

Oxfordshire Children's Diabetes Service
Children's Hospital, Oxford
Horton General Hospital, Banbury

Blood Glucose and Ketone Checking

Why check blood glucose?

Managing diabetes well means keeping blood glucose levels as close to normal as possible. This means checking blood glucose levels at least 5 times a day, to make sure they are not too **high** or too **low**. Blood glucose levels before meals should be between **4 and 7mmol/l**.

Monitoring blood glucose provides information to balance insulin doses, food and exercise. This helps with the adjustment of insulin doses if blood glucose is too high or too low. It also helps with understanding what happens to blood glucose in certain situations/events.

Equipment needed for checking blood glucose

You will need...

- finger pricking device (lancer)
- lancet/drum
- blood glucose meter
- new glucose test strip (blue)
- sharps bin.

How to check blood glucose



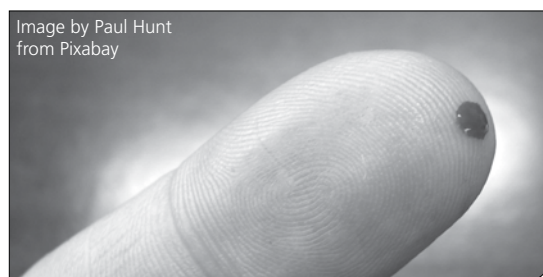
1. Wash hands using soap and water. They need to be **clean and dry**.



2. Load a new strip into the blood glucose meter.



3. Use the finger-pricking device to prick the **side** of the finger.
Use a different finger and side each time.



4. Wait a few seconds then massage the finger from its base to the top.
This helps bring blood to the surface.



5. When there is a drop of blood, place the finger at the **end** of the strip. It will suck up the blood. Wait for the result.
6. Use a new lancet every time. Change the drum after the 6th use. Place the used lancet in a sharps bin.

Top tips when doing a blood check

- Make sure the test strip has not expired.
- Avoid bending the strip when inserting it into the meter.
- Make sure the finger to be pricked is **clean, warm** and **dry**.
- Avoid pricking the tips or the fleshy pads of the fingers, as these areas are more painful.
- Alternate the finger and side that is used, to avoid the build-up of hard skin in a particular area.

When to test blood glucose levels

It is important to check blood glucose at least **five** times a day, usually at the following times:

- Before breakfast
- Before lunch
- Before tea/dinner
- Before bed
- Before a snack (at any time)

It should also be checked when feeling unwell or if feeling hypo (low blood glucose).

It is good to record all blood glucose results and insulin doses in a diary or log book. Look at the results in the report section on the meter or download the meter to Diasend once a week.

This helps with identifying patterns in blood glucose levels, allowing insulin doses to be adjusted to maintain good blood glucose levels.

It is helpful to also record any events (e.g. a party/sport) that could influence blood glucose levels and any adjustments made to insulin doses.

Ketone testing

If a child with diabetes feels ill or is being sick, it is important to test for ketones. If ketones are present, this means there is not enough insulin in their body and their body is breaking down fat. This may be because not enough insulin has been given, or because the body needs extra insulin when unwell with an infection.

Ketones are acids which can quickly make a child feel very unwell and possibly vomit. They can also feel breathless. If ketones are not got rid of, they may become extremely unwell, with vomiting and dehydration, and would need urgent hospital treatment. This is a condition called diabetic ketoacidosis or DKA.

The Optium Neo meter tests blood ketones with the purple strips.

- **Always test blood ketones when blood glucose is above 14mmol/l.**
- **Always test blood ketones when a child is vomiting or feels sick, even if their blood glucose level is in range or low.**

Contact the Children's Diabetes Team if the ketone level is over 1.0mmols/l (unless told otherwise).

If a child with diabetes is unwell, follow the sick day rules provided by the Children's Diabetes Team.

If you have any questions, please contact a Diabetes Specialist Nurse (see the contact sheet).

If you need an interpreter or would like this information leaflet in another format, such as Easy Read, large print, Braille, audio, electronically or another language, please speak to the department where you are being seen. You will find their contact details on your appointment letter.

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OXFORD HOSPITALS CHARITY (REGISTERED CHARITY NUMBER 1175809)



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