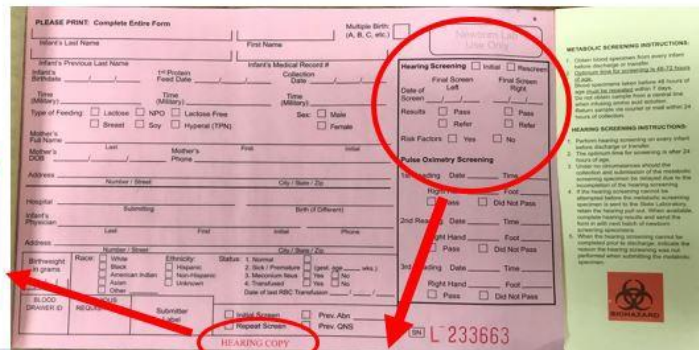
SPECIAL CASES: *Prior to Transfer/Discharge*

- Preterm babies who stay in nursery greater than five (5) days should have screen when medically stable, but prior to discharge.
- Babies who reside greater than five (5) days in NICU should have screen as recommended by the department.
- Inpatient testing should be made available to long stay babies.

PROCEDURE

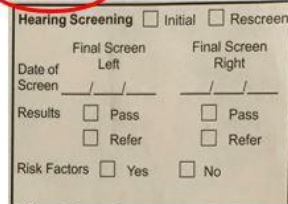
- Screening may occur twice (max) as inpatients.
- Both ears screened each time.
- Both ears must pass on the same screen.
- If both ears do not pass either screen, refer immediately for diagnostic hearing evaluation.

This is the hearing copy of the NBS card. ALL information must be filled out.




**Otoacoustic Emissions (OAE)**

- Measures "echo" from inner ear.
- Susceptible to ear wax and fluid.




**Automated Auditory Brainstem Response (ABR)**

- Measures brainwaves associated with hearing.
- Screens for all types of hearing loss.

Submit results to ISDH GNBS via pink slip (hearing copy) when not completed with the heelstick or use RR form when heelstick refused or when pink slip is unavailable.

**REFER TO THE EHD MANUAL OR CONTACT THE EHD PROGRAM FOR FURTHER INFORMATION**



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PULSE OXIMETRY

HEALTHY NEWBORN: Between 24-48 hours of birth

- MUST be after 24 hours due to:
  - Earlier screening leads to false positives
  - Must allow time for systemic oxygen levels to stabilize
- SHOULD be before 48 hours because
  - Ductus arteriosus closes after this
  - Interventions can be made

SPECIAL CASES: *Prior to Transfer/Discharge, CCHD Detected, NICU, Initial Screen Next Month, RR, Prenatally/Postnatally Diagnosed with CCHD, Did not Pass, and Referred for Additional Follow-Up.*

PROCEDURE

- Infant should be awake, calm and warm
- Right hand and one of the infant's feet
- PASS = 95% or higher    FAIL = Less than 95% OR a difference greater than 3% in both right hand and foot (*if above 95% and a difference greater than 3%, this is a FAIL*)

The image shows a portion of the Newborn Screening form. A red circle highlights the 'Pulse Oximetry Screening' section, which includes fields for '1st Reading', '2nd Reading', and '3rd Reading', each with sub-fields for 'Date', 'Time', 'Right Hand', and 'Foot'. There are checkboxes for 'Pass' and 'Did Not Pass' for each reading. A red arrow points from this section to the 'Pulse Oximetry Screening' quick reference card below.



**Pulse Oximetry Screening**

1st Reading Date \_\_\_\_\_ Time \_\_\_\_\_  
 Right Hand \_\_\_\_\_ Foot \_\_\_\_\_  
 Pass     Did Not Pass

2nd Reading Date \_\_\_\_\_ Time \_\_\_\_\_  
 Right Hand \_\_\_\_\_ Foot \_\_\_\_\_  
 Pass     Did Not Pass

3rd Reading Date \_\_\_\_\_ Time \_\_\_\_\_  
 Right Hand \_\_\_\_\_ Foot \_\_\_\_\_  
 Pass     Did Not Pass



Please refer to your GNBS: Pulse Oximetry quick reference card. Submit results to ISDH GNBS via pink slip (hearing copy) when not completed with the heelstick or use RR form when heelstick refused or when pink slip is unavailable. Ensure your facility is reporting to the IB DPR. See IB DPR list of reportable conditions.

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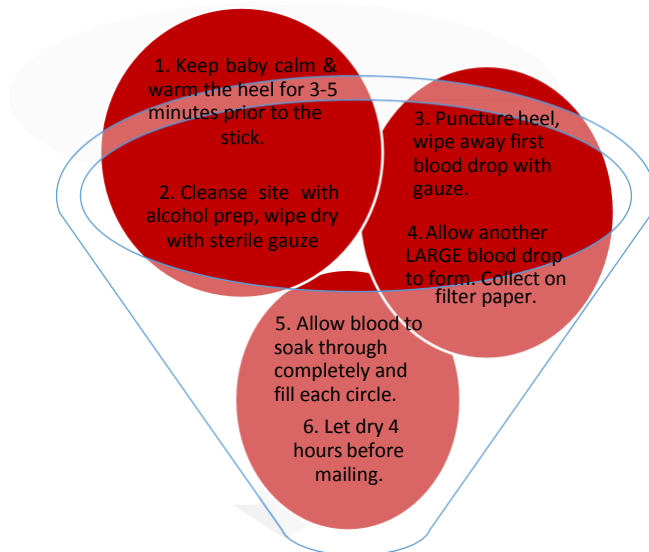
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HEELSTICK

Healthy Newborn: 24 hours after birth

- Prior to discharge/transfer
- Special Cases: Transfusion and NICU
  - Pre-transfusion:
    - Collect before transfusion
  - Post-transfusion:
    - Collect prior to 6 days after birth
    - Collect final specimen 2-4 months post last transfusion
  - <2,000 grams
    - 24 hours after birth
    - 6 days
    - 14 days
    - 30 days

Monthly thereafter until discharge or 3 months of age, whichever comes first.



Quality Heelstick Procedure

Fill in all circles completely from front side of card only. NO capillary tubes, EDTA or Heparin-interferes with testing.



Please refer to your quick reference cards for best practices and procedures.