

Supplementary file 5: Guidelines for Capillary Blood Glucose (CBG) Testing

Preparation

- Gather equipment required for the procedure
 - Gloves
 - Disposable lancet
 - Glucometer test strips
 - Glucose monitoring device (Glucometer)
 - Gauze/tissue
 - Sharps disposal box
 - Patients register and pen
- Check the expiry dates on the glucometer test strips.
- Ensure that the glucometer and the test strips have been calibrated together. Each batch of glucometer test strips will require calibration to the machine.

Patient preparation

- Obtain informed consent from the patient for the procedure – explain the need for the test and the benefits to the patient.
- Wash and dry hands to be tested.
- Note: The recommended site is the side of the distal ends of fingertips to minimize pain and injury to the bone. Avoid the little finger as the tissue may not be deep enough to prevent injury to the bone. Avoid the index finger and thumb as these are highly sensitive areas compared to other fingers. Avoid the arm if an intravenous infusion is underway or is the side of the body where a recent mastectomy, if any, was performed.

Process

- Bring out the glucometer from its packing and place it on the table
- Remove the glucose testing strip without touching the sensor tip from the container and insert it into the glucometer. This often leads to the glucometer turning itself on.
- Prime the lancet to no more than 2.0 mm to minimize the risk of bone injury.
- Firmly apply lancet to the site of sample collection and release the trigger on the lancet to pierce the skin. Dispose of the lancet in the sharps box.
- Wipe away the first drop of blood with a clean gauze or tissue as this drop of blood may contain intracellular or interstitial fluid, or is hemolyzed, both of which could affect the blood sample.
- Apply a gentle downward pressure close to the puncture site to facilitate blood flow and collection of the second drop of blood.
- Collect the second drop of blood as it forms by touching the tip of the glucose testing strip.
- Place the glucometer down and cover the site of skin puncture with a clean tissue. Pressure may need to be applied to stop further bleeding from the puncture site.
- The glucometer will provide a result at this stage unless there have been errors in collection; for example, insufficient sample, low battery, wrong code, or the machine times itself out.

- If an error displays on the glucometer, troubleshoot as appropriate.
- Document the patient's blood glucose measurement in the patient register and the date the test was conducted.
- Dispose of the glucose test strip in the sharps box.
- Wash hands and replace equipment in storage bag container.
- Inform the patient if the results is within normal values
- Where the reading falls outside the normal values, refer the patient to a doctor for immediate review.

Adapted from: Mathew TK, Tadi P. Blood glucose monitoring. In StatPearls [Internet] 2020 Aug 14. StatPearls Publishing.