

PROCEDURE NO.: SC.019.2

SUBJECT: Newborn Screening (PKU) Collection and Result Handling – St. Luke Hospitals

Effective Date: 8/27/07

Supersedes: 6/6/05

Approved By/Title: _____

Medical Director: Vincent DeRisio, D.O.

Written By: Carolyn Smith, CPT, (IAPS) revised by Nicole Wheeler ; revised Brenda Karr

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Annual Review: _____

Purpose:

Newborn screening in Kentucky includes phenylketonuria (PKU). Phenylketonuria will cause mental retardation in newborns. Dietary restrictions of phenylketones will prevent symptoms from appearing. Early detection, will allow for immediate diet modifications to be instituted, preventing onset of symptoms. This procedure outlines the steps needed to be sure all results of newborn screening are handled quickly, efficiently and that all abnormal results or insufficiencies are followed up promptly.

Materials:

1. PKU cards- Store forms in a clean, dry place in a vertical position on their sides. Check the expiration date. The card is good through the last day of the month of expiration. Do not touch the filter paper portion of the form with your hands, even with gloves. Do not use hand lotion, powder or other products that would alter the filter paper or cause absorption problems.

Procedure:

A. PKU's Waiting to Be Collected

1. Nursery will order PKUs before they are collected in order to ensure testing before patient is discharged.
2. A request for PKU's may be made, on occasion, without an order.
 - a. Determine if baby was born at a St. Luke facility.
 - b. If baby was born at a St. Luke facility, check LIS for a pending PKU.
 - c. If baby was not born at St. Luke or has no pending PKU, they must be registered as an outpatient to be ordered.

DO NOT TURN ANYONE AWAY ASKING FOR A PKU ON HIS OR HER BABY.

B. PKU Collection

1. Refer to capillary heel stick procedure for proper technique when doing an infant heel stick.
2. Allow a large drop of blood to form. Apply gentle pressure with the thumb and ease intermittently as drops of blood form. Milking or squeezing the puncture may cause hemolysis of the specimen or result in tissue fluid contamination, invalidating the test result.
3. Touch the filter paper gently against the large blood drop, and in one step, allow it to soak through to completely fill the preprinted circle on the filter paper. Never touch the filter paper to the puncture site.
4. Apply one drop of blood per circle to only one side of the filter paper. Layering or application of successive drops of blood to the same printed circle causes caking, which can falsely elevate results.
5. Examine both sides of the filter paper to assure that the blood uniformly penetrated and saturated the paper. Both sides should be uniform with no white areas within the spot.
6. Continue to fill the circles until all are collected. Failure to collect the appropriate amount of blood may require that the specimen be recollected.
7. Note on card if mother or child are on antibiotics.
8. Record date, time, and initials of collector on PKU card.

C. PKU Drying Time

1. Air-dry specimens on a horizontally level, nonabsorbent, open surface for at least 3 hours at room temperature and away from direct sunlight.
2. Avoid touching or smearing the blood spots. Do not heat, stack or allow it to touch other surfaces (including the fold-over flap). When stacking forms for mailing, rotate the forms so the blood spots are opposite on the cards above and below in the stack.

D. PKU's Dried and Waiting to be Sent Out

1. Check PKU card for all correct information:
 - a. All of the information requested on the card serves a useful purpose. Every attempt should be made at the time of collection to fill in as much card information as possible.
2. PKU card information:
 - a. Nursing enters all required information in the Kentucky state system, then prints out a label to attach to the PKU card.

- b. It is necessary to record and date any antibiotic dose (within the past 5 days) or blood transfusion. Baby may need a repeat PKU.
- c. Check if this is the first PKU or a repeat PKU.
- d. Results are cross-linked by: baby's name, mother's name, and mother's social security number.
- e. Because the state only charges for the initial PKU and not repeat PKU's (unless the first PKU was done in another state), the names and social security number need to be consistent. If a baby's name has changed, write it behind the original name.
- f. Physicians also get a copy of the results from the state. Please fill in as much physician information as possible.
- g. Additional information:
 - All newborn screens now include sickle cell.
 - Premature birth, full term, and weight impact thyroid.
 - Twins or triplets have importance if abnormal result.
- h. Repeat PKU's: Refer to the pink copy of the PKU.
- i. If you identify incorrect or missing demographics after submitting the form, notify the Division of Laboratory Services immediately. Phone: (502)564-4446 ext.4440; Fax: (502)564-7019

E. Sending PKU's Out for Testing- must be sent out within 24 hours of collection. Stability is 7 days. Nursery drops off collected PKUs on a daily basis.

- 1. Keep carbon copy (pink) with a label on it for our records of sample collection.
- 2. Document Patient's name, DOB, date collected, date received, and date mailed.
- 3. Place PKU cards in a properly addressed envelope. The fold over flap replaces the need for two envelopes. Do not place the forms in any type of plastic bag or plastic lined mailing envelopes:

Cabinet for Health Services
Laboratory Services
P.O. Box 2010
Frankfort, KY. 40602-2010
- 4. Repeat PKUs will be ordered by the physician.
 - a. Place the repeat label on the repeat PKU card (with label on the pink copy).
 - b Criteria for repeat PKU's:
 - Baby was <24 hours old when first PKU collected

- Baby received blood 48 hours previous
 - Previous abnormal results
 - c. If a repeat PKU is not needed, cancel with the following comment: \PKU = first PKU collected at 24 hours, no repeat needed.
5. Place pink copies in PKU file return file (pending results). Keep all notes from the nursery with the pink copy. Example: “choice care collect”, “baby transferred out”.
 6. If the PKU is a St. Luke East patient, send out PKU and send pink copy to the East Lab (Attn: PKU Dept.).
 7. If Home Health collects the baby using his or her own card, discard any additional card for that patient from file #1.

F. Computer Order Information

1. Birthing Center will order a PKU at the time of birth.
 - There is a charge for initial PKU only
 - Repeat PKU2 is performed at no charge

G. Incoming PKU Results

1. PKU results are automatically mailed by the State Lab to the physician specified on the PKU card. Results mailed to St. Luke are the Lab/Medical Records copy.
2. Review results
 - a. Match results to pink slip from PKU file
 - b. Transfer visit number (s#) to result paper
 - c. Place a lab label on both the pink copy and result report. .

H. Entering Results

1. Enter all results into the LIS as “See Note”. Enter the abbreviation \PKU as the note.
2. Make copy of results to send to medical records. Keep original result with the pink copy in the specified folder for 6 months.

References:

“PKU Collection and Result Handling”, St. Luke Hospital, Inc. 10/15/97
Cabinet for Health and Family Services Memorandum 3/9/2005.