

Newborn Blood Screening (NBS)

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Objectives

- Define Newborn Blood Screening.
- Understand the importance of the screen.
- List the conditions that are tested on the newborn screen in Nevada..
- List some key points and misconceptions about newborn screening.
- List steps UMC is taking to ensure we are submitting adequate newborn blood screens.

Background

What is Newborn Blood Screening?

“Newborn Screening is a state public health service that reaches each of the nearly 4 million babies born in the United States each year. It ensures that all babies are screened for certain serious conditions at birth, and for those babies with the conditions, it allows doctors to start treatment before some of the harmful effects happen.”
(Baby’s First Test, 2015)

What do we know about NBS?

- Each year, 12,500 babies with serious treatable conditions are identified and grow up healthy thanks to newborn screening.
- Testing for PKU started in 1960’s. Since then many conditions have been added to screening test.
- Most states screen for at least 29 conditions of the 35 core disorders that are recommended by the Advisory Committee of Heritable Disorders.
- Conditions that are screened differ from state to state.
- All states require newborn screening, but each state’s public health department decides which conditions are coded on its panel.
- Specimen delays and inadequate specimens have led to million dollar lawsuits.

Conditions Screened in Nevada

- Biotinidase Deficiency
- Congenital Hypothyroidism
- Congenital Adrenal Hyperplasia
- Amino Acid Metabolic Disorders
- Cystic Fibrosis
- Fatty Acid Oxidation Disorders
- Hemoglobinopathies
- Galactosemia
- Organic Metabolic Disorders
- Severe Combined Immunodeficiency



Important Points

- Calling screen a “PKU” test instead of Newborn Blood screen is incorrect, confusing and has led to lawsuits.
- The amount of screens recommended varies per state.
- First screening is usually collected between 24-48 hours of age on a well baby and/or on admission
- Second screening (if applicable) is recommended at 10-14 days of age.
- Nevada recommends NICU patient’s have at least 3 screens within 1st month of life.
- Nevada statutes require every infant be tested, unless a refusal is obtained from guardian.

Misconceptions

- **Additional blood needs to be added to blood spot circle if it does not fill circle completely.**
FACT: Adding more blood to sample could make specimen inadequate.
- **Practitioners believe that the second screen is unnecessary.**
FACT: 10 percent of all infants affected are found on the second blood screen.

Steps UMC is doing to ensure quality and compliance

- Ongoing Staff education.
- Parents educated on importance of screen.
- Quality and double check specimen prior to shipping to the lab.
- Tracking system in place to ensure all blood screens that are collected are sent and received in timely manner.
- Collaborate with Nevada State NBS lab in coordinating follow up care on patients who need retested and/or diagnostic testing.

Expected Outcomes

- Newborn blood screens are collected and sent to lab in timely manner.
- Provide prompt and quality care to our patients.
- Identify conditions before damage occurs.
- Specimens submitted to the state lab 100% error free.

Measurable Outcomes

- Analyze data on the monthly Newborn Screening Practice Profile that is proved by the Nevada state lab.
- Yearly staff educations and testing.
- Track transit time on each package sent to the lab.

References

- “\$4.125 Million: Medical Malpractice Case” 1 June 2016, Retrieved from <https://www.gillandchamas.com/4-123million-medica-malpractice-case/>
- Babies First Test, What is newborn Screening. 2015 Retrieved from <http://www.babysfirsttest.org/newborn-screening/screen-101>
- Nevada Newborn Screening Guide. (January 2018), Retrieved from University of Nevada, Reno School of Medicine <https://med.unr.edu/documents/med/basic-science/nsphl/newborn-screening-guide.pdf>.

