



FACT SHEET:

Understanding pre-diabetes

Pre-diabetes is a condition in which blood glucose levels are too high, but not high enough to be diagnosed as diabetes.

Pre-diabetes has no signs or symptoms. This makes it challenging to diagnose. It is a risk factor for developing type 2 diabetes and cardiovascular diseases, such as heart disease and stroke. Sixteen out of 100 of adults in Australia have pre-diabetes.

Who is at risk of pre-diabetes?

Pre-diabetes usually occurs in adults, but younger people can also develop this condition. Risk factors for pre-diabetes are the same as those for type 2 diabetes. These include:

- having a family history of type 2 diabetes or pre-diabetes
- being above the healthy weight range
- having an inactive lifestyle
- having high blood pressure
- having high blood fats such as cholesterol and triglycerides
- having little or poor sleep

- being from an Aboriginal or Torres Strait Islander background
- being from a Pacific Islander, South Asian, Middle Eastern or North African background
- having gestational diabetes during pregnancy
- having polycystic ovary syndrome
- taking steroids or other medications that can cause high blood glucose levels.

People who have pre-diabetes can delay and, in some cases, prevent developing type 2 diabetes by following a healthy lifestyle. This includes regular physical activity, making healthy food choices and maintaining a healthy weight.

How is pre-diabetes diagnosed?

To diagnose pre-diabetes, your doctor or diabetes nurse practitioner will send you to have your blood glucose levels checked at a pathology lab.

Three blood tests that can be used:

A fasting blood glucose or a non-fasting random blood glucose

This involves having blood taken from a vein in your arm. This test may be done by fasting (after nothing to eat or drink for at least eight hours) or non-fasting. If the test shows your blood glucose levels are above the target range - but not high enough to be diagnosed as diabetes - you will need further testing.

A glycosylated haemoglobin (HbA1c)

This involves having blood taken from a vein in your arm. You do not need to fast. Your doctor or diabetes nurse practitioner will determine if your results are above the target range but not high enough to diagnose diabetes. Your doctor or diabetes nurse practitioner will decide if you need further testing.

An oral glucose tolerance test (OGTT)

You will have a fasting blood glucose test first. You will then be given a sugary drink and have your blood checked again two hours later. The results from the OGTT will show whether your blood glucose levels are in the normal, pre-diabetes or diabetes range.

If you have pre-diabetes, you will have one or both of the following conditions:

Impaired fasting glucose. This is when your fasting blood glucose level is higher than target levels, but not high enough to be diagnosed as diabetes.

Impaired glucose tolerance. This is when your blood glucose level is higher than the target range two hours after an OGTT. But it is not high enough to be diagnosed as diabetes. Your fasting blood glucose level may still be within target.

How is pre-diabetes managed?

Pre-diabetes is managed by making healthy lifestyle changes to reduce the risk of developing type 2 diabetes and heart disease.

Weight loss

If you are above the healthy weight range, losing as little as 5 to 10% of your weight can help lower blood glucose levels. For example, if your weight is 100 kg, try to lose 5 to 10 kg. Weight loss can reduce your risk of developing diabetes and other conditions such as heart disease.

Regular physical activity

Being active can help you manage your weight and reduce your blood glucose levels. It can also help manage other risk factors such as blood pressure and cholesterol levels. Aim to do at least 30 minutes of 'moderate intensity' physical activity, such as brisk walking or swimming, every day.

- Include some resistance training, such as body weight exercises like squats or lunges, or light weights twice a week. This builds and improves the way your muscles work.
- Reduce and break up sitting time. Get up and move around every 30 minutes.
- An exercise physiologist can help you develop an exercise plan and show you how to exercise safely.
- Always talk to your doctor before starting any new type of physical activity.

Healthy eating

Choose a wide variety of foods including fruit, vegetables, legumes, less processed wholegrains, lean meats no more than 2-3 times per week, poultry, fish, eggs, tofu, and low-fat dairy foods. Include high-fibre, low-glycemic index (GI) carbohydrate foods. To manage your weight, it is important to reduce your total energy (kilojoule) intake. Limiting saturated fat can also help your body's insulin work better and keep blood fats in the target range.

A dietitian can help by recommending the best food choices for weight loss and for reducing your risk of developing type 2 diabetes.

Blood pressure and blood fats

It is important to keep these in the target range that your doctor recommends. Ask your doctor or diabetes nurse practitioner how often you need to have your blood pressure and blood fats checked.

No smoking

Smoking also increases your risk of developing type 2 diabetes and heart disease. If you smoke, try to quit. Some people find this challenging. Ask for help if you feel you cannot give up smoking on your own. Talk to your doctor or call the Quitline on **137 848**.

You or your health professional can use the Australian Type 2 Diabetes Risk Assessment Tool, or AUSDRISK tool, to find out your risk of developing type 2 diabetes in the next five years. If you have pre-diabetes, it is important to have an annual health check, including screening for type 2 diabetes.

Making healthy lifestyle changes can prevent, or delay, developing type 2 diabetes.



More information and support

- Go to ndss.com.au to search for the 'Understanding type 2 diabetes', 'Making healthy food choice', 'Understanding food labels', 'Physical activity', 'Glycemic index' and other fact sheets.
- Go to healthdirect.gov.au to find a dietitian and exercise physiologist near you or search for:
 - » a dietitian at dietitiansaustralia.org.au
 - » an exercise physiologist at essa.org.au/find-aep.
- Go to diabetesaustralia.com.au/risk-calculator or health.gov.au/resources/apps-and-tools/the-australian-type-2-diabetes-risk-assessment-tool-ausdrisk to check your risk of getting type 2 diabetes.





Top tips

- Check your risk of getting type 2 diabetes with the AUSDRISK tool at diabetesaustralia.com.au/risk-calculator or at health.gov.au/resources/apps-and-tools/the-australian-type-2-diabetes-risk-assessment-tool-ausdrisk.
- Prevent or delay getting pre-diabetes and type 2 diabetes by making healthy food choices and maintaining a healthy weight.
- Talk to a dietitian to help you work out a healthy eating plan that suits your needs and food preferences.
- Ask an exercise physiologist to develop an exercise plan and show you how to exercise safely.

Notes



The NDSS and you

Whether you have just been diagnosed with diabetes, or have been living with diabetes for a while, the NDSS provides a range of support services, information, and subsidised products to help you manage your diabetes, stay healthy and live well. For access to more resources (including translated versions), or to find out more about support services, go to ndss.com.au or call the NDSS Helpline on **1800 637 700**.

This information is intended as a guide only. It should not replace individual medical advice and if you have any concerns about your health or further questions, you should contact your health professional.