How To Prepare An Acceptable Blood Spot Specimen From EDTA Whole Blood

A1 Preparation
A1.1 Wash hands vigorously.
A1.2 Wear powder-free gloves and change gloves between patients.
A1.3 Confirm identity of patient and ensure that all data elements on the form are complete, accurate and consistent.

A2 Phlebotomy
A2.1 Write name and number of the patient on a purple cap EDTA tube (4mL) with an indelible marker.
A2.2 Use a tourniquet or get the patient to clamp his/her fist to locate the veins.
A2.3 Clean the puncture site with alcohol or disinfectant. Do not touch again after cleaning.
A2.4 Insert the needle into a holder and then into the patient’s vein, bevel upwards. The back of the needle is used to pierce the top of the vacutainer tube.
A2.5 The vacuum makes the tube fill to the required level.
A2.6 Remove the tube and mix gently by inverting several times to mix the blood with the anticoagulant.
A2.7 Blood collection can be difficult on a patient with low blood pressure. In this case, use a syringe. The use of a butterfly can also assist in the collection of blood.

A3 DBS Preparation
A3.1 Write patient name, number and date on the space provided on the card.
A3.2 Position the DBS card in a way that the circles do not touch the surface of the bench.
A3.3 Mix the blood gently once again by inverting several times.
A3.4 Open the EDTA tube.
A3.5 Squeeze the end of the Pasteur pipette before inserting it in the tube.
A3.6 Insert the pipette in the blood and release the end to suck up the blood.
A3.7 Gently apply enough blood to each circle to fill them completely. Apply blood to one side only.
A3.8 Make sure that the individual blood circles do not touch each other.
A3.9 Place completed DBS cards on the rack to dry. Make sure that the cards do not touch each other.
A3.10 Let the DBS cards dry for at least 3-4 hours. Keep out of direct sunlight.
A3.11 All used items should be disposed of in an appropriate biohazard container.
A3.12 When dry, each card should be packed individually in a plastic zip-lock bag with 2 desiccant sachets and a humidity indicator card.
A3.13 Store the packed DBS at room temperature and send to the laboratory within a week after preparation.

A4 Pitfalls
A4.1 Avoid touching the area within the circle before and after blood spotting.
A4.2 DBS cards should always be handled with gloves and only touched on the edges, never on the circles.
A4.3 DBS’s should be prepared in a dry and clean room, free of wind and dust.
A4.4 Blood can be collected from several (5-10) patients before preparing the DBS’s. Make sure that the collected blood is spotted within 1 hour.
A4.5 Do not pack the DBS cards in the plastic zip-lock bag until thoroughly dry. Insufficient drying adversely affects test results.