

## **BLOOD COLLECTION TECHNIQUE BY HEELSTICK FOR NEONATES**

### **I. PRINCIPLE**

Blood collection technique used in the collection of a blood specimen is critical in order to maintain the integrity of the specimen and to insure quality patient results.

### **II. SPECIMEN REQUIREMENTS**

#### **A. Conditions for Patient Preparation.**

The patient should be in a supine position. All patient questions outside the procedure being performed should be referred to the nurse or physician in charge of the patient, if they are not performing this procedure.

#### **B. Type of Specimen**

Whole blood is collected into ~~an~~ appropriate specimen tubes or placed directly on the test pad as required by the test requested.

#### **C. Handling Conditions**

All specimens collected must be immediately labeled or processed before leaving the patient. Appropriate handling conditions for each test requested should be adhered to as stated in the procedure.

### **III. REAGENTS AND SUPPLIES**

A. Specimen collection tubes (if required) - these will vary depending on the individual requirements of the test requested.

B. Alcohol preps for cleansing the area.

C. Gauze squares

D. Automatic Lancing Device

E. Band-aid

### **IV. CALIBRATION**

No calibration is required for this procedure.

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V. **QUALITY CONTROL**

Identification of the patient must be performed by checking identification band against labels or manual request form. Two patient identifiers are required. Ask conscious patient his or her full name and birth date or check wristband. Outpatient identifiers are full name and date of birth and inpatient identifiers are name and medical record number. Verify identity of an unconscious patient by checking the patient's armband or from a nurse, relative or friend. DO NOT draw any specimen without properly identifying the patient. Performance Improvement indicators are monitored as well as Patient Satisfaction Surveys.

VI. **PROCEDURE**

Wash hands following infection control guidelines upon entering the patient room and between patients.

- A. Identification of the patient must be performed by checking identification band against computer-printed labels or manual request. A minimum of two patient identifiers are required. Verify identity of an unconscious patient by checking identification wristband or from a nurse, relative or friend. DO NOT draw any specimen without properly identifying the patient.
- B. If a fasting specimen is required, confirm that the fasting order has been followed.
- C. Position the patient properly, for easy, comfortable access to their heel.
- D. Assemble equipment necessary for procedure.
- E. Always don gloves (must be clean and changed between patients) before proceeding to next step.
- F. Choose an area on the plantar surface of the foot anterior and medial to the potential heel pad.  
NOTE: Warming the heel and gentle massage may increase blood flow to the area.

**USE OF HEEL WARMERS:**

Intended Use: Provides warmth to increase blood flow and enhance infant blood sample collection.

Heel warmers should be stored at room temperature. Temperature, when activated: 40°C/104°F. Do not reuse. For warmer nurseries (24°C/75°F and up), massage pack for 30 seconds after activation.

To activate:

- 1. Locate metal disc and grasp with thumbs and forefingers of both hands.
  - 2. Flex (bend) disc rapidly.
  - 3. Massage pack to soften; apply for 3-5 minutes only.
  - 4. Check infant skin occasionally for redness. Nursing services will monitor the infant's temperature before and after the procedure following the appropriate standard of care.
- G. Cleanse the chosen area of the heel with an alcohol prep. Allow alcohol to air dry before proceeding.
  - H. Using automatic lancing device, puncture the skin. Place the lancet against the site with the logo facing you. Place the blade slot area securely against the heel. The incision can be placed at a 90 degree angle to the length of the foot or parallel to the length of the foot.

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- I. Firmly and completely depress the trigger with your index finger. After triggering the lancet remove the lancet and discard it into a biohazard sharps container.
- I. The first drop of blood should be wiped away with a gauze square to avoid tissue juices which may result in inaccurate results.
- J. Collect the blood into the appropriate microtainer tubes, apply a drop of blood to the test pad(s) of the strip, or apply the appropriate amount of blood to a cartridge. Tubes containing anticoagulant should be capped and then gently inverted and thumped with the index finger to mix properly.
- K. Apply direct pressure to wound site with clean gauze pad. When bleeding has stopped, bandage the patient's heel. Usually a band-aid over a cotton ball or rolled up sterile gauze square is adequate
- L. Label each tube collected with the patient's name, medical record number, if applicable, date and time of collection, and collector's initials/phlebotomy tech code. Follow any special handling procedures, e.g., chilling. It is desirable for all specimens labeled with an addressograph label to include the specimen control number.
- M. Perform Point-of-Care testing procedure adhering to procedure instructions.
- N. Check the condition of the patient that bleeding is under control.
- O. Bandage the patient's heel. Usually a band-aid over a cotton ball or rolled up sterile gauze square is adequate.
- P. Remove all equipment used.
- Q. Dispose of contaminated materials such as lancets, cotton, gauze, etc., in appropriate containers.

VII. **CALCULATIONS**  
Not Applicable.

VIII. **REPORTING RESULTS**  
Not Applicable.

IX. **PROCEDURE NOTES**

All additive-containing tubes must undergo immediate inversion at least 10 times to insure proper mixing. Never shake the tubes violently. This may result in inaccurate results due to hemolysis.

Patients should not be punctured in the heel pad. This precaution is taken to avoid the rare development of a scar, which might be painful if it were on a weight-bearing surface.

X. **LIMITATIONS OF PROCEDURE**

- A. Additive - containing tubes containing clots must be discarded and recollected.
- B. Tubes improperly labeled must be discarded and recoll

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- C. Tubes not adhering to special handling procedures must be discarded and recollected.
- D. Hemolyzed specimens obtained for test procedures requiring non-hemolyzed specimens must be discarded and recollected.
- E. Specimens exceeding time requirements for test procedure must be discarded and recollected.
- F. Excessive squeezing of the patient's heel should be avoided to eliminate diluting specimen sample with tissue juices resulting in inaccurate results.
- G. Warming of the heel and gentle massage may increase blood flow to the area.
- H. Specimens not meeting the criteria as specified in Policy 2.2, Unacceptable/Suboptimal Specimen Protocol will be handled as stated in that policy.

**XI. REFERENCES**

- 1. Henry, M.D., John Bernard Clinical Diagnosis and Management by Laboratory Methods, 20<sup>th</sup> edition.
- 2. Microtainer Brand Tubes, Becton Dickinson, Product information.
- 3. Title: H04-A5, Procedures and Devices for the Collection of Diagnostic Capillary Blood Specimens. Publication Date: 06/20/2004: Fifth Edition
- 4. WarmGel Infant Heel Warmers, Cooper Surgical, Inc., 95 Corporate Drive, Trumbull, CT 06611 USA.
- 5. BD Microtainer Quikheel Lancet, Becton Dickinson, Franklin Lakes, NJ 07417 2003

**XII. DISTRIBUTION**

This procedure is available to laboratory sections/personnel through the Department of Pathology Policy and Information manual. with availability to facility personnel via the hospital web site, [www.sh.lsuhs.edu](http://www.sh.lsuhs.edu).