

Oral Glucose Tolerance Test

Information and advice for patients

Clinical Biochemistry

What is an oral glucose tolerance test?

The oral glucose tolerance test (also known as a GTT or oGTT) is used to investigate if you have diabetes by assessing how your body responds to a dose of glucose (sugar) given as a drink.

Why do I need to have this test?

Your doctor will refer you for a glucose tolerance test if your symptoms, previous blood tests, family history or other related factors could indicate you have diabetes. If you are pregnant you may be asked to have a GTT to investigate gestational diabetes (diabetes of pregnancy).

What is the benefit of the test?

A GTT can help your doctor to diagnose if you have diabetes or a related condition which means you are at risk of developing diabetes in the future.

There are many health complications associated with diabetes and the right treatment can reduce or delay many of these problems. The correct treatment for gestational diabetes is important for the well-being of both mother and baby.

Are there any risks or side effects?

Most people do not experience any side effects.

Some people find it hard to drink all of the drink due to the sweet, sugary flavour and also because of the amount of drink. Drinking quickly may make you feel nauseous, but this usually passes quickly.

You may feel faint or dizzy before, during or after the test. This is almost always because you have not eaten. If you feel faint or dizzy before the end of the test, tell a member of staff who will help you.

Are there any alternative tests?

In some patients a diagnosis of diabetes can be made from a single fasting glucose, random glucose or HbA1c result. In others, samples for these tests taken on two separate occasions may be required.

In early diabetes you may not have symptoms, or your symptoms might not be confirmed by a high fasting glucose or raised HbA1c level. In this case your doctor will need more information about how well your body responds to glucose. A combination of a fasting or random glucose, HbA1c as well as the glucose tolerance test can be used to diagnose whether you have diabetes or are at risk of developing it in the future.

Oral Glucose Tolerance Test

Information and advice for patients

Clinical Biochemistry

What are the risks of not having the test?

If you don't not have the test, we cannot check if you have diabetes.

How is the test arranged?

The Clinical Biochemistry Department will make an appointment for you at the request of your doctor. A member of staff from either the biochemistry or phlebotomy departments will perform the test.

The test is done as an outpatient appointment at either City Hospital or Sandwell General Hospital. Please see your letter for information on where you need to go for the test.

It may be possible to book an appointment at your GP surgery or a local health centre where there is a phlebotomy service. If this is the case your GP will inform you.

What should I do to prepare for a GTT?

- You should eat normally for at least 3 days before the test (i.e. not dieting). If your doctor or dietician has prescribed you a special diet, you should discuss this with them.
- You must not eat or drink anything except water for 8 hours before the test. You can drink plain water any time before the test, but nothing else.
- If you take tablets or medicines, you can take these as usual, except for any medication that needs to be taken with food. You will need to discuss delaying this medication until after the GTT with your doctor.

Where do I go when I arrive for my appointment?

When you arrive for your appointment, please go to the blood test area and report to the reception desk. You will not have to take a ticket; a member of staff will call you through.

You will have to stay in the waiting area for 2 hours in between your blood samples being taken, so it is a good idea to bring something to do during this time. MP3 players, hand-held games etc are allowed providing they do not disturb other patients.

What will happen during the test?

1. A member of staff will check your personal details and answer any questions you have.
2. A sample of blood will be taken from your arm by a trained member of staff.
3. You will then be given a glucose drink. It is important that you drink this within 5 minutes of starting.
4. You will be asked to take a seat back in the waiting area and stay there for 2 hours. During this time you should remain seated as much as possible. You may drink plain water but you must not eat or smoke.

Oral Glucose Tolerance Test

Information and advice for patients

Clinical Biochemistry

5. After 2 hours a second blood sample will be taken from your arm. This completes the test and you will be able to go.

For the test to be accurate it is important that:

- The glucose drink is taken properly
- The blood samples are taken at the right times
- You do not eat before and during the test
- You rest during the test

After the test

After the test we recommend you eat something, especially if you intend to drive. Food is available to buy at the hospital or you can bring a snack with you. You can then continue with your normal activities and diet.

When will I get the results?

The results of the blood test will be reported back to your doctor within 1-3 working days. Your doctor may recall you to discuss the results or you may have been asked to phone the surgery to get the results. The laboratory cannot give the results directly to patients or members of their family.

Understanding the results

Your doctor will fully explain the results to you or refer you to a diabetes specialist. There are 4 main categories of diagnosis (see table below) depending on the level of glucose in your blood at the start (fasting) and end (2 hour) of the test.

Diagnosis	Glucose concentration (mmol/L)		
	Fasting sample		2 hour sample
Normal glucose control (Non-diabetic)	Less than 6.1	And	Less than 7.8
Diabetes Mellitus (DM) (Diabetic)	Greater than or equal to 7.0	And / Or	Greater than or equal to 11.1
Impaired Glucose Tolerance (IGT)	Less than 7.0	And	Between 7.8 and 11.0
Impaired Fasting Glycaemia	Between 6.1 and 6.9	And	Less than 7.8

Oral Glucose Tolerance Test

Information and advice for patients

Clinical Biochemistry

A brief description of each diagnosis is given below.

Normal glucose control: You do not have diabetes. Your glucose levels are well controlled.

Diabetes Mellitus (DM): Either the fasting or 2 hour result shows your blood glucose level is not properly controlled. Your doctor will explain the diagnosis to you and develop a treatment plan.

Impaired Glucose Tolerance (IGT) and Impaired fasting glycaemia (IFG): You do not have diabetes but your fasting blood glucose is higher than it should be. This is sometimes called pre-diabetes as it can indicate that your blood glucose levels are not controlled enough which can lead to diabetes. Your doctor will discuss with you lifestyle changes and treatments that will help delay or prevent the onset of full diabetes.

If you are diagnosed with gestational diabetes this usually resolves after your baby has been born. You may have to have another GTT at around 6 weeks after your baby is born to confirm this.

Further questions

If you have any questions about the procedure for the Glucose Tolerance Test, please ask the member of staff. If you have any further queries regarding the GTT or diabetes in general, please discuss them with your doctor or nurse.

Other sources of information

Diabetes UK

www.diabetes.org.uk

Lab Tests Online UK

www.labtestsonline.org.uk

NHS Choices

www.nhs.uk/Pathways/diabetes

How to contact us

Clinical Biochemistry Department

General laboratory call centre 0121 507 5162

Clinical Biochemistry Consultant's secretary 0121 507 5385

Monday – Friday, 9am –5pm

If you are unable to keep your appointment please telephone the above number as soon as possible so the appointment can be rearranged. If you do not attend your appointment, you will have to return to your doctor who will make another referral for you.

Oral Glucose Tolerance Test

Information and advice for patients

Clinical Biochemistry

Sources used for the information in this leaflet

- World Health Organisation, 'Use of Glycated Haemoglobin (HbA1c) in the diagnosis of Diabetes Mellitus', 2011
- World Health Organisation, 'Guidelines for the diagnosis of diabetes (type 2)'
- National Institute of Health and Care Excellence, PH35, 'Preventing type 2 diabetes: population and community level interventions', May 2011

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5495 or email: swb-tr.swbh-gm-patient-information@nhs.net



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