Blood glucose testing
for people with Type 2 Diabetes
(not on insulin)

I want to know more

- Quite a few people were advised to carry out self-monitoring of blood glucose levels in the past. Now that the Government advisory body, the National Institute for Health and Clinical Excellence (NICE) has reviewed any benefits and issued guidelines, it is more widely recognised that self-monitoring may not lead to better control of blood glucose levels if not used as an integral part of self-management education (CG66, CG87)

- NICE published updated Guidance in May 2009. Further information is available from NICE, 11 Strand, London, WC2N 5HR and www.nice.org.uk, Tel 0845 0037780

- People with type 2 diabetes may wish to discuss their monitoring requirements with their GP, Practice Nurse or Diabetes Nurse Specialist.

- If you require any further advice or information regarding your diabetes or blood glucose testing, please ask your local surgery for advice.

- It is important to keep your blood glucose levels under control. Please check with your practice nurse or GP if you don’t know how to arrange for your regular blood test or how often to have one done

Why is control of my diabetes important?

In the short term, most people with diabetes feel better and stay healthy when their blood glucose is around their agreed targets and in the medium term, good control will help you recover better from illness or fight infection.

Long term, good control will also help prevent the development of complications of diabetes such as:

- Heart attacks
- Stroke
- Blindness
- Foot ulcers
- Kidney damage
- Nerve damage

Good diabetes control means

HbA1c of preferably 48-58 mmol/mol (6.5 - 7.5%), indicates good control but may be higher depending on individual circumstances. The GP can advise you on your own target.

If self-monitoring, the following blood sugar levels are recommended:

- Blood sugars, 4-6mmol/l before meals
- Blood sugars, 2 hours after a meal, between 4-9mmol/l
- No ‘hypoglycaemia’ i.e. blood sugars less than 4mmol/l
- No symptoms of diabetes e.g. thirst, passing a lot of urine
- No glucose in the urine

How can I improve the control of my diabetes and my health?

As part of your diabetes careplan, find out more about:

- Healthy diet, i.e. eat fruit, vegetables, wholegrains, low fat dairy products and oily fish
- Healthy weight
- Keeping active and regular exercise
- Stopping smoking
- Take medication as advised

Further information can be found at: http://www.diabetes.org.uk/Guide-to-diabetes/Monitoring/Blood_glucose/

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How is Diabetes control assessed?

In diabetes there is too much of a sugar called glucose in the blood. This can also appear in the urine.

There are three ways to measure the glucose level:

- **HbA1c test** — by a blood sample taken from the vein
- **Home glucose testing meter using a finger-prick test**
- **Urine testing** — not routinely recommended as it is not accurate

What is the HbA1c Test?

This is a preferred way for your doctor or nurse to assess your blood glucose and control of your diabetes. It shows the average glucose level over the last 2 to 3 months. You should be offered advice, support and medication if you need it, to help you reach and stay at your HbA1c target. Any reduction in HbA1c is worthwhile for your health even if you don’t reach target. The test should be done as part of your regular check-up once or twice a year, but sometimes more often.

What about testing my own blood?

Finger-prick blood tests using your blood glucose meter show what your levels are at that moment. Monitoring and recording your own blood glucose levels (self-monitoring) should be discussed as part of your structured education programme, which will cover how to check and interpret your blood glucose and how to use the results. At least once a year, your doctor or nurse should check the way you are self-monitoring and using the results, and your equipment, so you can carry on getting accurate and helpful results.

However you do not need a lot of tests to get this information and not all patients will need to test their blood.

Your doctor/nurse/consultant will advise you when and how often you should be testing.

**If you test your blood**

It is important that you use the results of your tests to make changes where possible rather than just recording them in your book. Ask yourself ‘Why am I doing this test?’ ‘Will I be able to use this information to make changes to my diet or activity?’

**Self blood glucose monitoring may be necessary for:**

- Certain occupations, types of medications you take, lifestyle, if you operate machinery and whether you drive*

*Driving: If you drive and have diabetes, the DVLA has issued information on this and when you need to test your glucose levels if treated by certain diabetes medications.

Please see the following link for up to date information: [https://www.gov.uk/government/publications/at-a-glance](https://www.gov.uk/government/publications/at-a-glance)

**When and how often should I test blood glucose levels?**

If you are newly diagnosed on diet only, or diet and tablets your nurse or GP will advise you if you may benefit from testing your blood for an agreed period of time.

If you are taking tablets for your diabetes and are well controlled, as discussed and agreed with your GP/nurse, you should not need to test routinely.

If you are testing you should not need to test more than once or twice a week at different times of the day.

Regular blood glucose testing is recommended for patients on insulin, on medication which may cause hypoglycaemia, or to help assess glucose control where there have been changes in lifestyle, medication or illness.

**When should I test more often?**

There is normally no benefit from testing any more frequently than you have been advised.

However, you should test more often if:

- You are pregnant or if you are planning a pregnancy (but also seek specialist advice through your nurse/doctor)
- You feel unwell or are stressed
- Your medication has recently been changed
- Your normal activity or meal routine changes
- You are having symptoms with either high or low blood sugars
- You are started on steroid therapy
- You have a significant change in weight

In all of the above situations, a short, intensive period of testing at various times during the day, is beneficial.