

# *pre-diabetes* YOU CAN TURN IT AROUND

**The simple lifestyle changes that can reverse pre-diabetes and keep you healthy for life.**

A staggering 1.7 million Australians are estimated to have pre-diabetes, the condition that can lead to type 2 diabetes. The good news? It is possible to turn pre-diabetes around with some key diet and lifestyle changes. *HFG* dietitian Zoe Wilson investigates.

**T**he statistics are sobering. Here in Australia, an estimated 1.5 million people are currently living with diabetes – about half of whom don't know it. And around 275 of us develop diabetes every day.


What you may not know is that there is a condition called pre-diabetes, which – if diagnosed and managed with some key diet and lifestyle changes – can be prevented from developing into type 2 diabetes. Additionally, those same changes can help in the management of type 2 diabetes.

Read on to find out how to improve your odds of beating pre-diabetes and how to make the lifestyle and diet changes that can help manage the disease.

## THE RISE OF PRE-DIABETES are you at risk?

In the past few years, pre-diabetes has come into the spotlight due to a combination of the rising incidence of obesity and greater awareness of type 2 diabetes, leading to more frequent testing.

Pre-diabetes is the umbrella term for the conditions Impaired Fasting Glucose (IFG) and Impaired Glucose Tolerance (IGT). It occurs when Blood Glucose Levels (BGLs) are higher than normal, but not high enough to diagnose as diabetes. While awareness is on the rise, many people with pre-diabetes are undiagnosed and those that are, are often only diagnosed by accident during a routine blood test. Symptoms are not always obvious, so if you have two or more of the risk factors listed on p32, see your doctor about being tested.

A staggering 1.7 million Australians are estimated to have pre-diabetes (16.4 per cent of all Australians over 25 years old) and research has shown that of those people with pre-diabetes, there is a 50 per cent 



## What is diabetes?

Diabetes occurs when the amount of sugar (glucose) in your blood is too high because the hormone insulin is not present, or doesn't work as well as it should. Over time, a high blood glucose level (BGL) can lead to other complications such as heart and kidney disease, nerve damage and blindness. Therefore, it is important to get your blood glucose levels under control through diet and exercise, and/or medication.

There are two main types of diabetes: type 1, which mainly occurs in childhood; and type 2, which is caused by both genetic and lifestyle factors. Type 2 is by far the most common type of the disease.

## Type 1 diabetes

Type 1 diabetes is an autoimmune disease where the pancreas is attacked by the body and can't produce enough insulin to control blood sugar levels. It usually develops in childhood and accounts for about 10–15% of diabetics. Symptoms appear suddenly and include excessive thirst and urination, weight loss, fatigue, weakness, muscle cramps, blurred vision and slow healing of cuts. Type 1 diabetes requires life-long daily insulin injections, and there is presently no cure or prevention.

## Type 2 diabetes

Type 2 diabetes occurs when the insulin made by your pancreas doesn't work as well as it should, resulting in more glucose (sugar) in the blood than normal. In Australia, 85–90% of diabetics have type 2 diabetes. In the majority of cases, type 2 diabetes can be prevented, delayed, improved and even put into remission with a healthy diet, active lifestyle, weight loss and careful management.

## Gestational diabetes

Gestational diabetes affects 3–8% of women and is diagnosed when higher than normal BGLs appear for the first time during pregnancy. See [www.diabetesaustralia.com.au](http://www.diabetesaustralia.com.au) for more information.



chance it will develop into type 2 diabetes within 5–10 years. However, the US Diabetes Prevention Program study and similar studies in Finland, Japan and India have shown that reducing your weight by only 6 per cent through lifestyle changes can decrease your risk of developing type 2 diabetes by up to 60 per cent.

## DIAGNOSING PRE-DIABETES AND DIABETES

If you are experiencing any of the symptoms listed below, or have two or more of the risk factors (right) you should see your doctor. It's important not to ignore the symptoms, or try to manage them yourself without being diagnosed. It's as simple as asking your GP to check your BGLs as part of your general blood tests the next time you have a check up, or requesting a quick finger-prick test. If the results of either of these tests warrant further investigation, your GP will recommend an Oral Glucose Tolerance Test (OGTT) to confirm if you have pre-diabetes or diabetes. These conditions won't go away on their own, and the earlier you seek help, the quicker you can start to manage them.

The table below illustrates the blood glucose levels that determine whether you have pre-diabetes or diabetes. Diabetes can be diagnosed with a high fasting BGL or a random BGL, if symptoms are present. You may also be diagnosed if you have no symptoms and two abnormal BGLs (as above) on separate days.

## symptoms to look for

- Excessive thirst and urination
- Tiredness and lethargy
- Increased appetite and gradually putting on weight
- Slow-healing cuts, itching and skin infections
- Blurred vision, headaches, dizziness and mood swings.

	NORMAL	PRE-DIABETES	DIABETES
Fasting blood glucose level (mmol/L)	less than 6.0	less than 7.0 (impaired fasting glucose)	more than 7.0
Blood glucose level 2 hours after taking 75g glucose (mmol/L)	less than 7.8	between 7.8 & 11.0 (impaired tolerance)	11.1 or more

## WHAT PUTS YOU AT RISK OF PRE-DIABETES OR TYPE 2 DIABETES?

- A family history of type 2 diabetes and/or heart disease
- Being overweight or obese (waist greater than 80cm for women and greater than 94cm for men)
- Being physically inactive
- High cholesterol
- High blood pressure
- Smoking

To find out more about your risk, go to [www.diabetesrisk.org.au](http://www.diabetesrisk.org.au)



## MANAGING PRE-DIABETES AND TYPE 2 DIABETES

Lack of exercise and being overweight are two major causes of pre- and type 2 diabetes in Australia. The two most important measures to take if you have been diagnosed with either condition are increasing your level of activity and making changes to your diet to reduce your weight. You also need to keep your cholesterol and blood pressure under control, and if you smoke, it's important to quit. This quick guide will help you make the diet and lifestyle changes that will make a big difference to your health.

### Food choices

Follow the '¼ – ¼ – ½' plate rule. A quarter of your plate should contain high fibre, lower GI carbohydrates (breads, cereals, rice, pasta and legumes), another quarter should be lean protein, and half the plate should consist of vegetables or salad.

**Vegetables:** Each type of vegetable has different nutrients in it – so it is very important to choose a variety of vegetables (the more colours, the better!). Just remember that starchy vegetables (potato, sweet potato and corn) are actually included in the carbohydrate portion of the plate. See our guide to what counts as a serve of vegies on p28.

**Lean protein:** When purchasing meat, stay away from the cuts where you can see the fat marbled through the meat. Before you cook, trim any fat off (otherwise it will soak through the meat) and remember to include oily fish three times a week. Vegetarian options such as beans, lentils, tofu or meat substitutes are inherently lean (unless cooked in fat) and are a great option a few nights a week, even for meat-eaters.

**Carbohydrates:** Choose lower GI carbohydrates in small amounts. Head of Research at the Australian Diabetes Council and Chief Scientific Officer at the



Glycemic Index Foundation, Dr Alan Barclay, says "Numerous large studies have shown that a low GI diet helps lower the risk of developing type 2 diabetes and control BGLs in those that already have the disease". A review co-authored by Dr Barclay found the risk of type 2 diabetes was lowered by a massive 40 per cent with a diet of low GI carbohydrates when compared to a diet containing high GI carbohydrates.

His top tips are: "Be active, and lower your energy intake by eating less energy-dense foods. Eating less fat, but more fibre, and choosing low GI carbohydrates will help you do this while keeping you full".



### General food & drink guidelines:

- Eat regular meals and snacks throughout the day.
- Go for two serves of fruit and five serves of vegetables every day.
- Choose lean meat, fish, poultry or meat alternatives.
- Include three serves of low-fat dairy – dairy is low GI, and research has shown that every extra serving of dairy a day reduced the risk of type 2 diabetes by nine per cent, especially when it was reduced-fat.
- Stay away from takeaway foods, biscuits, cakes and pastries – they're high in fat (especially saturated fat)
- Eat only moderate amounts of added sugar.
- Drink plenty of water – aim for 1.5L–2L each day.
- Choose foods low in salt.
- If you choose to drink alcohol, have no more than two standard alcoholic drinks a day with at least two days off per week.

**How you eat is as important as what you eat:** Diabetes Dietitian at Concord Repatriation General Hospital, Leanne Gregory, suggests: "Make over your pantry, fridge and freezer so you have better choices available; use smaller bowls and plates so you eat less; close the kitchen door so you can only eat at certain times of the day; eat only whilst sitting at the dinner table, and turn off the TV so you're not distracted!" Most importantly, eat slowly (allow yourself 20–30 minutes for a meal) and ask yourself, "Am I really hungry?" before you reach for a second helping.



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### Get moving

We've heard it before – exercising regularly helps to control weight, lowers blood pressure and reduces stress and your risk of heart disease. But did you know that exercise also improves your body's response to insulin, and can be as effective as medication at preventing pre-diabetes from developing into type 2 diabetes? The NHMRC recommends 30 minutes per day at a moderate level (this doesn't have to be all in one session).

Exercise Physiologist Juliette Ramsay says, "Talk with your GP before you start, wear proper shoes, start slowly and build up to 30 minutes of exercise, with bouts of higher intensity. Pick something you enjoy and set mini-challenges for yourself so you stick with it".

### Medication

If your diabetes is not controlled well enough with lifestyle changes alone, your doctor may prescribe oral medications that improve insulin action, increase insulin production or reduce glucose absorption from food. If your type 2 diabetes progresses, your doctor may prescribe insulin injections.

### Surgery

Finally, if improving your diet, exercising more and taking medication aren't helping your condition, you could talk to your doctor about surgical options. This year, the International Diabetes Foundation endorsed weight loss surgery as an effective treatment for type 2 diabetes. Dr Garrett Smith, a Clinical Associate Professor of Surgery at University of Sydney and surgeon at North Shore Weight Loss Surgery says: "Weight loss surgery has been shown in a number of trials to be the most effective treatment of type 2 diabetes in overweight patients." However, it's important to discuss all available treatments with your doctor in order to make an informed decision regarding whether to opt for surgery.



### FOR FURTHER INFORMATION AND SUPPORT

Support groups and courses are available through Diabetes Australia.

See [www.diabeteslife.org.au](http://www.diabeteslife.org.au) for more info.

### Other things to do...

#### IF YOU HAVE PRE-DIABETES:

- Having an OGTT (Oral Glucose Tolerance Test) annually will help monitor improvements or progression to type 2 diabetes.

#### IF YOU HAVE DIABETES:

- Regularly checking your BGLs at home using a glucometer will help your doctor work out the best treatment for you (make sure you keep a record!). Your doctor or diabetes educator will teach you how and when to test.
- HbA1c is a long-term measure of your BGLs and should be taken every 3–6 months. [hfg](#)