



# Tips for Glucometer Use and Care

## Steps in Use

### 1. Disinfect the top of the med cart (this is best practice).

- a. Clean and disinfect the med cart surface (wearing proper PPE), and if used, the overbed table. Use an appropriate [EPA-registered disinfectant](#); and,
- b. Follow the manufacturer's recommendations regarding the chemical compatible with the surface(s) and the required chemical contact (dwell) time.

### 2. Disinfect the glucometer according to manufacturer recommendations.

- a. Properly disinfect glucometers to prevent spread of diseases like Hepatitis B, Hepatitis C, and HIV. Even when devices are used by a single person only, consider the potential for contamination during storage and disinfect accordingly.

**\*Note:** DO NOT assume that a glucometer was cleaned after the last use.

- b. Wipe down the front, back, and sides of the meter with an EPA-registered disinfectant compatible with the meter, wearing proper PPE. Take care to not get liquid in the test strip port of the meter.
- c. Follow the manufacturer's recommended chemical contact (dwell) time, before using the meter.

**\*Note:** DO NOT use alcohol to disinfect a glucometer, as this is not adequate for disinfection to prevent cross contamination, and it can damage equipment.

### 3. Acquire all necessary materials needed before entering the room.

- a. Gather test strip vial, alcohol wipe, cotton wipe/gauze pad, single-use lancet, and impervious barrier protective covering.
- b. Use a single-use disposable lancet that permanently retracts upon puncture. This adds an extra layer of safety for the person and the care provider.
- c. Use an impervious barrier protective covering (e.g., wax paper, cup, etc.) to minimize body substance contamination to surfaces/equipment during procedures.
- d. Ensure the materials are not expired, for example, the test strips.

### 4. Complete hand hygiene.

- a. Wash hands with soap and water for a minimum of 15 seconds; or

- b. Use an alcohol-based hand sanitizer.
- 5. Remove one test strip from the vial and prepare the glucometer.**
  - a. Turn the machine on;
  - b. Remove one test strip from the vial and close top; and,
  - c. Insert strip into the glucometer.
- 6. Don non-sterile gloves.**
- 7. Take the prepared equipment into the person's room and draw blood with the single-use lancet.**
  - a. Place the barrier down (e.g., wax paper, cup, etc.) with the prepared items on top.
  - b. Clean the skin site with an alcohol wipe and allow to air dry.
  - c. Hold the lancet perpendicular to the skin and pierce the skin (side of finger is best) to obtain blood.
  - d. Obtain enough blood to cover the strip sample area; if necessary, lower the person's hand and use gravity to encourage bleeding, and lightly stroke the finger as needed to obtain enough blood.
  - e. Absorb the blood to the test strip, take the reading and tell the person the blood glucose value.
  - f. Apply gentle pressure with the cotton wipe/gauze pad to the puncture site to stop any bleeding.
- 8. Dispose of the lancet in the sharps container; do not place the lancet on any surface prior to disposal.**
- 9. Dispose of the test strip and contaminated gloves.**
  - a. Dispose of gloves along with the contaminated barrier in an appropriate receptacle.  
**\*Note:** DO NOT wear blood contaminated gloves while documenting on the MAR (pen & paper or typing electronically) or when opening the med cart.
- 10. After removing gloves, perform hand hygiene.**
  - a. Wash hands with soap and water for a minimum of 15 seconds; or,
  - b. Use an alcohol-based hand sanitizer.
- 11. Disinfect the glucometer using an EPA-registered disinfectant.**
  - a. Disinfecting the glucometer right after returning to the med cart will allow it enough time to dry.  
**\*Note:** Do not place the glucometer in the med cart without cleaning and drying it first.
- 12. Record the blood glucose value on the paper or electronic MAR.**

**13. Determine if insulin is to be administered according to the parameters listed on the MAR. If insulin is to be administered, follow the steps below.**

- a. Acquire all necessary materials needed before going back into the person's room; acquire the person's insulin vial, a syringe, 2 alcohol wipes, and cotton wipe/gauze pad.
- b. Complete hand hygiene as stated in step #1 above.
- c. Clean the top of the insulin vial with an alcohol pad, allow to air dry.
- d. Draw up the insulin.
- e. Complete hand hygiene again.
- f. Don a new pair of gloves.
- g. Use the second alcohol wipe to clean the injection site, allow to air dry.
- h. After injection, use the cotton wipe/gauze pad to absorb any excess blood and stop bleeding if necessary.
- i. Dispose of the syringe in the sharps container.

**14. After removing gloves, perform hand hygiene.**

- a. Wash hands with soap and water for a minimum of 15 seconds; or,
- b. Use an alcohol-based hand sanitizer.

**15. Record the insulin units and site information on the paper or electronic MAR.**

**16. For each additional person's blood glucose checks, start with step number 2 and repeat down the list.**

**\*Note: Never** place the glucometer in a clothing pocket. Each person should have their own glucometer. If a glucometer is used with multiple people, it **MUST** be disinfected in between each person and allowed sufficient time to dry. The nurse **MUST** change all PPE (personal protective equipment) in between each person.

## **General Considerations for Glucometer Quality Control**

### **1. Facility Policy & Procedure Manual Glucometer Related Topics**

- a. Training and education of staff
- b. Competency and proficiency testing of staff
- c. Cleaning of the glucometer
- d. Infection prevention during glucometer use and in between each person
- e. Equipment quality control procedures
- f. Scheduled maintenance of the equipment

## **2. Guidelines on Care, Quality Control, and Inspection/Maintenance of the Glucometer**

- a. The glucometer must be cleaned with a compatible disinfectant according to the manufacturer's instructions. Attention must be paid to disinfection contact time (dwell time) required for each chemical.
- b. The control solution(s) must be used to check for the glucometer's accuracy. Be aware that some manufacturers have both a high control solution and a separate low control solution for glucometer testing. If this is the case, then both solutions will need to be used. Weekly control solution(s) checks are recommended. (Facility policy may state a different timeframe.) Additionally, the control solution(s) are recommended to be used when:
  - (1) It is suspected that the glucometer or the strips are showing inaccurate readings;
  - (2) Opening a new box of test strips;
  - (3) The cap is left off the test strip vial, (Note: follow manufacturer recommendations when this happens, some state to discard the entire vial if the cap is left off.);
  - (4) When the person's blood glucose is not consistent with their symptoms; and,
  - (5) When the glucometer is dropped.
- c. The glucometer must be stored in a designated location in between use.
- d. The glucometer must be periodically (at least annually) inspected for mechanical and structural issues, e.g.,
  - (1) Clouding of the display screen;
  - (2) Corrosion or erosion of the plastic housing or buttons;
  - (3) Cracking of the plastic housing; and,
  - (4) Malfunctioning of any meter button.

## **3. Guidelines on Care of the Test Strips and Control Solution**

- a. The correct test strips and control solution(s) must be used for the specific glucometer.
- b. The test strip vial caps are tightly closed with each use.
- c. The test strip vial and control solution(s) are dated when opened for the first time.
- d. The test strips and control solution(s) are discarded according to manufacturer's timeframe instructions for opened products.
- e. The glucometer is calibrated properly (if coding is needed per manufacturer's instructions) with each new vial of strips, and the control solution(s) are used to check the new vial of strips for accuracy.

## Resources

1. Centers for Disease Control and Prevention. [Guidelines for Environmental Infection Control in Health-Care Facilities \(2003\). Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee \(HICPAC\)](#). Updated July 2019. Part II Recommendations. E. Environmental Services. Accessed: October 25, 2023.
2. Centers for Disease Control and Prevention. [Hand Hygiene in Healthcare Settings: Show Me the Science](#). Accessed: October 25, 2023.
3. Centers for Disease Control and Prevention. [Infection Prevention during Blood Glucose Monitoring and Insulin Administration](#). Accessed: October 25, 2023.
4. Centers for Disease Control and Prevention. [CDC Clinical Reminder: Use of Fingertick Devices on More than One Person Poses Risk for Transmitting Bloodborne Pathogens](#). Accessed: October 25, 2023.
5. Centers for Disease Control and Prevention. [Frequently Asked Questions \(FAQs\) regarding Assisted Blood Glucose Monitoring and Insulin Administration](#). Accessed: October 25, 2023.
6. Lynn P. *Taylor's Clinical Nursing Skills*. (2023). (6th ed.). Chapter 18. Laboratory Specimen Collection. (pp. 1148-1151). Wolters Kluwer.