INTRODUCTION

Capillary puncture , is a safe, rapid, and efficient means of collecting a blood specimen.

To perform capillary puncture, a small sterile **lancet** is used to puncture the skin and **capillaries** to create a blood flow.

Capillary punctures are performed when only a small amount of blood is required, when obtaining blood from infants, or when the patient has a condition that makes venipuncture difficult.

However, the increased use of small, portable, easy-to-use instruments that require only a drop or two of blood, has made capillary blood the specimen of choice for these analyzers.

Capillary Puncture Sites:

1- The usual site for capillary puncture in **adults and children** is the **fingertip** . In adults, the ring finger is often selected because it usually is less calloused.

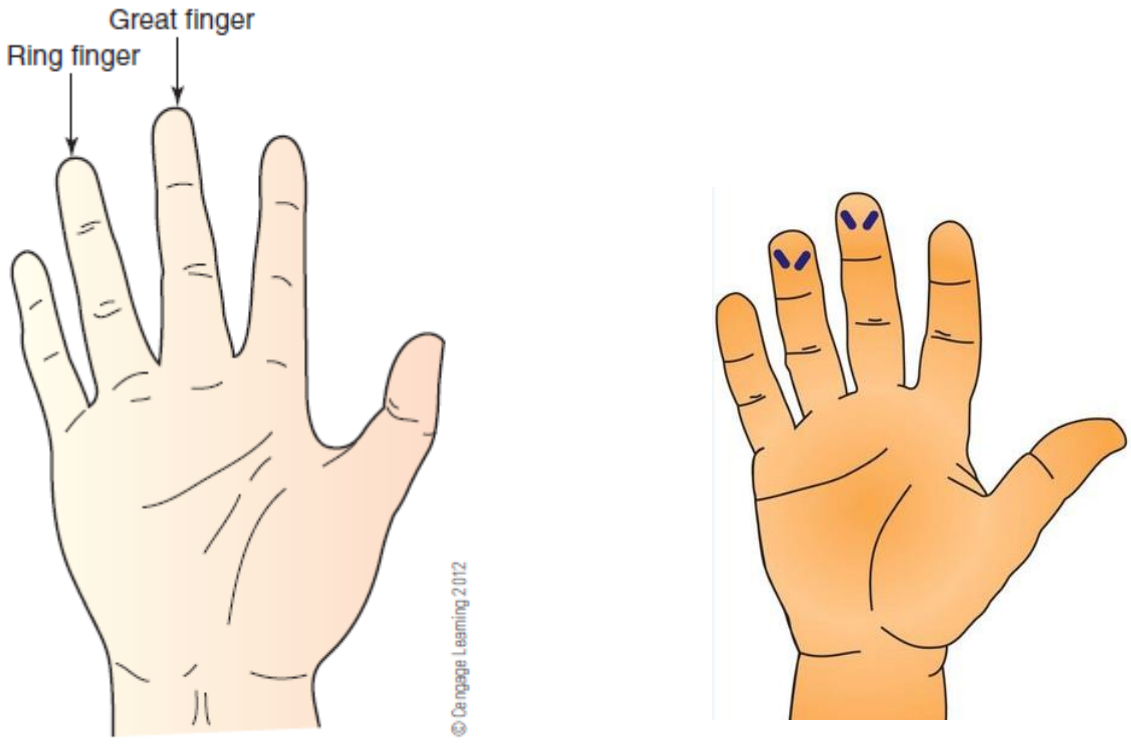

FIGURE 1-71 Capillary blood collection sites for adults and children

2- For **newborns** and **infants**, capillary blood can be obtained from the **lateral** or side portion of the **heel pad** . Once an infant begins to walk (about the age of 1 year) blood should be collected from a finger.

FIGURE 1-72 Pediatric capillary blood collection sites: (A) the lateral surface of the heel is used for newborns and small infants (correct puncture sites are green areas lying outside the triangle as shown); (B) collecting blood from the heel pad of a newborn

Procedures That Use Capillary Blood

1- Selecting the Puncture Site

All materials should be assembled within easy reach of the phlebotomist. The patient's fingertips should be examined for a suitable site that is not calloused and has good blood circulation.

Warm skin indicates adequate circulation; cool skin indicates decreased circulation. A patient's hands can be gently massaged briefly to enhance circulation.

Recent puncture sites should be avoided, especially in pediatric patients.

2- Preparing the Puncture Site

An alcohol swab should be used to cleanse the puncture site. The site must then be allowed to air-dry or can be wiped dry with sterile gauze.

3- Performing the Puncture

The patient's hand and finger should be held so the puncture site is readily accessible. Using a safety lancet, the puncture is made

4- Collecting the Blood Sample

The first drop of blood should be wiped away with dry, sterile gauze. This first drop contains tissue fluid, which dilutes the blood drop and can also activate clotting.

The second and following drops of blood are used for the test sample.

The hand can be gently massaged to increase blood flow, but excessive pressure near the puncture site should be avoided. (Squeezing the fingertip can force tissue fluid into the blood sample.)

Capillary blood should be collected as quickly as possible to prevent clotting. The capillary tube should be held in an almost horizontal position, or tilted slightly downward; the blood collecting vial should be held vertically so blood will flow down into the tube . When the tip of the capillary tube is touched to the blood drop, blood will enter the tube by **capillary action**. Capillary tubes should be filled three-quarters full.

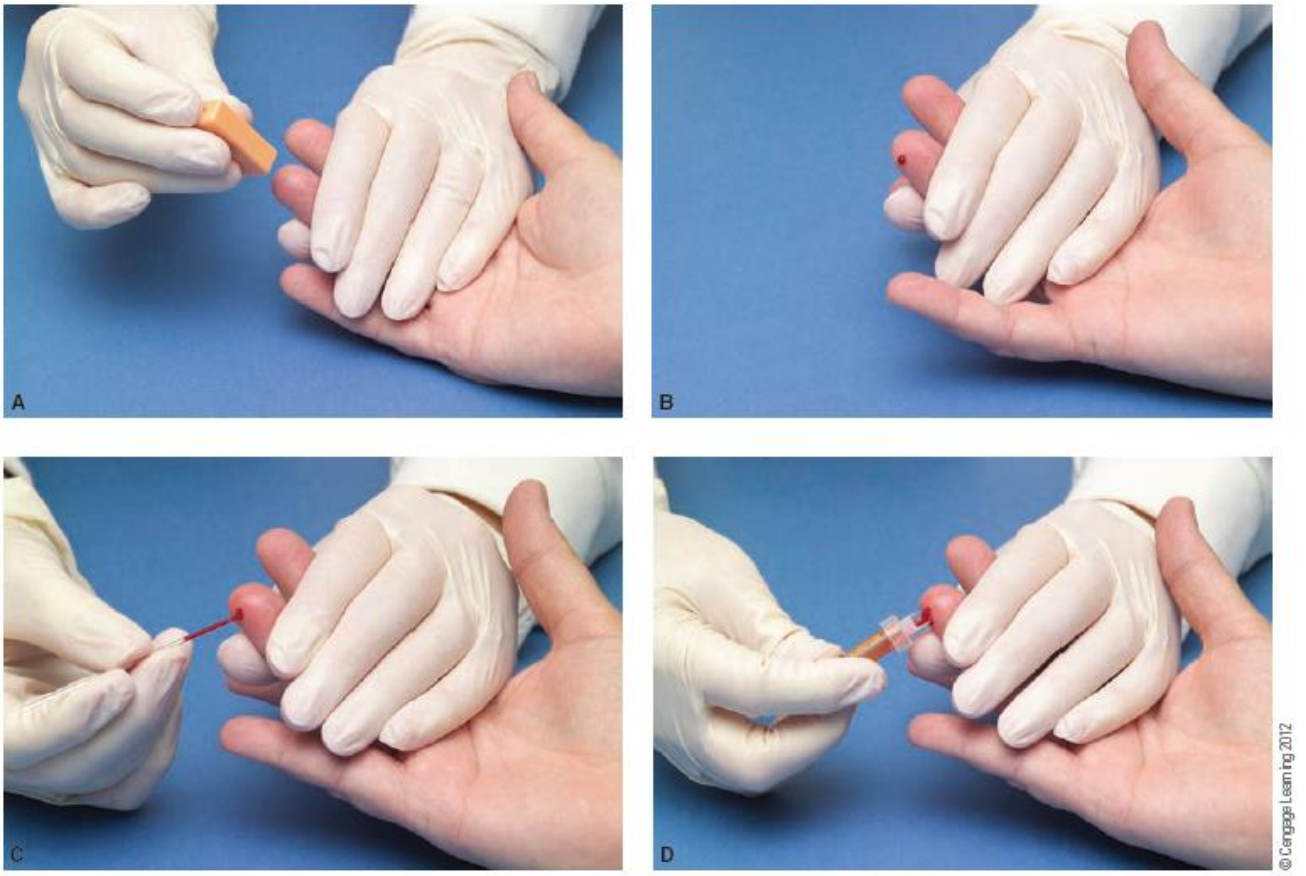

FIGURE 1-77 Performing the capillary puncture: (A) perform puncture on cleansed fingertip; wipe away first blood drop and (B) allow rounded drop of blood to form; (C) collect blood into capillary tube or (D) collection vial

5- Caring for the Puncture Site

After the blood has been collected, sterile gauze or a cotton ball should be placed on the puncture site and pressure applied until bleeding stops.