CONDITION

Type 2 diabetes

Type 2 diabetes is a long-term condition that causes blood glucose levels to become too high.

WHAT IT IS
Long-term condition causing high blood glucose

BODY SYSTEM
Hormones, heart and circulation, kidneys, nerves, and eyes

MAIN SYMPTOMS
Thirst, frequent urination, tiredness, blurred vision

WHAT CAUSES IT
Insulin resistance with genetic and environmental influences

HOW IT IS DIAGNOSED
HbA1c, fasting glucose, or glucose tolerance testing

MAIN TREATMENT
Lifestyle support, glucose-lowering medicines, and health monitoring

CAN IT BE CURED?
Sometimes - remission is possible but can reverse

IS IT AN EMERGENCY?
Sometimes - confusion, vomiting, or breathing difficulty

LONG-TERM OUTLOOK
Often manageable, with risks reduced by ongoing care

Overview

Type 2 diabetes is a long-term condition in which the amount of glucose, or sugar, in your blood becomes too high. Glucose is an important source of energy. A hormone called insulin helps move it from your blood into your cells.

With type 2 diabetes, your body becomes less sensitive to insulin. This is called insulin resistance. Over time, the pancreas may also stop making enough insulin to keep blood glucose within a healthy range.

High blood glucose may not make you feel unwell at first. If it continues for months or years, however, it can damage blood vessels and nerves. This raises the risk of heart, kidney, eye, and foot problems.

Treatment can lower blood glucose and reduce these risks. It may include changes to eating and physical activity, medicines, weight-management support, and regular health checks. Type 2 diabetes is not a personal failure, and it is not caused simply by eating too much sugar.

Symptoms

Type 2 diabetes often develops gradually. Some people have no obvious symptoms and learn they have it through a blood test.

Possible symptoms include:

These symptoms can have many causes. A blood test is needed to find out whether diabetes is responsible.

Very high blood glucose can cause dehydration, severe weakness, confusion, vomiting, or difficulty staying awake. These symptoms need urgent assessment.

- feeling unusually thirsty
- urinating more often, especially at night
- tiredness
- blurred vision
- cuts or sores that heal slowly
- repeated infections, such as thrush
- tingling or reduced feeling in the feet or hands
- losing weight without trying

Causes and risk factors

Type 2 diabetes develops through a combination of genetic and environmental factors. Insulin resistance is central to the condition, but the reasons it develops are complex.

Your chance of developing type 2 diabetes may be higher if you:

Weight is only one factor. People in smaller bodies can develop type 2 diabetes, while many people with obesity never do. Social and economic conditions can also affect access to nutritious food, safe places to exercise, sleep, and healthcare.

Some medicines and hormone conditions can raise blood glucose. Your healthcare team may consider these possibilities when making a diagnosis.

- have a parent or sibling with the condition
- have overweight or obesity, especially around the waist
- are physically inactive
- are older, although younger people can also develop it
- have had gestational diabetes during pregnancy
- have polycystic ovary syndrome
- have high blood pressure or unhealthy cholesterol levels
- have prediabetes, meaning blood glucose is above normal but below the diabetes range
- are from a population with a higher underlying risk, including some South Asian, Black, African-Caribbean, Hispanic, Indigenous, or Pacific Islander communities

Diagnosis

Type 2 diabetes is confirmed with blood testing. Tests commonly used include:

Results in the diabetes range include an HbA1c of 6.5% or higher, a fasting plasma glucose of 126 mg/dL or higher, or a two-hour glucose tolerance result of 200 mg/dL or higher. Laboratories may also report glucose in mmol/L.

If you do not have clear symptoms, an abnormal result is usually confirmed with a repeat test or a second type of test. This helps avoid diagnosing diabetes from a single result affected by temporary illness or laboratory variation.

HbA1c may be unreliable during pregnancy or in people with certain blood disorders, recent major blood loss, or some forms of anemia. Another glucose test may be more suitable in these situations.

Your assessment may also include blood pressure, cholesterol, kidney tests, weight, and a review of medicines and family history.

- HbA1c: estimates your average blood glucose over about two to three months
- Fasting plasma glucose: measures glucose after you have not eaten overnight
- Oral glucose tolerance test: measures how your body handles a glucose drink
- Random plasma glucose: may confirm diabetes when glucose is high and classic symptoms are present

Treatment and management

Treatment aims to keep blood glucose in a safer range and protect your heart, blood vessels, kidneys, eyes, nerves, and feet. The right approach is based on your health, priorities, other conditions, and risk of medicine side effects.

Eating patterns that provide enough nutrients and limit highly processed foods can help. There is no single required "diabetes diet." Meals often focus on vegetables, whole grains, beans, fruit, protein foods, and unsaturated fats. Carbohydrates raise blood glucose, but they do not usually need to be removed completely. A dietitian can help you find an approach that fits your culture, budget, and routine.

Regular physical activity improves insulin sensitivity. This can include walking, cycling, swimming, strength exercises, or other movement you can do safely. Starting gradually may be more realistic than making sudden changes.

For some people, losing weight improves blood glucose and may lead to remission. Weight-focused care should be supportive rather than judgmental. Medicines or metabolic surgery may be considered for some people when appropriate.

Many people need glucose-lowering medicine. Options include:

Some medicines also help protect the heart or kidneys. These benefits may influence treatment choices even when blood glucose is close to its target. Insulin may be needed at diagnosis if glucose is very high, during illness or pregnancy, or later if other treatments are no longer enough.

Monitoring may include HbA1c tests, blood pressure and cholesterol checks, kidney tests, eye screening, and foot examinations. Some people check glucose at home with a finger-prick meter or continuous glucose monitor. Not everyone needs daily testing.

Stopping smoking, getting recommended vaccinations, caring for your teeth, and treating blood pressure and cholesterol also reduce health risks.

- Metformin , which reduces glucose release by the liver and improves insulin sensitivity
- SGLT2 inhibitors , which help the kidneys remove more glucose in urine
- GLP-1 receptor agonists and related medicines, which affect appetite, digestion, and insulin release
- Other tablets , including medicines that increase insulin release or change how glucose is processed
- Insulin , which replaces or adds to the insulin your body makes

Complications

High blood glucose can gradually damage small and large blood vessels. Possible long-term complications include:

These complications are not inevitable. Blood glucose management, regular screening, and control of blood pressure and cholesterol can lower the risk or detect problems early.

Some treatments can cause hypoglycemia , meaning blood glucose is too low. This is more common with insulin and certain tablets. Symptoms may include sweating, shaking, hunger, dizziness, irritability, or confusion. Your healthcare team can explain whether your treatment carries this risk and how to manage it.

A rare but serious complication is hyperosmolar hyperglycemic state , or HHS. It involves extremely high blood glucose and severe dehydration. Diabetic ketoacidosis, another dangerous complication, is more common in type 1 diabetes but can also occur in type 2.

- heart attack, stroke, and circulation problems
- kidney damage
- diabetic retinopathy, which affects the light-sensitive tissue in the eye
- nerve damage, causing pain, tingling, or loss of feeling
- foot ulcers and infections
- dental and gum problems
- sexual difficulties
- an increased risk of some infections

Prevention

Type 2 diabetes cannot always be prevented. Age, family history, genetics, previous gestational diabetes, and some health conditions cannot be changed.

For people at increased risk, regular activity, a balanced eating pattern, and modest weight loss when appropriate can delay or prevent some cases. Structured diabetes prevention programs may provide practical support.

Regular testing may be advised if you have risk factors. Finding prediabetes does not mean you will definitely develop diabetes, but it creates an opportunity to reduce risk and monitor for changes.

There is no supplement or single food proven to prevent type 2 diabetes. Avoiding stigma is

also important: developing the condition does not mean you failed to prevent it.

Living with it and what to expect

Type 2 diabetes usually needs lifelong attention, but its course is not fixed. Blood glucose can change as your body, health, medicines, activity, and circumstances change. Treatment that works now may need adjustment later.

Some people reach remission , meaning blood glucose stays below the diabetes range without glucose-lowering medicine for a period of time. Remission is not considered a permanent cure. Blood glucose can rise again, so ongoing checks remain important.

Daily life may involve planning meals, taking medicine, attending health reviews, and sometimes checking glucose. These tasks often become more familiar with time. Emotional strain, frustration, or diabetes-related burnout can occur and deserves support.

Most people can continue working, travelling, exercising, driving, and taking part in family life. Extra planning may be needed around illness, fasting, pregnancy, shift work, or travel. Regular follow-up helps adapt treatment before problems become more serious.

When to get medical help

Arrange a routine appointment if you have ongoing thirst, frequent urination, unexplained tiredness, blurred vision, repeated infections, or slow-healing wounds. You should also seek a review if home glucose readings are repeatedly outside the range agreed with your healthcare team.

Prompt medical advice is important if you have:

Seek emergency help for severe confusion, collapse, seizures, difficulty breathing, inability to stay awake, or signs of severe dehydration. These may indicate dangerously high or low blood glucose or another serious problem.

If low blood glucose causes unconsciousness, the person should not be given food or drink by mouth. Emergency assistance is needed.

- a new foot blister, cut, ulcer, swelling, or colour change
- worsening numbness or pain in your feet
- repeated low blood glucose episodes
- vomiting or diarrhea that affects eating, drinking, or medicine use

- persistently high glucose while unwell
- sudden changes in vision

Common questions

Can type 2 diabetes go away?

Some people achieve remission, especially after substantial, sustained weight loss. Remission means blood glucose remains below the diabetes range without glucose-lowering medicine for a period. It can reverse, so continued monitoring is needed.

Did eating sugar cause my diabetes?

Not by itself. Type 2 diabetes results from insulin resistance and reduced insulin production, influenced by genetics, body fat distribution, activity, age, health conditions, and environmental factors. Sugary foods can contribute to excess calorie intake and weight gain, but they are not the sole cause.

Will I need insulin?

Not everyone needs insulin. Some people manage with lifestyle changes and non-insulin medicines. Others need insulin temporarily or long term. Needing insulin does not mean you have failed; it can reflect the natural change in insulin production over time.

Can I still eat carbohydrates?

Yes. Carbohydrates are found in foods such as bread, rice, potatoes, beans, fruit, and milk. Portion size, type of carbohydrate, and what you eat with it can affect blood glucose. Whole, fibre-rich foods usually raise glucose more slowly than highly refined options.

How often should I check my blood glucose?

This is based on your medicines, glucose levels, pregnancy status, and risk of hypoglycemia. People taking insulin often need more frequent information than those using medicines that rarely cause low glucose. HbA1c testing is used to follow longer-term control.

Is type 2 diabetes serious?

It can cause significant complications, especially when blood glucose, blood pressure, or cholesterol remain high. Good treatment and regular screening can substantially reduce these risks. Many people live active lives while managing the condition.

Sources

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