Sanford Policy ENTERPRISE Laboratory Phlebotomy/Processing:	Capillary Blood Collection - Enterprise
	APPROVED BY: Bemidji Medical Director (Lab), Bismarck Laboratory Directors, Fargo Laboratory Directors, SL-Lab Directors, CLINICAL LABORATORY DOCTOR, LEAD MEDICAL LABORATORY SCIENTIST, MANAGER, LABORATORY, PHYSICIAN - PATHOLOGY - ANATOMIC & CLINICAL, SUPERVISOR, LABORATORY
DATE REVIEWED/REVISED: 10/26/2026	**FORMULATED BY:** MANAGER, LABORATORY

SCOPE: Sanford Laboratories - Enterprise

PURPOSE:
To describe the procedure for specimen collection by dermal puncture (finger or heel). This involves penetrating the capillary bed in the dermis of the skin with a lancet to collect a blood specimen.

MATERIALS and SUPPLIES:
1. Micro-collection tubes
2. Capillary tubes or syringes
3. 70% alcohol prep pads
4. Gauze and bandage (as appropriate)
5. Heel warmer (if needed)
6. Gloves
7. Sharps container
8. Automated skin puncture device: select appropriate device for the type of specimen and patient. See Appendix A

PROCEDURE:
Tests that cannot be performed using a specimen collected by dermal puncture: Plasma-based coagulation tests, blood cultures, tests requiring anaerobic conditions (i.e., ammonia). Ionized calcium (iCa) may be collected for POC whole blood analyzers only. Erythrocyte sedimentation rates can be performed on EDTA raised bottom tubes.

1. Introduce yourself to patient.
2. Perform hand hygiene per policy Hand Hygiene- Enterprise and Standard and Transmission Based Precautions (Isolation)- Enterprise for direct patient care and potential exposure to body fluids.
3. Identify patient using 2 unique identifiers. See Patient Identification and Wrist Band Identification- Enterprise policy.
   A. Verify patient information on bar-coded labels, requisition forms and patient ID band, if applicable.
   B. Ask the patient or the patient's representative to state their first and last name and date of birth.
4. Verify patient's diet restrictions or required preparation, as appropriate for requested testing.
5. Explain the procedure to the patient.
   A. Inpatients: check for the green latex allergy band, the red allergy band and any limb alert bands, if applicable.
   B. Outpatients: Review allergies and any "FYI Flags" in outpatient settings in medical record. These flags are patient specific and may provide valuable information to the collector regarding collection of lab samples.

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6. Determine the appropriate micro-collection tubes, any special specimen requirements, and assemble supplies.
7. Select the appropriate site and lancet for the patient age/size and need. Do not choose inflamed, swollen or infected sites.
   A. **HEELSTICK**
      1) The heel is the preferred site for dermal punctures on infants who do not bear weight on their feet. The heel contains more tissue than the fingers and has not yet become callused from walking.
      2) Acceptable sites for heel puncture are the medial and lateral areas of the plantar (bottom) surface of the heel. See **Figure 1.**
      3) **DO NOT** puncture other areas of the foot where the heel bone is closest to the surface or the arch where nerves and tendons may be injured.

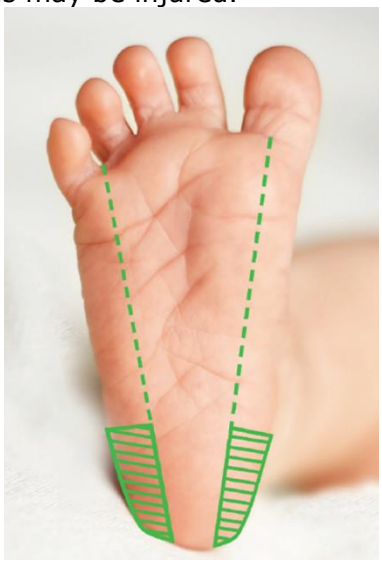


Figure 1

   B. **FINGERSTICK**
      1) Finger punctures are performed on adults and children over one year of age.
         a. 6 – 11 months of age are acceptable if
            i. Patient weight is at least 10 kg (22 lbs)
            ii. Puncture depth of lancet is 1.5mm
         b. The BD Microtainer Contact Activated Lancet light blue may only be used for fingers on patients ≥8 years old.
      2) The puncture must be on the palmar surface of the of the distal segment of the finger. Fleshy areas of the third and fourth fingers are the sites of choice. See **Figure 2.**
         a. The second finger may be too calloused.
         b. The fifth finger tissue is too thin and may result in injury.

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3) **DO NOT** use the tip or sides of the finger. This increases the possibility of bone injury.

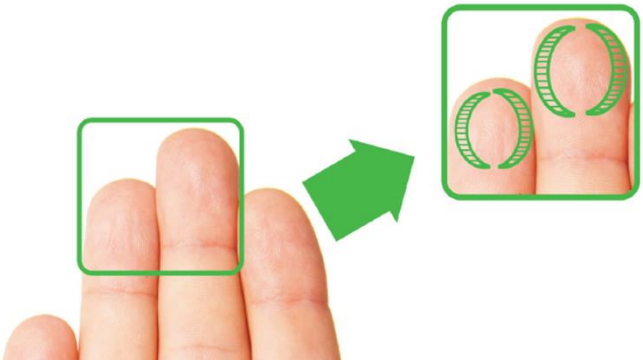


Figure 2

C. **Great Toe** may be used if no other sites are available

8. Apply warmer to collection site 3-5 minutes prior to specimen collection, if needed.
9. Cleanse the puncture site and allow to air dry.
10. Puncture the site by activating device.
    A. **Heel**
        1) Grasp infant's heel with your forefinger at the arch of the foot and your thumb at the ankle.
        2) Align puncture device so lancet will cut across the grooves of the footprint. Press appropriate device firmly against puncture site and activate.
    B. **Finger**
        1) Grasp finger between your thumb and index finger with palmar surface facing up.
        2) Align puncture device so the lancet will cut across grooves of fingerprint. Press appropriate device firmly against puncture site and activate.
11. Remove the device from surface of skin and discard in sharps container.
12. Wipe the first drop of blood away with a gauze pad. The first drop is most likely to contain excess tissue fluid.
13. Hold the tip of the collection tube to the drop of blood, letting the blood flow into the tube by capillary action. Fill micro-collection tubes following the order of draw listed in Table 1.
    A. Dermal Puncture Transfusion Specimen from an Infant less than 4 months old: Collect one full EDTA microvette.

Table 1: Fill Order/Color Coding of Microtainers/Microvettes

Top Color	Additive-Specimen	Common Uses
Capillary Syringe/ Tube	Balanced heparin-whole blood	Blood Gas, iCa
Lavender	EDTA-whole blood/plasma	CBC, Hgb
Slides	None	Cell counts and morphology
Green with gel	Lithium heparin – plasma	Chemistries
Gray	Sodium fluoride	Xylose.
Yellow/Gold with gel	No anticoagulant-serum separator tube – serum	Chemistries

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Red	No anticoagulant-serum	Therapeutic drug levels
Filter Paper	None	Newborn screening

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B. **Micro-Collection tubes**
   1) Blood must be free flowing as a result of firm pressure. Do not "milk" surrounding tissue, which will release tissue fluid and/or result in a hemolyzed specimen. Do not tightly squeeze area without relaxation, cutting off blood flow to puncture site.
   2) Apply and release pressure to area to obtain satisfactory blood flow. Hold the puncture site downward if needed.
   3) Fill collection containers by capillary action. Hold tube at a slant during the collection. Do not touch puncture site with microtainer and do not scrape microtainer over skin, as this will produce specimen contamination and hemolysis. Allow blood to flow by capillary action through collection top and down side of tube. Gently tap the bottom of tube to force blood to bottom. When tube is filled, remove collection top and attach color-coded top. Tubes must be gently inverted 8 to 10 times.

C. Capillary tubes
   1) Seal end of syringe with one large drop of blood at a time while pulling gently back plunger (taking care not to pull in air) until you have collected 0.5 mL of blood. Replace cap after removing any air bubbles. Rotate syringe in the palm of hands to mix. Label and send to the appropriate department immediately.
   2) Heparinized safeCLINITUBES: see site specific procedure.

14. After blood has been collected, apply gauze and pressure to site. Apply bandage as appropriate.
15. Label tubes according to Specimen Labeling, Laboratory- Enterprise policy.
16. Handle specimens according to test-specific protocols and transport to testing laboratory.

REFERENCES:

1. CLSI "Procedures for the Collection of Diagnostic Blood Specimens by Skin Puncture; Approved Standard—Seventh Edition, September 2020.
2. "Phlebotomy Workbook for the Multi-skilled HealthCare Professional", Susan King Strasinger & Marjorie A Di Lorenzo, 1996.
3. CAP Standards, GEN. 40100.
4. BD Microtainer Contact Activated Lancet IFU, May 2023.

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APPENDIX A

FARGO REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Nova Plus Heel Lancet	1.0 mm	2.55 mm	Pink	infants - heel only
BD Pressure Activated Lancet	2.0 mm	1.5 mm	Light blue	Fingers on patients ≥8 years old
Nova Plus Pressure Activated Lancet	1.8 mm	23 gauge	Dark blue	bedside glucose/POC INR
Microtainer Lancet	1.5 mm	30 gauge	Purple	child fingers

RAPID CITY REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Nova Plus Heel Lancet	1.0 mm	2.55 mm	Pink	infants - heel only
BD Pressure Activated Lancet	2.0 mm	1.5 mm	Light blue	Fingers on patients ≥8 years old
BD Microtainer Contact Activated Lancet	1.8 mm	21 gauge	Pink	Fingers on patients ≥1 year old
Microtainer Quickheel Lancet	1.0 mm	2.5 mm	Teal	Infants – heel only

MARSHFIELD REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Quickheel Preemie Lancet	0.85 mm	1.75 mm	Lavender	Infant heel stick
Quikheel Lancet	1.0 mm	2.5 mm	Green	Infant heel stick – must get attending nurse approval
BD Genie Lancet	1.00 mm	1.55 mm	Pink	Finger capillary collection
BD Genie Lancet	1.25 mm	28 gauge	Purple	Drop of blood

BEMIDJI REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Lancet Mediheel Newborn	1.0 mm	N/A	Pink	Baby heel sticks
Lancet Safety Press	1.8 mm	23 gauge	Blue	Fingerstick and INR collections
Lancet Microtainer HF	1.5mm	2.0mm	Blue	Fingerstick

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BISMARCK REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Nova Plus Heel Lancet	1.0mm		Pink	Infants
Nova Plus Pressure Activated Lancet	1.6 mm		Purple	Adult finger POC Glucose
Nova Plus Pressure Activated Lancet	1.85mm		Dark Blue	Adult finger POC Glucose

SOUTH REGION DEVICES	DEPTH	LENGTH	COLOR	USE
Nova Plus Heel Lancet	1.0mm		Pink	Infants
BD Microtainer Contact Activated Lancet	2.0 mm		Blue	Adult
Accu-Chek Safe-T Pro Plus	1.3 mm 1.8 mm 2.3 mm			Children & Adult Fingerstick
Nova Plus Pressure Activated Safety Lancet	1.8 mm		Blue	
Mediheel Device	1.0 mm		Pink	Neonates/Infants
Lancet MediHeel Premie	0.85mm		Pink	Neonates
ReadyLance Pressure Activated Safety Lancet	1.6 mm		Pink	Fingerstick
BD Quikheel Lancet	1.0 mm		Light green	Infants
Nova Plus Pressure Activated Lancet	1.6 mm		Purple/Green/Pink	Adult finger POC Glucose
Nova Plus Pressure Activated Lancet HF	1.5mm		Blue	Adult finger POC Glucose
BD Microtainer Contact Activated Lancet	1.8 mm		Pink	Children Fingerstick
BD Microtainer Contact Activated Lancet	1.8mm		Purple	

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