

BLOOD GLUCOSE MONITORING

In selecting a blood glucose monitor for client or agency use:

- Check accuracy and precision: American Diabetic Association allows 10 % variance from laboratory testing.
- Meter should measure glucose between 0-500 mg/dl.
- Meter must meet OSHA standards to prevent contamination when cleaning or using meter.
- Must be able to recall previous test results.
- Simple to use.
- Cost of meter and ongoing cost of supplies.

PURPOSE

To obtain accurate glucose reading.

To assess changes in the blood glucose level used to modify treatment.

To teach client/caregivers home diabetic management and how to use blood glucose.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Lancet and/or automatic Lancet device (optional).
- Reagent strips.
- Cotton (optional for some manufacturers).
- Alcohol wipe (considered optional by some authorities).

- Reflectance Meter/Glucometer (optional).
- Watch or clock with second sweep hand.
- Soap, water, and towel or No-rinse cleanser and towel, if water not available.

PROCEDURE

Parameters for adjusting the diabetic's regimen need to be clarified with the primary care physician or nurse practitioner.

1. Wash hands. Refer to the Hand Washing procedure.
2. Review the package instructions included with the reagent strips. Also, review the operating manual of an automated lancet device and/or a reflectance meter/glucometer (if used).
3. Remove a reagent strip from the container.
4. Tightly recap container.
5. Instruct the client to wash site with warm water and dry thoroughly.
6. Twist off the lancet cap without touching the sterile point. *If you are using an automated device, wipe the contact site with alcohol prior to inserting the lancet.*
7. Wipe the site with alcohol unless contraindicated by primary physician. *Alcohol has a drying effect on the skin, and repeated use can lead to fissures.*
8. If using a finger site, have the client lower his hand below the level of the heart for thirty seconds.
9. Using a quick stick-and-withdraw motion, puncture the skin. *If using an automated device, firmly hold the device against the site and activate.*
10. Gently squeeze the site in a downward motion to obtain a drop of blood large enough to cover the entire test pad.
11. Hold the test strip level and touch the drop of blood to the test pad.
12. Begin timing as soon as the blood is placed on the test pad or as stated in the manufacturer's instructions.
13. Wipe, blot, or wash off the strip as stated in the manufacturer's instructions. *Timing is critical in obtaining accurate results.*
14. Wait another specified time period. *Time period depends upon the manufacturer's guidelines.*

Visual Method

1. When timing is complete, match the test pad to the color on the reagent container color scale that most closely matches the test pad color. The blood glucose level is represented by the number of the matched color.
2. If the test pad color falls between two colors, the blood glucose level is read as a range between the two numbers; for example, between 80 and 120.

Reflectance Meter/Glucometer

1. When timing is complete, place the test strip in the reflectance meter/ glucometer and follow the manufacturer's instructions to obtain the blood glucose level reading.
2. Wash hands. Refer to the Hand Washing procedure.
3. Record the blood glucose result in the client's log book. Include insulin or oral hypoglycemic agent dose, time of test, dietary intake, and symptoms.
4. If blood glucose level indicates hyperglycemia or hypoglycemia, follow the primary care physician or the nurse practitioner guidelines.
5. Document in the clinical record:
 - a. Calibration or testing of the meter, as applicable.
 - b. Blood glucose level.
 - c. Method used to obtain level.
 - d. Dose of insulin or oral hypoglycemic agent.
 - e. Time of test.
 - f. Dietary intake.
 - g. Symptoms.
 - h. Any actions taken to correct hyperglycemia or hypoglycemia reactions.
 - i. The client's response to actions.
 - j. Any instruction given including demonstrated ability to use machine.

RELATED PROCEDURES

SubQ Injections, Insulin Mixing, Management of Diabetic Hypoglycemia/Hyperglycemia