

LABORATORY COLLECTION MANUAL	SKIN PUNCTURE TECHNIQUE
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Although venipuncture is the most frequently performed phlebotomy procedure, it is appropriate some circumstances to utilize a skin puncture method. Current laboratory instrumentation and procedures make it possible to perform some laboratory tests on microsamples of blood (sample size often very small) obtained by skin puncture on both pediatric and adult patients. Locating superficial veins large enough to accept even a small-gauge needle is difficult in children two and under and veins that are available may need to be reserved for intravenous therapy. Therefore, the skin puncture method is often the method of choice for collecting some tests from this age group. In adults the fingerstick method may be required because of the inability to locate a suitable vein in some patients. Refer to individual specimen requirements to see if a skin puncture specimen is appropriate.

I. PERSONNEL REQUIREMENTS:

- Individuals performing skin punctures must have documented training before performing skin punctures unobserved.

II. TESTING MATERIALS:

- Gloves (latex-free if applicable)
- Warming device if needed.
- 70% alcohol pads or comparable disinfectant
- Gauze
- Appropriate sterile lancet (**See # III**)
- Marking pen or computer generated labels for labeling specimen
- Bandage or tape
- Collection tube device needed for test to be drawn.

III. USE THE APPROPRIATE LANCET:

- For an adult finger-stick, or a child, age 10 and up, or robust younger children use lancets provided for adults.
- For an infant of less than 6 months, NEVER STICK A FINGER. If you can not obtain blood from the heel, you may have to stick the big toe. For a heel or toe stick on an infant, use the **Tenderfoot® device**. (Incision depth 1.0 mm, Incision length 2.5 mm.)

IV. PROCEDURE:

A. Use proper Hand Hygiene prior to performing the stick as well as after.

B. Identify the patient using 2 person identifiers (Stated name and date of birth) and matching all information from identification bracelet on inpatients. If the patient is a child, you can ask the parent this information.

C. Carefully review orders and determine the collection device required.

D. Assemble needed materials in close proximity to patient. Ask the patient and/or parent if there is a sensitivity to latex. If so, use latex-free gloves.

E. Select the site:

1. Infants:
 - a. Lateral or medial plantar surface of the heel. In almost all infants, the heel bone is not located beneath these areas.
 - b. Punctures must not be performed on the posterior curvature of the heel, fingers of an infant less than 6 months old, a swollen site, previous puncture sites, or the earlobes.
2. Adults and older children:
 - a. The puncture must be on the palmar surface of the distal segment of the middle or ring finger. The puncture should occur across the fingerprints, not parallel to them.

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- b. The middle and ring finger are preferred because the thumb has a pulse, the index finger may be more sensitive or callused, and the baby finger should not be punctured because the tissue depth is insufficient to prevent bone injury.
 - c. Do not attempt to puncture a swollen or previously puncture site, because accumulated tissue fluid will contaminate the blood specimen.
 - c. Blood must not be obtained from fingers on the side affected by a mastectomy.

- F. The finger should be punctured on the pad of the finger perpendicular to the fingerprint. Do not perform a finger puncture on an infant less than six months of age or less than 20 pounds.

- G. The infants' heel should be made on the most medial or lateral portion of the heel. Punctures should never be made on the posterior curvature of the heel below the Achilles tendon where the bone is closest to the skin or on the arch of the foot. Heel sticks are appropriate for infants less than six months of age or less than 20 pounds.

- H. Warm the site using an appropriate warming device for three to five minutes. (Heel warmers can be used for this purpose) Warm cloths can also be used taking care to avoid extreme temperatures that could injure the patient.

- I. Place gloves on hands. (Use latex-free when applicable)

- J. Disinfect the site using a 70% alcohol pad or comparable disinfectant. The site must be allowed to air dry to provide effective disinfection and to prevent possible hemolysis by residual alcohol.

- K. Perform the puncture: Hold the finger or heel with a moderately firm grip, placing your hand against a support if possible to prevent movement. Firmly puncture the skin. Do not pull the lancet away from the puncture site while depressing the trigger mechanism.

- L. Discard lancet into an appropriate sharps container.

- M. Collect the specimen: Wipe away the first drop of blood with a gauze as this drop may contain an excess of tissue fluid, which could cause erroneous test results. Position a collection container beneath the collection site. Blood should be freely flowing from the puncture site as a result of firm pressure and should not be obtained by excessive squeezing. The most satisfactory blood flow is obtained by alternately applying and releasing pressure to the area. Avoid touching the puncture site and scraping the collection device against the skin, as this will produce specimen contamination and hemolysis. The order of draw is important because of the tendency of platelets to accumulate at the site of a wound. Therefore, tests for the evaluation of platelets, such as platelet count and CBC, must be collected first. Tubes should be filled to the level indicated on the tube. Work quickly to minimize the chance of microclots forming in the tube. (If enough blood is not obtained from the initial puncture, the process should be started over to obtain more blood.)

- N. Mix each additive collection device by gently tapping and inverting it. It is a good idea to mix anticoagulant tubes by a gentle "thumping" action after each drop falls into the tube.

- O. Place clean gauze pad on the puncture site and apply slight pressure.

- P. Instruct the patient (or guardian) to hold slight pressure on the gauze pad over the puncture site.

- Q. Label the specimen with correct information per policy, preferably with a computer-generated label. (Name and Date of Birth of the patient must be included) All specimens must be labeled in the presence of the patient, remembering that the Identification process is not complete until the specimen is labeled properly, rechecking all information.

- R. Check the puncture site to assure that it has stopped bleeding.

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S. Place a bandage over the puncture site.

T. Transport the specimen to the appropriate area for testing as soon as possible.

III. Special Considerations: One of the most frequently performed tests on newborns measure bilirubin levels, and specimens for this determination are often collected at timed intervals over several days. Bilirubin is light sensitive and is rapidly destroyed when exposed to light. Phlebotomy technique is critical to the determination of accurate bilirubin results, and specimens must be protected from excess light during and after collection. Hemolysis should be avoided. **Specimens should be delivered to the lab ASAP.**

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See original policy in the Laboratory for all documented annual reviews.

References:

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