

CF Health Matters



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Impaired Glucose Tolerance

What is Impaired Glucose Tolerance?

Impaired Glucose Tolerance (IGT) means that the sugar is not being processed efficiently in the body and therefore the blood glucose (sugar) levels are higher than normal. This is measured by an oral glucose tolerance test (OGTT) which shows that 2 hours after having a sugary drink the blood sugars are above normal. These high blood sugar levels can occur even though the blood sugar is normal after not eating or fasting for 12 hours.

How did I develop Impaired Glucose Tolerance?

It is important to understand how sugar is used in the body in order to see how you developed IGT:

1. Food containing Carbohydrates (such as bread, pasta, fruit and juice) are broken down into sugar in your stomach.
2. This sugar goes to your blood.
3. Your pancreas makes a hormone called insulin. Insulin works like a key. It “unlocks” the doors to your tissue and muscles so sugar can move from the blood into them.
4. This sugar is then used by your tissues and muscles for energy.

IGT happens when . . .

A. Your pancreas is not able to make enough insulin to “unlock” the cell doors. Therefore, without enough insulin, sugar stays in your blood and cannot get into all of your tissues and muscles for energy; and/or

B. Your body won't respond to the insulin that is made by the pancreas. Therefore, the insulin is unable to “unlock” cell doors, so your pancreas has to make more and more insulin to do its job properly. This can also happen for a short time during periods of increased inflammation in your body (such as a chest infection).

Does this mean I will get diabetes?

About 40-50% of the adults and about up to 35% of children and adolescents >10-18 years of age with CF have impaired glucose tolerance which requires them to check their blood sugars regularly.

If you currently have IGT, it is possible you may develop diabetes in the future. You will be tested every year for diabetes with an OGTT, but earlier if diabetes-like

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By eating regular meals and snacks throughout the day, you give your body a constant source of fuel which helps maintain proper glucose levels.

symptoms develop (such as increased thirst, tiredness, or frequent urination). It is also possible you will develop IGT for a short period of time (i.e. when you are sick) and then have normal blood sugar readings again. Approximately 20% of adults and 5-8% of children aged 13-18 years of age with CF develop diabetes (high blood sugar levels after fasting) and require insulin to control their fasting blood sugar levels.

Do I have to monitor my blood sugar levels?

Yes. We will teach you how to use a blood glucose monitor to check your sugar levels at home. It is important to check that your blood sugar levels are normal because significant weight loss and a decrease in lung function have been shown to begin a few years before diabetes has been diagnosed. By monitoring your blood sugar levels regularly, we can catch and treat diabetes early on to prevent complications such as weight loss or decreased lung function.

How do I monitor my blood sugar levels?

A member of the CF team will teach you how to check your blood sugars at home by using a blood sugar monitor. As well, we will work with you to set-up a schedule so you will know when to regularly check your blood sugars during the day. It is important that you record all of your blood sugar readings and bring these and your monitor with you to clinic so that you can discuss the results with your healthcare team.

Do I have to follow a special diet?

No. You will still need to follow your usual high-calorie, high-fat diet (with no restrictions on carbohydrates or sugars) to help you achieve and maintain a healthy body weight. It is important however to eat regular meals and snacks throughout the day to have a constant fuel source for your body. Monitoring your blood sugars to make sure they are near normal levels and discussing these with your dietitian will help you to maintain your weight and stay healthy.

If I avoid foods that have lots of sugar, can I prevent diabetes from happening?

No, avoiding sugary foods won't make you less likely to develop diabetes or prevent you from getting IGT.

Is there anything else I can do?

It is important to be physically active. Regular exercise will help to move the sugar from your blood into your tissues and muscles to keep your blood sugar levels normal. Try to be active for at least 20-30 minutes three to five days a week.

If you have any questions about IGT, your Registered Dietitian, CF doctor, and the rest of the healthcare team are always here to help