

Know more about Home-use Blood Glucose Meter

What is home-use blood glucose meter?

- Home-use blood glucose meter is a battery-powered portable in-vitro diagnostic medical device which is readily available in the market and can be bought without a doctor's prescription.
- The meter is used to measure the concentration of glucose in blood with a blood sample of the user.



What is the function of home-use blood glucose meter?

- Diabetic patients may use home-use blood glucose meter to self-monitor their blood glucose level. The results are useful in monitoring diabetic conditions, and helping patients modify their diets and physical activity levels, as well as adjusting medication dosage by the doctor.
- If diabetic patients can maintain their blood glucose levels within an acceptable range, the chance of having diabetic complications will be lowered.

How to operate home-use blood glucose meter?

- Before conducting a blood glucose test, read and understand the instructions for use of the blood glucose meter. In general, insert a disposable test strip into the device, then use a lancet to obtain a small drop of blood from the fingertip and apply it on the test strip for the blood glucose test.
- Owing to differences in the design of blood glucose meters, users should follow the instructions for use to operate the device.

What is the unit of blood glucose concentration?

- The blood glucose concentration is expressed in “millimoles per liter” (mmol/L) or “milligrams per deciliter” (mg/dL). The former is more commonly used in Hong Kong.
- Some home-use blood glucose meters allow users to change the unit of the blood glucose concentration. Hence, caution should be taken in reading the results to

avoid erroneous interpretation of blood glucose levels. Mismanagement of hypoglycemia or hyperglycemia may lead to acute diabetic complications including dehydration, loss of consciousness or even death.

Tips for choosing a home-use blood glucose meter

- Consult healthcare professionals before buying a blood glucose meter. Choose a suitable blood glucose meter according to its function, accuracy and ease of operation.
- Apart from the price of the blood glucose meter, also consider the total cost for testing including the availability and prices of consumables such as test strips, control solution and lancets.
- Check if the name and contact information of the agent are provided on the label of the blood glucose meter. Check that all accessories including the warranty card and instructions for use are available.
- Make sure the display screen is functioning well.
- Make sure the test strips supplied are compatible with the blood glucose meter.
- Patients with abnormal physiological conditions such as high bilirubin level, high lipid level, too high or too low haematocrit level, may affect the accuracy of blood glucose measurement. In case of doubt, consult healthcare professionals before buying a blood glucose meter.

Points to note before using a home-use blood glucose meter

- Read the instructions for use carefully, and follow the instructions in calibrating the blood glucose meter. Contact the agent if you have queries.
- Check the power supply regularly and replace the batteries when necessary.
- Check the expiry date of the test strips. Do not use expired or used test strips.
- Carry out a blood glucose test at the appropriate time as instructed by healthcare professionals (e.g. during fasting, before meals, 2-3 hours after meals or before sleep).
- Under certain environmental conditions (e.g. high relative humidity or low temperature), the blood glucose test result may be inaccurate. You are advised to add a remark in the record for blood glucose tests performed under these conditions for future reference.

Points to note when using a home-use blood glucose meter

Each time you turn on the blood glucose meter,

- Make sure the monitor displays the unit you are accustomed to.
- Verify that all display segments are present on the screen and be aware of error messages. If you have followed the recommendations in the instructions for use (e.g. replacing the battery) but the problem persists, stop using the meter and contact the agent immediately.



Each time you perform blood glucose test,

- Wash your hands thoroughly to avoid contamination of the blood sample.
- Insert the test strip completely into the meter guide and the meter will turn on. If a test strip is not fully inserted, the displayed blood glucose result may be inaccurate.
- Use a sterile lancet for blood sampling.
- Apply a right amount of blood to the test strip in accordance with the instructions for use. Insufficient or excessive blood amount will affect the accuracy of the measurement. Retest with a new test strip if necessary.
- Refer to the instructions for use and interpret the displayed blood glucose concentration, the unit, symbols or other messages carefully.
- Although most blood glucose meters are equipped with the memory function, the user still should record the result for future reference.
- If there is any doubt about the test result, use the control solution to test the device and repeat the measurement. Consult healthcare professionals as soon as possible if doubtful results persist.

Each time you change a new package of test strips,

- Set the code of the test strips at the meter prior to testing. Make sure the code number displayed on the blood glucose meter and the code number on the test strip vial are the same.
- Refer to the instructions for use to conduct the control solution test.

How to take care of my home-use blood glucose meter?

- Make sure you register with the agent to enjoy the after-sale service.
- Dispose the used lancets into a puncture-resistant container. Clean the device according to the instructions for use after the blood glucose test.
- Do not insert expired or used test strip into the blood glucose meter to avoid damage to the device.
- Keep the blood glucose meter, test strips and control solution away from extremes of temperature and relative humidity. The test strips must be stored in the original vial with the cap tightly closed. Avoid placing the test strips in another container.

Other recommendations and summary

- Home-use blood glucose meter is useful for self-monitoring the blood glucose level. However, users should not totally rely on the test results and ignore the importance of regular medical follow-up.
- Diabetic patients should have regular follow-up and blood checking as recommended by their healthcare provider.
- Consult healthcare professionals before sampling blood from sites other than the fingertip.
- Perform a quality control check as instructed by the instructions for use and repeat the measurement if you are in doubt about a test result. If the test results are persistently doubtful, contact your healthcare professionals immediately.
- Use the same blood glucose meter every time to minimise variation of the blood glucose results. Differences in the design, working principle and calibration method of different models of blood glucose meters may yield different test results.
- For more information on Diabetes Mellitus, please visit the webpage of “Let’s beat diabetes” on the website of the Centre for Health Protection (http://www.chp.gov.hk/en/view_content/43772.html).

Medical Device Control Office

Department of Health

February 2018