Title: Dried blood spot by finger-stick Collection

Purpose: The purpose of this SOP is to standardize and document the dried blood spot fingerstick (DBS-fs) procedure, equipment used for collection, shipping, and storage guidelines

Procedures:

1. Bring a single-use lancet, band-aids, alcohol wipes, and Whatman 903 spotting cards.

2. The best location for the fingerstick is the 3rd or 4th finger of the non-dominant hand. The point of contact for the lancet should be offset from the very tip of the finger, just to the side of center.
   a. Staff person should wear disposable gloves and use universal safety precautions during the procedure.
   b. The subject’s finger can be placed in warm water and light pressure can be applied to the surrounding tissue in order to increase blood flow to the tip.
   c. The finger should be thoroughly cleaned with an alcohol wipe and allowed to dry. Apply pressure while cleaning to increase blood flow to the region.
   d. Maintaining slight pressure at the tip of the finger, study staff will use a single use lancet (Arkray Haemolance Plus Gauge 21 depth 1.8mm) to puncture the skin. Hold the lancet in place on the subject’s finger for 3 seconds after the initial puncture.
   e. The first drop of blood that forms on the finger should be wiped away using gauze, as this blood may be hemolyzed and contains clotting activators.
   f. After a second drop of blood has formed on the fingertip, a DBS Whatman903 card will be placed below the drop of blood and one blood drop will be allowed to wick onto one DBS collection spot on the card. Do not allow the subject’s finger to touch the Whatman card.
   g. Apply a small amount of pressure to the fingertip in order to produce a third and fourth drop of blood to be spotted on the same Whatman card in the second and third circles, respectively. A drop of blood is not expected to completely fill the circle on the card. Try to obtain 2 to 5 spots.
   h. A small dressing (band aid) will be placed over the puncture location.
   i. Dispose of the used lancet and other supplies in an appropriate sharps/biohazard receptacle.

3. The Whatman Card should be labeled with the subject's PID, date of collection, and protocol.

4. Air-dry the cards in a card holder for at least 2 hours at ambient temperature without covering the spots. Overnight drying is acceptable.

5. After spots have dried, use the cover flap to cover the spots. Place DBS card in low gas-permeability plastic bags with humidity indicator and desiccant pack to reduce humidity.
   a. One card per bag only
Storage:

1. Store bag in a cardboard box at -20°C or -80°C.
2. The humidity indicator in the bag should be checked periodically as needed.
3. If indicator indicates too much humidity (color change from blue to pink: 40% to 50% level), replace the old desiccant pack and indicator card with a new one. Always wear gloves when handling DBS cards.

Shipping:

1. Ship samples to the Colorado Antiviral Pharmacology Laboratory at:
   a. Attn Lane Bushman,
      UC Denver-Skaggs School of Pharmacy and Pharmaceutical Sciences
      V20-4410
      12850 E Montview Blvd
      Aurora, CO 80045
      303-724-6132
   b. DBS cards should be shipped on dry ice to the CAVP Laboratory.
   c. Check desiccant packs and humidity indicators before shipping and if applicable replace them.
   d. Place the boxes in water tight secondary containers (i.e. Tyvek bags) to protect from humidity while shipping.
   e. Provide a physical sample inventory spreadsheet (LDMS generated manifest acceptable) with each shipment containing the sample and participant information listed above. An electronic inventory should also be e-mailed to Lane Bushman (Lane.Bushman@ucdenver.edu) and Lucas Ellison (Lucas.Ellison@ucdenver.edu) prior to shipping.