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What is diabetes?



Dr Michael Mosley is putting type 2 diabetes under the spotlight this October in his new series, and so are we. Here's everything you need to know about the condition that's been called the biggest epidemic of the 21st century.

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Diabetes is the fastest growing chronic condition [in the world, including Australia](#), with one Australian developing it [every five minutes](#). Disturbingly, it's also a condition that can easily sneak under the radar. Why? Well, in type 2 diabetes, many people have [no symptoms](#) at all, and for some people, complications such as vision problems, a foot ulcer or heart attack [can be the first sign](#). Similarly, [pre-diabetes](#) (a condition in which blood glucose levels are higher than normal, but not high enough to be full-blown diabetes) has no signs or symptoms, making it tricky to detect. Even type 1 diabetes, once dubbed 'juvenile diabetes', can develop at any age, and new research suggests [almost half of people who develop it are diagnosed over the age of 30](#). No surprises then, that diabetes has been dubbed 'the silent pandemic'.

All of this means that even if you don't think you're at risk, it's still important to empower yourself with the key facts about what diabetes is, who's at risk and how it's diagnosed. This October, doctor, journalist and change-maker Dr Michael Mosley is on a mission to tackle the most common and fastest growing form of this disease, type 2 diabetes, by guiding eight brave participants through a healthy lifestyle overhaul, in his new show *Australia's Health Revolution*.

So what is diabetes, what's the difference between the types of diabetes, and what are the warning signs?

What exactly is diabetes?

Even if you're relatively new to diabetes, you've probably heard that it's to do with out-of-whack blood sugar levels. You're on the right track – the World Health Organisation [defines](#) it as “a chronic, metabolic disease characterised by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to the heart, blood vessels, eyes, kidneys and nerves.” What you may not know is that it isn't just one disease – there are actually three different types of diabetes: type 1, type 2 and gestational diabetes, plus pre-diabetes.

The most common form, affecting 85–90% of people with diabetes, is [type 2](#). In type 2 diabetes, there is too much glucose (sugar) circulating in the bloodstream. There are two main issues here, either or both of which can be at play: firstly, the pancreas has lost the capacity to produce enough insulin (a hormone that shuttles glucose from the bloodstream into your cells, where it can be used for energy), and secondly, the body has become resistant to the normal effects of insulin.

Less prevalent, and affecting about 10–15% of people living with diabetes, is [type 1](#). This is an autoimmune condition that occurs when the pancreas can't produce insulin, typically because the immune system has been activated to destroy the beta cells in the pancreas that make insulin.

The third type of diabetes, [gestational](#), occurs during pregnancy (usually around week 24–28), and is thought to affect [around 16%](#) of pregnancies in Australia.

'Borderline diabetes': a rundown of pre-diabetes

In pre-diabetes, a person's blood glucose levels are higher than normal, but not high enough to be diagnosed as diabetes. While not officially diabetes, pre-diabetes is still a major concern, and can signal that the long-term damage of diabetes (particularly to the heart, blood vessels and kidneys) may already be under way. The good news is that research shows that in up to 58% of cases, eating well, exercising and losing excess weight [can prevent pre-diabetes from developing into type 2 diabetes](#). Without these changes, [approximately one in three people](#) with pre-diabetes will end up with type 2 diabetes.

How can you tell if you're diabetic and who's at risk?

Not everyone with type 2 diabetes will experience symptoms, and they may appear slowly over time, however [signs to look out for](#) include: excessive thirst; passing more urine; feeling tired and lethargic; always feeling hungry; sores or cuts that heal slowly; itching, skin infections; blurred vision; gradual weight gain; mood swings; headaches; dizziness and leg cramps.

Some diabetes [risk factors](#) [also [here](#)] are out of our control: family history of diabetes, being older (over 55), having polycystic ovary syndrome and having particular ethnic backgrounds such as Aboriginal, Torres Strait Islander, Pacific Islander, Indian subcontinent, South Asian, Middle Eastern or Chinese all increase the risk of type 2 diabetes. Some risk factors, however, [are modifiable](#), including being overweight, being inactive, having high blood pressure and storing excess fat in the abdominal region. That said, it's important to note that people of a healthy weight can still develop type 2 diabetes.

[Type 1 diabetes](#) (while having similar symptoms to type 2) is not linked to lifestyle factors, and cannot be prevented. It's thought that genetics and exposure to viruses and other environmental factors are [possible](#) causes.

How is diabetes diagnosed?

Diabetes is diagnosed by measuring either glucose or HbA1c in the blood. For the former, there are two different tests that your GP may recommend: a blood glucose test, which can be done either as a fasting or non-fasting test, with blood being taken from a vein and sent to a pathology lab; or an oral glucose tolerance test (OGTT) which is a more time-consuming test done at a pathology lab. For the OGTT test you fast, have a blood sample taken, are given a sugary drink, then have a number of blood samples taken over a few hours, to measure how you respond to glucose.

The HbA1c test is also a blood test, but doesn't require fasting. It reflects your average blood glucose level over the past 10–12 weeks. HbA1c stands for glycated haemoglobin, and the amount that is detected directly relates to how much glucose is in your blood: if blood glucose levels are high, HbA1c levels will be elevated too.

Pre-diabetes can similarly be diagnosed with either a fasting or non-fasting blood glucose test, an OGTT test or an HbA1c test.

A snapshot of diabetes in Australia

More than 1.2 million Australians are known to be living with diabetes, and many don't know it:

- 330 Australians develop diabetes every day. That's one person every four and a half minutes.
- Almost 1.4 million Australians have been diagnosed with some form of diabetes, and it's estimated that up to a further 500,000 Australians have silent, undiagnosed type 2 diabetes.
- Type 2 diabetes is more common than type 1 diabetes, with 4.7% of Australians, or 1.2 million people, having type 2 diabetes compared with around 127,000 people (0.5%) with type 1 diabetes in 2020–21.
- Pre-diabetes affects nearly 1 in 6 Australian adults (more than 2 million individuals) over the age of 25.
- Gestational diabetes is on the rise, affecting around 1 in 7 pregnant women.
- Diabetes is the seventh most common cause of death by disease in Australia.

This story contains general information only. Consult your doctor or medical professional for advice that is suited to your circumstances. If you need assistance with your diet or for dietary advice, always consult a GP, endocrinologist, diabetes educator or Accredited Practising Dietitian.

The new landmark series *Australia's Health Revolution with Dr Michael Mosley* premieres Wednesday 13 October at 7.30pm on SBS and SBS On Demand.

<https://www.sbs.com.au/guide/article/2021/10/05/what-diabetes>