CONDITION

Diabetes

Diabetes is a long-term condition in which blood glucose stays too high because of problems with insulin.

WHAT IT IS
Chronic condition causing persistently high blood glucose

BODY SYSTEM
Hormones and metabolism, affecting blood vessels, nerves, and organs

MAIN SYMPTOMS
Increased thirst, frequent urination, tiredness, unexplained weight loss

WHAT CAUSES IT
Too little insulin or reduced response to insulin

HOW IT IS DIAGNOSED
A1C, fasting glucose, random glucose, or glucose tolerance testing

MAIN TREATMENT
Monitoring, healthy habits, glucose-lowering medicines, and insulin

CAN IT BE CURED?
Sometimes - type 2 remission can occur

IS IT AN EMERGENCY?
Sometimes - severe hypoglycemia or diabetic ketoacidosis symptoms

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

Overview

Diabetes is a group of long-term conditions that cause too much glucose to remain in the blood. Glucose is an important source of energy, but it usually needs a hormone called insulin to move from the blood into cells.

The pancreas makes insulin. In diabetes, it may make little or no insulin, or the body may not respond to insulin properly. High blood glucose can gradually damage blood vessels, nerves, eyes, kidneys, and other organs.

The main types are:

Prediabetes means blood glucose is elevated but does not meet the criteria for diabetes. It raises the chance of type 2 diabetes, although progression is not inevitable.

- Type 1 diabetes: the immune system destroys insulin-producing cells. Daily insulin is needed for survival.
- Type 2 diabetes: the body becomes less responsive to insulin and may gradually make less of it.
- Gestational diabetes: high blood glucose first diagnosed during pregnancy. It often improves after birth but raises future type 2 diabetes risk.
- Other types: diabetes can result from genetic changes, pancreatic conditions, hormone disorders, or certain medicines.

Symptoms

Diabetes may cause no obvious symptoms, especially when type 2 diabetes develops gradually. Possible symptoms include:

Type 1 diabetes can develop over days or weeks. Type 2 diabetes often develops more slowly.

Very high glucose can cause nausea, vomiting, stomach pain, deep or rapid breathing, dehydration, confusion, or fruity-smelling breath. These may indicate diabetic ketoacidosis, or DKA, which is most common in type 1 diabetes but can affect other types.

Low blood glucose, or hypoglycemia, can occur with insulin or certain diabetes medicines. Symptoms include sweating, shaking, hunger, dizziness, irritability, confusion, or a fast heartbeat. Severe hypoglycemia can cause seizures or unconsciousness.

- Unusual thirst
- Frequent urination, including at night
- Tiredness or weakness
- Blurred vision
- Unexplained weight loss
- Increased hunger
- Slow-healing cuts or sores
- Frequent yeast or skin infections
- Tingling, burning, or numbness in the hands or feet

Causes and risk factors

Type 1 diabetes is an autoimmune condition in which the immune system attacks insulin-producing cells. Genes affect risk, but it is not caused by eating sugar or by personal choices. The trigger is usually unknown.

Type 2 diabetes involves insulin resistance and reduced insulin production. Associated factors include family history, increasing age, prediabetes, previous gestational diabetes, some ethnic backgrounds, physical inactivity, sleep problems, polycystic ovary syndrome, and certain medicines. Excess body fat, particularly around the abdomen, can raise risk, but diabetes can occur at any body size.

Gestational diabetes develops when pregnancy hormones reduce insulin's effectiveness and the pancreas cannot produce enough additional insulin. It can occur without known risk factors.

Chronic pancreatitis, pancreatic surgery, steroid medicines, and some other conditions or treatments can also cause diabetes or raise blood glucose.

Diagnosis

Diabetes is confirmed with blood tests. Home glucose meters and wearable sensors may identify concerning readings but are not normally used alone for diagnosis.

Tests include:

For most nonpregnant adults, diabetes is diagnosed with an A1C of at least 6.5%, fasting glucose of at least 126 mg/dL (7.0 mmol/L), or a two-hour glucose level of at least 200 mg/dL (11.1 mmol/L) during an oral glucose tolerance test. Random glucose of at least 200 mg/dL may confirm diabetes with typical symptoms or a hyperglycemic crisis.

Unless symptoms and high glucose make the diagnosis clear, an abnormal result is usually confirmed by repeat testing. Pregnancy uses different methods and thresholds.

Tests for type 1-related antibodies and C-peptide, which reflects insulin production, may help identify the type and guide treatment.

- A1C: estimates average glucose over about two to three months
- Fasting plasma glucose: measures glucose after at least eight hours without food
- Oral glucose tolerance test: measures the response to 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 glucose in a safe range and protect the heart, kidneys, eyes, nerves, and quality of life. Targets depend on diabetes type, medicines, age, other conditions, and hypoglycemia risk.

People with type 1 diabetes need insulin every day through injections or a pump. Glucose may be checked by finger-stick testing, a continuous glucose monitor, or both. Understanding how food, activity, illness, and insulin affect glucose is essential.

Type 2 treatment may include changes in eating patterns, activity, sleep, and weight management. Tablets, injectable medicines, or insulin may be needed. Some medicines also protect the heart or kidneys. Needing insulin does not mean that treatment has failed.

Medicines commonly used for type 2 diabetes include alogliptin , liraglutide , metformin and sitagliptin . Which one suits you, if any, is a decision for you and your doctor.

Gestational diabetes is managed with glucose monitoring, nutrition support, and appropriate physical activity. Insulin or other treatment may be needed if glucose remains above the pregnancy target.

Ongoing care may include A1C testing, blood pressure and cholesterol management, kidney tests, dilated eye examinations, and foot checks. Vaccinations, dental care, and avoiding smoking also matter.

Anyone using insulin or medicine that can cause hypoglycemia should receive instructions for recognizing and treating low glucose. Do not stop or change medicines without medical advice, even if readings improve.

Complications

Complications are not inevitable. Managing glucose, blood pressure, and cholesterol can lower risk.

Over time, diabetes may damage small blood vessels, causing diabetic retinopathy, kidney impairment, or nerve damage. Nerve and circulation problems can make foot injuries harder to notice and slower to heal.

Diabetes also increases the risk of heart attack, stroke, narrowed arteries, digestive or bladder problems, sexual difficulties, gum disease, and some infections.

Acute complications include severe hypoglycemia, DKA, and hyperosmolar hyperglycemic state, or HHS. HHS causes extreme glucose levels and severe dehydration, usually in type 2 diabetes. DKA and HHS require emergency treatment.

During pregnancy, poorly controlled diabetes can affect both the pregnant person and baby. Care before conception and throughout pregnancy reduces many risks.

Prevention

Type 1 diabetes cannot currently be prevented through food, exercise, or other routine lifestyle measures.

Not every case of type 2 diabetes can be prevented, but regular activity, a sustainable eating pattern, and weight loss when appropriate may reduce risk or delay diagnosis. Addressing sleep, smoking, blood pressure, and cholesterol supports overall health but does not guarantee prevention.

People with prediabetes, previous gestational diabetes, or other strong risk factors should have regular glucose testing. Some people at high risk may be offered preventive medicine.

Gestational diabetes cannot always be prevented. Entering pregnancy at a healthy weight when possible and remaining active may reduce risk, but its development is not anyone's fault.

Living with it and what to expect

Diabetes usually requires lifelong attention, but management often becomes more familiar. Glucose can change with meals, activity, stress, sleep, illness, hormones, travel, and medicines. Unexpected readings are information, not a moral judgment.

Type 1 diabetes remains dependent on insulin. Continuous glucose monitors, pumps, and automated insulin-delivery systems can reduce some of the workload, although access and suitability vary.

Type 2 diabetes may remain stable, improve, or require additional treatment as insulin production declines. Some people achieve remission, meaning glucose remains below the diabetes range without glucose-lowering medicine for a period. Remission is not a permanent cure because high glucose can return.

Gestational diabetes often resolves after delivery. Post-pregnancy testing remains important because type 2 diabetes may persist or develop later.

Most people can work, exercise, travel, drive, and take part in usual activities. Extra planning may be needed for fasting, shift work, illness, travel, or pregnancy. Regular reviews help detect complications and adjust care.

When to get medical help

Arrange a routine appointment for persistent thirst, frequent urination, unexplained weight loss, blurred vision, recurrent infections, or slow-healing wounds. Testing is also appropriate if you have risk factors without symptoms.

If you have diabetes, contact your care team promptly if readings are repeatedly outside your agreed range, hypoglycemia becomes more frequent, you are vomiting, or you cannot keep fluids down. New numbness or a foot blister, broken skin, redness, swelling, or warmth also needs timely assessment.

Seek emergency help for:

Do not give food or drink to an unconscious person because they could choke. Use prescribed emergency hypoglycemia treatment if available and you are trained to use it, and call emergency services.

- Severe breathing difficulty, confusion, collapse, or loss of consciousness
- A seizure or hypoglycemia that cannot be treated safely
- Suspected DKA, including vomiting, stomach pain, deep breathing, dehydration, or fruity-smelling breath
- Very high glucose with marked thirst, weakness, drowsiness, or confusion
- Symptoms of a heart attack or stroke

Common questions

Did eating too much sugar cause my diabetes?

Sugar does not cause type 1 diabetes. Type 2 diabetes develops through genetic, metabolic, and environmental factors. Sugary foods and drinks may contribute to excess calorie intake and weight gain, which can raise risk, but they are not the only cause.

Can diabetes go away?

Type 1 diabetes requires ongoing insulin. Type 2 diabetes can sometimes enter remission, particularly after substantial, sustained weight loss or metabolic surgery, but glucose can rise again, so follow-up remains necessary. Gestational diabetes often resolves after birth, although future diabetes risk stays higher.

Can I eat carbohydrates if I have diabetes?

Yes. Carbohydrates raise glucose but do not usually need to be avoided completely. Portion

size, timing, fibre content, insulin, and other medicines affect the response. A registered dietitian can help develop a suitable eating pattern.

Do I need insulin if I have type 2 diabetes?

Not everyone does. Some people manage with healthy habits and non-insulin medicines. Others need insulin temporarily or long term, including during illness, pregnancy, or reduced pancreatic insulin production. Insulin is a treatment tool, not evidence of failure.

What is a normal blood glucose level?

Targets vary with pregnancy, age, illness, medicines, and hypoglycemia risk. Diagnostic thresholds also differ from personal treatment targets. Follow the range agreed with your care team.

Can I drive if I have diabetes?

Many people with diabetes drive safely. Hypoglycemia is the main concern for those using insulin or certain medicines. Check local licensing rules, monitor glucose as advised, carry fast-acting carbohydrate, and do not drive when glucose is low or symptoms impair concentration.

Sources

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