

# Blood glucose monitoring

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The purpose of this presentation is to demonstrate the correct procedure for blood glucose monitoring. Please note that meters do vary between Trusts. **It is essential to ensure you have had training on the specific meter before performing this skill.** It also important that you are aware of the 'normal' values, so that you are able to report any abnormalities.

The blood sugar level is the amount of glucose in the blood  
Expressed as millimoles per litre (mmol/l)  
Normal range for adults throughout the day is 4-7 mmol/l  
Usually higher after meals and lowest in the morning

- 4-7 mmol/l before meals
- <10 mmol/l 90 minutes after a meal
- Approx 8 mmol/l at bedtime

## Procedure



Explain the procedure, to gain consent and co-operation  
Ensure the patients hands are clean  
As a health care professional performing this procedure, you should also wash and dry your hands thoroughly and don a pair of gloves.

The patient's hands should be clean. If necessary, assist the patient with washing and drying of the finger / hand with warm water. This will encourage vasodilation of the blood vessels and facilitate the process. If there is any possibility that there may have been contact with substances such as fruit juice, the finger should be cleaned and dried before pricking. An alcohol swab should not be used as this may give a false reading.

# Blood glucose monitoring



Gather equipment and ensure it is in easy reach.

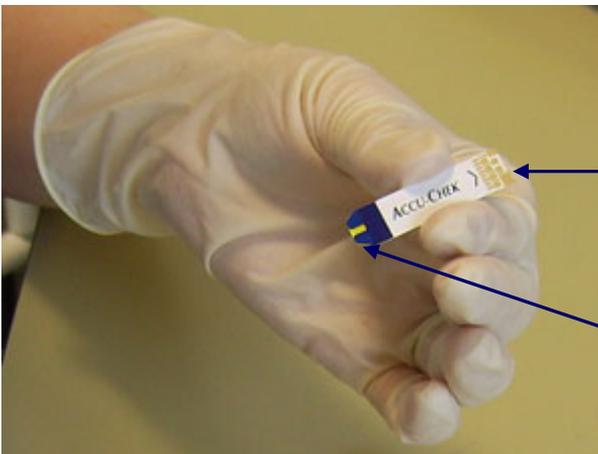
Equipment:

- Glucose Meter
- Finger – pricking device / lancet ( new lancets and platforms should be used for each test)
- Gauze swab / cotton-wood ball, according to local policy
- Blood glucose testing strips
- Sharps bin



Prepare the glucose meter and insert the testing strip according to the manufacturer's instructions

This usually involves checking that it has been calibrated for the particular batch of testing strips that are being used by ensuring the product code on the display matches the code on the testing strip container. Also check the expiry date on the test strips to ensure they are in date.



Testing Strip

Electrodes inserted into meter

Yellow testing window

# Blood glucose monitoring



Insert the test strip into the meter in the direction of the arrow.



Before pricking the patient's finger, hold the hand downwards to encourage blood flow, and make a light tourniquet with your hand around the finger to ensure a sufficient blood is present in the tip of the finger. Avoid 'milking' blood into the finger as the local blood composition may be disturbed by intermingling with tissue fluid. Taking time to encourage blood flow before pricking the finger will reduce the need for pricking again, which can be distressing for the patient.



Using the appropriate device, prick the side of the patient's fingertip, avoiding thumbs, index fingers, and little fingers where possible

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Apply a touch of blood to the test strip according to manufacturer's instructions. Some strips require blood to be added on top, and some require the blood to be applied on the end of the test strip (as shown).

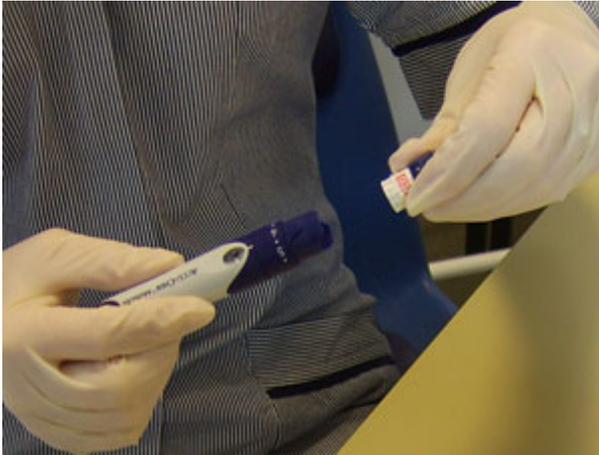


Ask the patient to press on the site, using the gauze swab / cotton wool ball, to stem bleeding and reduce the risk of bruising



Wait for the meter to provide a digital display of the result

# Blood glucose monitoring



Remove the lancet



Dispose of all sharps and contaminated waste in the appropriate containers

After the procedure:

- Ensure the patient is comfortable and that the bleeding has stopped.
- Return the equipment as appropriate.
- Remove gloves and wash hands.
- Document and report any abnormalities.

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## References

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