



Newborn Screening: Train the Trainer PPT Questions

Bloodspot Screening

Purpose

1. How many possible hidden disorders does the Oklahoma Newborn Screening Program screen for?
 - A. >10
 - B. >20
 - C. >30
 - D. >40
 - E. >50
2. Most newborn screening disorders are _____.
 - A. Autosomal recessive
 - B. Autosomal dominant
3. The risk for each pregnancy to be affected by a disorder if both parents are a carrier for that disorder is:
 - A. 25%
 - B. 50%
 - C. 75%
 - D. 100%
4. **TRUE or FALSE:** In Oklahoma, all newborns are required to have a newborn screen.
 - A. True
 - B. False

Parent Education

1. A family member of a full-term newborn asks the nurse why screening is done on newborns who appear normal at birth. **SELECT** the most appropriate response:
 - A. Treatment must occur within one month, if one of the disorders screen as positive, to prevent severe illness or death.
 - B. Signs and symptoms of disorders may not be apparent at birth. Early detection and prompt treatment is needed to prevent severe illness or death.
 - C. Screening has been shown to decrease the incidence of hyperbilirubinemia.
 - D. The OSDH lab maintains specimens for research.
2. Why is obtaining the mother's correct contact information (address, phone number) important?
 - A. To provide accurate billing information.
 - B. To ensure that newborn screening results are mailed to correct address.
 - C. A repeat newborn screening specimen may be needed if the first specimen was collected prior to a blood transfusion or the results were abnormal, & contact with parent/provider will need to be made in order to ensure follow-up testing is done.
 - D. A repeat newborn screening specimen may be needed if the first specimen was unsatisfactory or the results were abnormal, & contact with parent/provider will need to be made in order to ensure follow-up testing is done.



3. Parents should receive newborn screening education during pregnancy. The nurse should emphasize all of the following information during the hospital stay, **EXCEPT**:
- A. Parent should take the blue &/or pink slip to their baby's first well-baby visit. The slips contain the newborn screening form's serial number and other important information.
 - B. Parents should ask the health care provider for the metabolic screen results on their baby's first well baby visit.
 - C. Parents should contact the hospital for newborn screening results.
 - D. Specimens are kept by the OSDH lab for 42 days before being destroyed.

Filling out the Form

1. **TRUE or FALSE**: Newborn screening specimen testing and possible treatment initiation will be delayed if the filter paper form is not completely filled out.
- A. True
 - B. False
2. **TRUE or FALSE**: Filter paper demographics should be filled out and submitted to the Oklahoma State Department of Health even if the parents refuse to have a blood specimen collected.
- A. True
 - B. False
3. **SELECT** which of the following should be checked on the filter paper form if it applies for an infant at the time of newborn specimen collection:
- A. TPN
 - B. Antibiotics
 - C. Lactose-Free (Soy) Formula
 - D. Meconium Ileus
 - E. Family History of Cystic Fibrosis (CF)
 - F. All of the Above
 - G. None of the Above
4. Which of the following statements is **FALSE**:
- A. If baby is adopted, be sure to check the Adoption box on the filter paper form and list the agency/law firm information in the demographic section.
 - B. If DHS will be involved in baby's care, list the case worker's information in the demographic section on the filter paper form and write "DHS Custody" on the filter paper.
 - C. Newborn screening refusals do not need to have a filter paper submitted to the OSDH.
 - D. It is important to ensure that the demographic information on the filter paper form is thorough and accurate.

Collecting the Specimen

1. Which is the preferred method of specimen collection?
- A. Direct application - fill each pre-printed circle with one large drop of blood, and apply blood to one side only (front or back)
 - B. Heparinized capillary tubes
 - C. Venous samples - do not draw blood from extremity with infusing IV fluids
 - D. Umbilical cord blood

2. The nurse is preparing to collect a newborn screening specimen. The nurse would prepare for the procedure in all of the ways, **EXCEPT**:
 - A. Check the filter paper expiration date.
 - B. Warm the heel with a hospital approved warming device, encourage skin-to-skin contact during specimen collection, and position the infant's leg lower than the heart.
 - C. Gently wipe off the first drop of blood with sterile gauze. Apply pressure with thumb and around heel, and milk the puncture site to encourage blood flow.
 - D. After applying alcohol to the infant's heel to prep the site, ensure the alcohol has had sufficient time to dry before pricking the heel to collect the blood specimen.
 - E. All of the above.
 - F. None of the above.
3. Which of the following is a common error in specimen collection for newborn screening?
 - A. Ensure the pre-printed circles are filled. Multiple blood drops may be needed to fill each circle.
 - B. Ensure that hands are clean, dry, and free of lotions prior to handling the filter paper.
 - C. Ensure that the specimen dries in a horizontal position, not stacked with other specimens, and is in an area free from direct sunlight, air vents, or moving air.
4. All of the following are true about post-collection, **EXCEPT**:
 - A. The newborn screening specimen should air dry horizontally at least 3-4 hours prior to packaging/transport to the OSDH Public Health Lab (PHL).
 - B. The newborn screening specimen must be received by the OSDH PHL no later than 48 hours from the time of specimen collection.
 - C. The hospital is responsible for maintaining a specimen collection log and ensuring screening results are received from the OSDH PHL and recorded.
 - D. The newborn screening specimen should be sent with the courier right away after it is collected, even when the blood is still wet.

Filter Paper Review

1. Which factor(s) contributes to a specimen that is unsatisfactory for testing?
 - A. Applying one drop of blood per filter paper circle.
 - B. Allowing drops of blood to overlap on the filter paper.
 - C. Using a filter paper prior to its expiration date for specimen collection.
 - D. All of the Above
 - E. None of the Above
2. Perform all of the following when collecting a newborn screening specimen, **EXCEPT**:
 - A. Apply more than one drop of blood to each pre-printed circle.
 - B. Apply one drop of blood per pre-printed circle.
 - C. Apply blood to both sides of the filter paper.
 - D. Expose the filter paper specimen to heat/humidity.
3. **TRUE or FALSE**: The hospital is responsible for submitting a satisfactory specimen, which includes properly collecting a specimen and documenting all requested information on the newborn screening form.
 - A. True
 - B. False

NICU & Special Considerations

1. **TRUE or FALSE:** For premature or sick newborns, an initial newborn screen should be collected no later than 3-7 days of age.
 - A. True
 - B. False
2. **SELECT** which factor can interfere with newborn screening results:
 - A. Prematurity
 - B. TPN, SNAP, & carnitine
 - C. Steroid exposure
 - D. Contamination (i.e. oils/lotions, spills, residual alcohol, heat/humidity)
 - E. All of the above
3. If a baby is transfused prior to an initial newborn screen, obtain a repeat screen:
 - A. 7 days post-transfusion
 - B. 14 days post-transfusion
 - C. 90-120 days post-transfusion
 - D. Both A & C
 - E. Both B & C

Additional Information

1. For infants who are transferred, it is the responsibility of the _____ to ensure the newborn screen is collected.
 - A. Pediatrician
 - B. Parents
 - C. Receiving hospital
 - D. Obstetrician
2. **TRUE or FALSE:** If a parent refuses to have a newborn screen completed for their child, a newborn screening refusal form must be signed by the parents with a copy placed in the infant's medical record as well as faxed to the OSDH NBS Program.
 - A. True
 - B. False
3. **TRUE or FALSE:** If a parent refuses to have a newborn screen completed for their child, a newborn screening form must be filled out and submitted to the ODSH with the Refusal Box checked.
 - A. True
 - B. False
4. If a parent refuses to have a newborn screen completed for their child, the following must be completed:
 - A. A refusal form signed by the parent(s).
 - B. A copy of the refusal form placed in the infant's medical record.
 - C. A copy of the refusal form faxed to the OSDH NBS Program.
 - D. A newborn screening form filled out with the Refusal Box checked.
 - E. A, B, & C Only
 - F. All of the Above
 - G. None of the Above

Transit Time

1. Newborn screening specimens should be received at the OSDH Public Health Laboratory **no later than** _____ hours from the time of collection.
 - A. 48 hours
 - B. 72 hours
 - C. 96 hours
 - D. None of the Above

2. Which of the following statements is **TRUE**:
 - A. Newborn screening specimens should be sent with the courier for pick-up ASAP, even if the specimen is still a little wet.
 - B. Newborn screening specimens should be sent with the courier for pick-up ASAP once specimens are completely dry (typically after air drying horizontally for 3-4 hours).
 - C. To ensure specimens are sent with the courier in a timely manner, allow specimens to dry beneath a hospital-approved heat source.
 - D. Specimens should be held until a large group of them can be sent with the courier for pick-up at one time.

3. Prompt delivery of newborn screening specimens to the OSDH Public Health Laboratory helps to prevent delays in:
 - A. Receiving the specimen
 - B. Testing the specimen
 - C. Possible diagnosis & treatment of a disorder
 - D. All of the Above
 - E. Both A & B

4. **TRUE or FALSE:** Specimens should be batched (held until a large group of them can be sent with the courier to the OSDH Public Health Laboratory at one time).
 - A. True
 - B. False

Newborn Hearing Screening

Purpose & Conducting the Screen

1. **TRUE or FALSE:** In Oklahoma, all newborns are required to have a newborn hearing screen, which includes a physiologic measure **and** a risk factor checklist.
 - A. True
 - B. False

2. Prior to conducting the hearing screen, staff should ensure the baby is:
 - A. Quiet and has just had a bath.
 - B. Awake and alert
 - C. Born in the last 2 hours.
 - D. None of the above.

3. **SELECT** the correct placement of electrodes, or “sensors”, when preparing for the hearing screen:
 - A. WHITE- cheek; BLACK- shoulder; GREEN- forehead.
 - B. WHITE- nape of neck; BLACK- forehead; GREEN- shoulder.
 - C. WHITE- shoulder; BLACK- forehead; GREEN- nape of neck.
 - D. WHITE- foot; BLACK- stomach; GREEN- shoulder.

Reporting Results

1. If the filter paper has been submitted without hearing results being recorded on it, you can still report hearing results by:
 - A. Calling the Newborn Hearing Screening Program with updated results: 405-271-9444 ext. 56741.
 - B. Emailing updated results to the NBS Program: NewbornScreen@health.ok.gov
 - C. Faxing a copy of the updated results on the filter paper form to the NBS Program: 405-271-4892.
 - D. Faxing a copy of the updated results label to the NBS Program: 405-271-4892
 - E. All of the Above
2. **TRUE or FALSE:** In the event of an equipment malfunction that prevents an AABR hearing screen from being performed, hospitals do **not** need to complete risk factor marking on the filter paper.
 - A. True
 - B. False
3. **TRUE or FALSE:** Not submitting hearing results on the filter paper can potentially affect how quickly a child receives appropriate follow-up care.
 - A. True
 - B. False

Marking the Form

1. An infant is in the NICU and hasn't had the hearing screen performed. **SELECT** which of the following should be marked on the filter paper:
 - A. Hearing Screening Results: "Delayed" & Hearing Risk Status: "Infant was placed in a Level II or III nursery for more than 24 hours."
 - B. Hearing Screening Results: "No equipment" & Hearing Risk Status: "Infant was placed in a Level II or III nursery for more than 24 hours."
 - C. Hearing Screening Results: "Baby discharged" & Hearing Risk Status: "Infant was placed in a Level II or III nursery for more than 24 hours."
 - D. Hearing Screening Results: "Technical problem" & Hearing Risk Status: "Infant was placed in a Level II or III nursery for more than 24 hours."
2. An infant had a hearing screen with the following result: **Bilateral Refer, Multiple Risk Factors** (including being born with a cleft lip/palate and having a cousin who wears hearing aids). **SELECT** which of the following should be marked on the filter paper:
 - A. Hearing Screening Results: "Right Ear Pass, Left Ear Refer, Screen Method ABR" & Hearing Risk Status: "Blood relatives of the infant have a permanent hearing loss that began at birth or in early childhood" & "Infant has craniofacial anomalies."
 - B. Hearing Screening Results: "Right Ear Refer, Left Ear Pass, Screen Method ABR" & Hearing Risk Status: "Blood relatives of the infant have a permanent hearing loss that began at birth or in early childhood" & "Infant has craniofacial anomalies."
 - C. Hearing Screening Results: "Right Ear Refer, Left Ear Refer, Screen Method ABR" & Hearing Risk Status: "Blood relatives of the infant have a permanent hearing loss that began at birth or in early childhood" & "Infant has craniofacial anomalies."

3. If you make a mistake when marking the filter paper, **SELECT** the appropriate course of action:
 - A. Add in the correct information as well as the mistake.
 - B. Scribble through the error and move on.
 - C. Mark a single line through the error, print "error," and initial the change.
 - D. None of the above.

Giving Results to Parents

1. **SELECT** which statement is appropriate when letting parents know their child referred during the hearing screen:
 - A. "Your baby did not pass today, but it's probably because they have fluid in their ears."
 - B. "Your baby did not pass on the left/right ear, but all babies have been referring on that ear today, so it is probably just the machine."
 - C. "Your baby did not pass the screening today. That means that more testing needs to be done so we can make sure they can hear appropriately."
 - D. "Your baby failed the hearing screening."
2. **SELECT** what should be done if a baby refers during the hearing screen:
 - A. Explain the importance of follow-up to family, give details of where they can go for more testing, and ensure results are reported to the Newborn Hearing Screening Program.
 - B. Tell the family not to worry and that the state will send them a letter.
 - C. Tell the family their child has a hearing loss.
 - D. Tell the family their baby should have hearing checked again before starting school.
3. **SELECT** the possible results of the hearing screen:
 - A. Pass, Fail.
 - B. Hears, Does not Hear.
 - C. Pass, Refer One Ear, Refer Both Ears.
 - D. Pass, Refer (one or both ears), Pass with Risk Factors.

Pulse Oximetry Screening

1. **TRUE or FALSE:** Newborns should be screened between 48-72 hours of life with pulse oximetry to detect defects related to critical congenital heart disease.
 - A. True
 - B. False
2. **TRUE or FALSE:** If at any time, the newborn should become symptomatic, despite pulse oximetry screening results, the newborn's provider should be notified **immediately**.
 - A. True
 - B. False



3. Which of the following statements is **FALSE**:
- A. Skin color and jaundice do not affect pulse oximetry readings.
 - B. When performing the pulse oximetry screen, ensure the light emitter and photodetector are directly opposite one another.
 - C. Ensure there are no gaps between the pulse oximetry sensor and the newborn's skin.
 - D. Before performing the pulse oximetry screen, ensure the newborn's extremities are cool, clean, and dry.
4. Which of the following is the appropriate action to take when an infant fails the pulse oximetry screen and a referral is indicated?
- A. Proceed with follow-up/referral according to protocol, ensuring a confirmatory ECHO is conducted.
 - B. Repeat the pulse oximetry screen immediately using the opposite hand and foot.
 - C. Wait five minutes and repeat the screen with the right hand and the opposite foot.
5. If a parent refuses to have a pulse oximetry screen completed for their child, the following must be completed:
- A. A refusal form signed by the parent(s).
 - B. A copy of the refusal form placed in the infant's medical record.
 - C. A copy of the refusal form faxed to the OSDH NBS Program.
 - D. A newborn screening form filled out with the Refusal Box checked.
 - E. A, B, & C Only
 - F. All of the Above
 - G. None of the Above

Scenarios - Please note: Scenario questions are to be given together (ex: all questions for Scenario A, Scenario B, etc...).

1. Scenario: A, Screen #1

Right Hand: 97%

Right Foot: 94%

Interpretation:

- A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.
- B. "RESCREEN in 1 hour" – the right hand and foot should both be $> 95\%$.
- C. "NEGATIVE/FAIL" – the right hand and foot should both be $> 95\%$.

2. Scenario: B, Screen #1

Right Hand: 99%

Right Foot: 94%

Interpretation:

- A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.
- B. "RESCREEN in 1 hour" – the difference between the right hand and foot is $> 3\%$.
- C. "FAIL/REFER" – the right hand and foot should both be $> 95\%$.

3. Scenario: B, Screen #2

Right Hand: 98%

Right Foot: 94%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the difference between the right hand and foot is $> 3\%$.

C. "FAIL/REFER" – the right hand and foot should both be $> 95\%$.

4. Scenario: B, Screen #3

Right Hand: 98%

Right Foot: 92%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the difference between the right hand and foot is $> 3\%$.

C. "FAIL/REFER" – the difference between the right hand and foot is $> 3\%$ & this is the third test.

5. Scenario: C, Screen #1

Right Hand: 94%

Right Foot: 92%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the right hand & foot were between 90-94%.

C. "FAIL/REFER" – the right hand and foot should both be $>95\%$.

6. Scenario: C, Screen #2

Right Hand: 93%

Right Foot: 92%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the right hand & foot were between 90-94%.

C. "FAIL/REFER" – the right hand and foot should both be $>95\%$.

7. Scenario: C, Screen #3

Right Hand: 96%

Right Foot: 94%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the right hand & foot were between 90-94%.

C. "FAIL/REFER" – the right hand and foot should both be $>95\%$.



8. Scenario: D, Screen #1

Right Hand: 87%

Right Foot: 86%

Interpretation:

A. "PASS" – the right hand is $>95\%$ and there is a $\leq 3\%$ difference between the right hand and foot.

B. "RESCREEN in 1 hour" – the right hand & foot were between 90-94%.

C. "FAIL/REFER" – the right hand and foot are both $< 90\%$.