

DIABETES MELLITUS

Not so Sweet

holding your hand through health

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What is diabetes?



Diabetes is a disease caused by the pancreas producing too little insulin, or where the body is unable to use the insulin correctly, or both.¹ This leads to high levels of sugar in the blood, which if left untreated, increases the risk of complications which may be disabling, or even life-threatening.²

The role of the pancreas and insulin in our bodies

The pancreas is an organ situated behind the stomach that produces insulin (a hormone) which helps the sugar (glucose) in the blood to enter into the cells of our bodies.¹ Our liver can store and release glucose and we also get glucose from the food we eat. If there's not enough glucose in our blood, our liver is able to release the stored glucose into the blood.² The pancreas will then release insulin into the bloodstream to help the glucose enter the cells. Once the glucose enters the cells, the glucose levels in the blood drop once again, which signals the pancreas to stop producing insulin.²

What happens to glucose in people suffering from diabetes?

If insulin is not working properly, or if there's not enough insulin, the glucose increases in our blood causing high blood sugar (hyperglycaemia) and our cells are left without any glucose.¹

Type 1 diabetes occurs when the insulin-producing cells in the pancreas are damaged and cannot produce enough, if any, insulin.¹

Type 2 diabetes occurs when the cells become resistant to the effect of insulin, and the pancreas cannot release enough insulin to have the desired effect.³

Why is it so important for our cells to have glucose?

Glucose is essential for the cells to function properly.³ It is the brain's main source of energy and an important source of energy for the cells that make up muscle and other tissues in our bodies.²

What's wrong with too much sugar in the blood?

Having high levels of sugar in the blood over a period of time leads to complications which will affect your health negatively and may be life-threatening.²

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If left untreated, diabetes may lead to the following complications:

Stroke:

Increased likelihood due to narrowing of arteries²

Eye disease (retinopathy):

Damage of the blood vessels in the eye, which may lead to blindness²

Risk of cataracts and glaucoma¹

Cardiovascular disease:

Increased blood pressure and likelihood of heart disease^{1,2}

Skin conditions:

Increased susceptibility to skin problems, including bacterial and fungal infections²

Kidney disease (nephropathy):

Damage to the filtering system in the kidneys may lead to kidney failure or end-stage kidney disease²

Nerve damage (neuropathy):

Damage to nerves due to excess sugar leads to loss of feeling in the hands and feet²

Foot damage:

Lack of proper blood flow to the feet, or nerve damage, increase the risk of various complications. Minor injuries, i.e. blisters or cuts, if left untreated, can develop serious infections, which become difficult to treat and may require amputation of toe, foot or leg²

Image adapted from www.istock.com 588271082

Other complications such as dental problems and hearing impairments are also associated with diabetes.^{1,2}

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How will I feel if I have too much sugar in my blood?

Diabetes is classified as a chronic progressive disease, which means that it develops slowly over a long period of time. For this reason, many people do not know that they even have diabetes.⁴ People with type 1 diabetes generally develop symptoms quicker than those with type 2 diabetes and the symptoms are usually more severe.² People with high blood sugar levels, but not yet high enough to be classified as diabetes, are said to have “prediabetes.” People with prediabetes and type 2 diabetes, may not experience any symptoms in the early stages of the disease.²

The most common symptoms of diabetes include:



Need to urinate frequently
(polyuria)³



Feeling thirsty
(polydipsia)³



Blurred vision³

Other symptoms include:

- Lethargy (tiredness)⁵
- Weight loss (usually type 1 diabetes)⁵
- Increased hunger¹
- Slow healing of sores¹
- Yeast infections (usually causes itching in groin or vaginal area)¹

Am I at risk of developing diabetes?

People with type 1 diabetes develop antibodies, or “soldiers”, which attack their own cells that produce insulin. This disease is normally inherited from a parent and diagnosed from a young age, but may occur at any age.⁵

There are certain factors that increase your risk of developing type 2 diabetes:

- ✓ Physical inactivity⁶
- ✓ Family history of diabetes⁶
- ✓ Belonging to a certain ethnic group (African, Asian, Hispanic descent)^{3,6}
- ✓ History of cardiovascular disease (heart disease)⁶
- ✓ Obesity (excessive fat, especially around the abdominal area)⁶
- ✓ Hypertension (high blood pressure)⁶
- ✓ High cholesterol (abnormal amount of fats in the blood)³
- ✓ Previously having diabetes in pregnancy (gestational diabetes)⁶
- ✓ Polycystic ovary syndrome⁶

Also, having prediabetes, (higher than normal sugar levels in the blood), increases your risk of developing type 2 diabetes by 50%.^{3,7}

The risk of developing type 2 diabetes increases with age, especially if overweight or obese.⁴ However, nowadays it is commonly diagnosed in younger age groups and even in children.^{5,8}

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How will I know if I have diabetes?



A blood test is necessary in order to diagnose diabetes.³

Various blood tests are available and a diagnosis is made by the doctor based on symptoms and the results of one or more of these blood tests.³

Random blood sugar test*

A random blood sugar test of 11.1 mmol/L or higher, together with any symptoms of diabetes, suggests diabetes.³

Simplest of the blood tests, that may be taken at any time of day, regardless of when and what you last had to eat.^{3,8}

This is the preferred method for diagnosing diabetes.¹ You will be required to fast (not eat or drink anything), usually overnight, for 8 to 12 hours before having a blood sample taken.^{2,3}

Fasting blood sugar test*

Haemoglobin A1C test*

This test measures your average blood sugar levels over the past 2 to 3 months.^{1,3} The test may be done at any time of day and regardless of when or what you last ate or drank.³

This test requires fasting overnight and then having your blood glucose levels measured. Thereafter, you will need to drink a sugary solution and your blood levels will be tested periodically over the next couple of hours.^{2,3}

Oral glucose tolerance test*

*Depending on which blood test your doctor uses, whether or not you have any symptoms and the results of the blood test, your doctor may need to repeat the test on a different day to confirm a diagnosis.³

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Who should be tested for diabetes?

People experiencing any symptoms of diabetes²

Those **45 years of age or older**, regardless of whether the person has any risk factors for diabetes⁶

Overweight or obese individuals, with one or more risk factors for diabetes⁹

Obese children from 10 years of age with two or more risk factors for diabetes (children who are very obese should be tested for diabetes from 10 years of age, regardless of the presence of any other risk factors)⁶

Time is of the essence! Your risk of developing complications from diabetes is higher the longer your blood sugar levels are out of control.²



If blood glucose tests are normal (<5.6 mmol/L for fasting blood glucose), the tests should be repeated every 3 years.⁹

How is diabetes managed or treated?

If you are diagnosed with diabetes, your doctor will take into account your medical history and develop a treatment plan that best suits you. The ideal treatment plan will stabilise your blood sugar levels, with minimal side-effects, to prevent the complications of diabetes.^{2,3,5}

Lifestyle changes are the mainstay of all management plans for diabetes mellitus.² Following a healthy diet, losing weight (if overweight), increasing physical activity and stopping smoking all help in the management of diabetes.^{5,9}



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Educate yourself and try to learn as much as possible about your disease. You will be shown how to monitor your blood sugar levels at home.¹ People diagnosed with type 1 diabetes will require insulin injections, as this is life-saving treatment.² Together with lifestyle modifications, type 2 diabetics may be prescribed medication on its own, or combined with other oral and injectable medications, including insulin, in order to manage blood sugar levels.^{2,6}

Take your medication everyday as prescribed to effectively control your blood sugar levels. Always discuss any concerns you may have regarding your medicines with your doctor or healthcare professional.¹⁰

Adverse effects from blood sugar levels being too high (hyperglycaemia), or too low (hypoglycaemia) may be minimised by properly controlling blood sugar levels.⁵ As blood sugar levels can fluctuate for many reasons, e.g. due to medications, illness, food, etc., it is very important to learn how to manage these fluctuations.² Monitor blood glucose levels and be aware of the signs and symptoms of hyper- or hypoglycaemia, as these symptoms need to be corrected immediately.²

Reduce your risk of developing complications from diabetes by ensuring that any other risk factors, such as hypertension and high cholesterol, are properly managed and treated.⁵ Keep appointments with your doctor and other healthcare providers, take all prescribed medication as directed by your doctor, and maintain a healthy lifestyle.^{1,3}

Note: Any problems, such as eye, foot and teeth problems, see your doctor immediately in order to prevent any further complications.^{2,5}

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DIABETES: YOU HOLD THE KEYS

Diabetes mellitus cannot be cured, but it can be controlled and treated.¹

Early diagnosis, lifestyle modifications and treatment are the keys to preventing long term complications arising from diabetes mellitus.⁴

Choose to:¹⁰

- Eat healthy foods
- Do more exercise
- Lose weight, if you are overweight
- Stop smoking
- Avoid or reduce your alcohol intake

Healthy lifestyle choices from today will have a positive impact on your general health and lower your risks of developing complications from diabetes tomorrow.¹⁰

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