

# What is type 1 diabetes?

Diabetes is a condition where the body is unable to control the level of glucose in the blood. In type 1 diabetes, the glucose level is managed by eating well, physical activity and insulin therapy.

## What causes type 1 diabetes?

In type 1 diabetes, the immune system - which normally fights harmful infections - mistakes healthy insulin-producing cells, called beta cells, as harmful and destroys them. This abnormal autoimmune response can occur over many months or years and results in damaged beta cells that make little or no insulin. The lack of insulin causes high blood glucose (hyperglycaemia).

There are factors that increase risk of type 1 diabetes and these are:

- > family history/genetics
- > diabetes-related autoantibodies
- > geography
- > race/ethnicity
- > age.

Environmental factors, such as the exposure to certain viruses and foods early in life, might also trigger the autoimmune response.

The exact cause of type 1 diabetes is unknown and at this time, there is no cure but researchers are actively searching for one.

## Why is glucose and insulin important?

The body needs a certain amount of blood glucose. Glucose comes from the carbohydrate foods and fluids (eg breads and cereals, fruits and starchy vegetables, milk and yoghurt). After digestion, glucose is moved around the body in the blood stream.

Insulin is a hormone produced by the beta cells in the pancreas. As glucose enters the blood, the pancreas normally releases just the right amount of insulin. Insulin allows the body to use the glucose for energy or to store it for future use.

## What are the symptoms of type 1 diabetes?

Symptoms of high blood glucose do not usually occur until more than 90 percent of the beta cells have been destroyed. Most people who develop type 1 diabetes have moderate to severe symptoms and these may include:

- > extreme weakness and/or tiredness
- > extreme thirst or dehydration
- > passing large amounts of urine frequently\
- > abdominal pain
- > nausea and/or vomiting
- > blurred vision
- > moderate to extreme weight loss (without trying).



## How is it managed?

Eating well, being physically active and maintaining a healthy weight is just as important for people with type 1 diabetes as it is for everyone else. However, because the damaged beta cells make little or no insulin, insulin is required for survival. Type 1 diabetes is managed best with intensive insulin therapy eg 4-6 injections of insulin each day or by wearing an insulin pump to deliver continuous insulin via a cannula.

There are a number of self-care activities that people with type 1 diabetes will need to learn. Some of these include:

- > how to give insulin and how to adjust the insulin doses (eg for food and physical activity)
- > testing blood glucose levels
- > testing blood ketone levels
- > what to do if the blood glucose goes too high (Sick Day Action Plan)
- > what to do if the blood glucose level goes too low (Hypoglycaemia Action Plan).

## Who can be part of your health care team?

- > A local doctor who provides medical advice and helps you navigate the health system.
- > A credentialled diabetes educator and dietitian with training in type 1 diabetes will assist with self-care education and day to day management.
- > An endocrinologist or physician with additional training in diabetes to provide specialist medical advice.
- > Specialists such as ophthalmologist, podiatrist, exercise physiologist, dentist or psychologist.

## Questions to ask my health care professional

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## Key points to remember

- > Type 1 diabetes is an autoimmune disease and is not caused by lifestyle factors.
- > There are services and support for you, ask your doctor for a referral to the diabetes service.
- > Regular visits to an endocrinologist or physician and a credentialled diabetes educator will help you learn about diabetes and the best management options for you.

## Where can I go for more information?

Juvenile Diabetes Research Foundation

[www.jdrf.org.au](http://www.jdrf.org.au)

Diabetes Australia

[www.diabetesaustralia.com.au](http://www.diabetesaustralia.com.au)

Reality Check

[www.realitycheck.org.au](http://www.realitycheck.org.au)

Dietitian Association of Australia

[www.daa.asn.au](http://www.daa.asn.au)

## For more information

**Diabetes Service**

**Rural Support Service**

PO Box 287, Rundle Mall

ADELAIDE SA 5000

Telephone: (08) 8226 7168

[www.chsa-diabetes.org.au](http://www.chsa-diabetes.org.au)

