



PREVENTING DIABETES

LIFESTYLE CHANGES IS ALL IT TAKES

Type 2 diabetes is Australia's fastest growing chronic disease – but, as **Kate Marsh** explains, lifestyle changes can greatly reduce our risk



Accredited practising dietitian
Kate Marsh is a credentialled diabetes educator. For article references, see page 95 or www.healthyfoodguide.com.au.

DIABETES IS ONE of the fastest growing diseases in the world. Right now almost 250 million people worldwide are affected and this is expected to increase to 380 million by the year 2025. In Australia it is estimated one in four adults has either diabetes or pre-diabetes. So is it possible for us to turn this around?

The answer is yes! And making a few small changes to our daily habits is all we need to do to help turn the tide on diabetes.

Before we start, though, it is important to realise there are two main types of diabetes, type 1 and type 2, and when we talk about preventing diabetes

through lifestyle changes, we are talking about type 2 only. Type 1 is an autoimmune disorder and while there is much research going into finding a way to prevent this condition, that's a whole other story!

PROOF IS IN THE RESEARCH...

Because type 2 diabetes is a lifestyle disease that is more common in people who are overweight and inactive, it makes sense diet and exercise might help to prevent this condition from occurring in the first place. Well, we now have proof that this is the case and the benefits are significant.

Two large studies, one in the USA and another in Finland, have shown people who are at high risk of developing type 2 diabetes (they already have impaired glucose tolerance or "pre-diabetes") can reduce their risk of diabetes by 58 per cent through lifestyle changes. That means you can more than halve your risk of developing diabetes just by improving your eating habits, walking regularly and losing a few kilograms.

Of note, the US study found lifestyle changes were twice as effective as medication in preventing diabetes. And even if you already have diabetes, making these changes will help you to manage your condition, may delay or reduce your need for medication, and can help to reduce the long-term complications of the condition.

THE SIX STEPS

It's easy to put off making changes until the time is right but for many people that time never comes. These six steps are so straightforward, you can put at least one into action today, another tomorrow, and the rest by the end of the month.

1. Get moving.
2. Improve your eating habits.
3. Lose that belly.
4. Don't smoke. If you do, quit.
5. Limit your alcohol intake.
6. Get enough sleep.

Now, read up on the two types of diabetes and pre-diabetes, then turn the page and start taking steps to prevent it!

What is diabetes?

Diabetes is a condition where there is too much glucose (or sugar) in the bloodstream. When we consume carbohydrates (starchy and sugary foods) our body breaks them down into glucose (the body's main energy source), which enters the bloodstream. Insulin (a hormone produced by the pancreas) is needed for the absorption of glucose by the body's cells. Diabetes occurs when the body does not produce insulin or when the insulin that is produced does not work effectively.

The difference between types 1 & 2

Type 1 diabetes is an autoimmune disorder that occurs when the body's immune system destroys the insulin-producing cells in the pancreas. This means that a person with type 1 diabetes does not produce any insulin and insulin must be given through regular injections. Type 1 diabetes represents 10–15 per cent of all cases of diabetes and is more commonly diagnosed in children and young adults, but can occur at any age.

Type 2 diabetes occurs when the body's insulin is unable to work properly (a problem called insulin resistance) and/or when the body cannot produce enough insulin to maintain normal blood glucose levels. The risk is higher in people who are overweight and inactive, and diet and exercise are the first line of treatment. But most people with type 2 diabetes will need oral medications and possibly insulin over time.

Type 2 diabetes is by far the most common form of diabetes, affecting 85 to 90 per cent of all people with diabetes and is more often diagnosed in older adults but, due to our increasing rates of obesity, young children are now also developing this condition.

What's pre-diabetes?

Pre-diabetes is a condition where the blood glucose levels are higher than normal but not high enough for a diagnosis of diabetes. It is also known as impaired glucose tolerance (IGT). Without any treatment, pre-diabetes is likely to develop into type 2 diabetes within five to 10 years, but with lifestyle changes you can reduce the chances of this occurring by 58 per cent.

1 GET MOVING

Many studies have now shown regular exercise can significantly reduce diabetes risk, independent of weight. In fact, a recent review of the literature by researchers from the Harvard School of Public Health found that compared to those who were sedentary, people who regularly participated in moderate intensity physical activity had a 31 per cent reduction in risk of type 2 diabetes. And those who walked for at least 2.5 hours each week had a 30 per cent lower chance of developing diabetes than those who did almost no walking.

Reducing sedentary activity is important, too. Two recent Australian studies have linked TV watching and other sedentary activities with a higher risk of raised blood glucose levels. So spend more time moving by:

- taking the stairs instead of the lift or walk up the escalator;
- walking with the kids to school instead of driving;
- parking the car at the far end of the carpark when you go shopping;
- kicking a ball around with the kids rather than sitting in front of the TV;
- getting off the train or bus a stop or two earlier and walking the rest of the way;
- playing music and putting some energy into the housework;
- getting a pedometer and aiming to take at least 10,000 steps each day.

We all have 1440 minutes every day... you only need to schedule 30 of them for physical activity.



The only way regular formal exercise happens is if you schedule it in – be creative, particularly if you lack time and motivation. Aim for at least 30 minutes of exercise on at least five days of the week. There are plenty of ways to achieve this:

- meet a friend for a walk on the beach rather than sitting down with them for a coffee (and snack!);
- organise to walk a few mornings per week with a neighbour – you are much less likely to stay under the covers if someone's waiting for you;
- have a hit of tennis with your partner on the weekend;
- buy or hire a treadmill to walk on while watching the daily TV news;
- lift some weights in the ad breaks during your favourite TV show;
- take up dancing lessons with your partner or a friend;
- if time is really an issue, try exercise in two lots of 15-minute intervals or three lots of 10-minute intervals – you will still reap the benefits.

A WEEK'S WORTH OF MODERATE EXERCISE

Monday: early morning walk with neighbour – 30 minutes.

Tuesday: light weights program in front of evening news – 30 minutes.

Wednesday: lunchtime walk and ride exercise bike after work – 30 minutes.

Thursday: walk the dog after work – 45 minutes.

Friday: hit of tennis with family after work – 40 minutes.

Saturday: walk around oval at kids' soccer game – 30 minutes.

Sunday: walk to shops to get newspaper – 40 minutes.

Glycemic Index explained

Glycemic Index (GI) is the scientifically proven way of describing how the carbohydrates in foods affect our blood glucose levels.

- **High GI foods** are those in which the carbs break down quickly during digestion, releasing glucose quickly into the bloodstream.
- **Low GI foods** are those in which the carbs break down slowly, releasing glucose into the bloodstream gradually.

For most people it is best to choose mostly low-GI carbs, and this is particularly the case for anyone wanting to prevent diabetes. Low-GI diets have been shown to reduce the risk of type 2 diabetes and can help with improving blood fats and managing weight.



2 IMPROVE YOUR EATING HABITS

The type and amount of food you eat can play a big part in increasing or decreasing your diabetes risk. Research has shown a diet high in saturated fat increases diabetes risk – one large study found that the risk was 1.7 times higher in people with such a diet. It has also been shown eating more fibre, cereal fibre and wholegrains can reduce diabetes risk. In fact, in the Finnish Diabetes Study of 2006, subjects with the highest fibre intakes were 62 per cent less likely to develop type 2 diabetes compared to those with the lowest intakes.

Choosing low-GI carbohydrate foods reduces the risk of diabetes while eating more high-GI foods increases the risk. Eating more vegetables and salads is associated with a reduced risk of diabetes, and diets high in red meat may increase diabetes risk.

Despite good intentions, it is easy for other activities to get in the way of eating well. Planning your meals ahead of time and making sure your kitchen is well stocked will help you to stay on track even when you are short of time and other priorities take hold. These are just a few of the basic changes that can make a real difference:

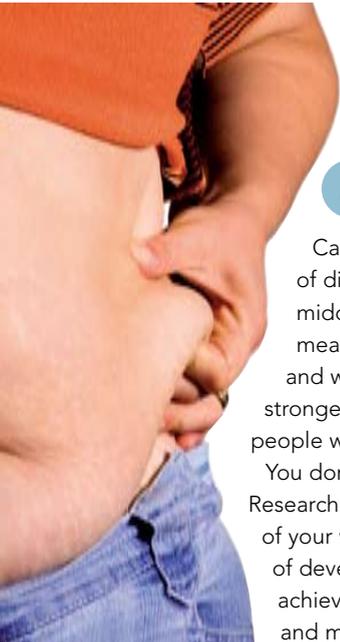
CLEVER EATING CHOICES

- Eat more vegetables and salads – aim for at least five serves per day with a variety of different colours on your plate.
- Replace refined and processed carbs such as white bread, puffed or flaked cereals, biscuits and crackers with wholegrains and low-GI carbs including oats, wholegrain breads and crackers, barley, pasta, noodles, corn, cracked wheat and quinoa.
- Choose only lean cuts of meat and skinless chicken, and include more fish (aim for two to three serves per week) and legumes (such as lentils, chickpeas and dried or canned beans) in your meals.
- Choose low-fat or fat-free dairy products or try soy products.
- Cook with healthy oils such as olive and canola in place of butter or cooking margarine.
- Instead of butter or margarine on bread, try spreads such as avocado or tahini as an alternative.
- Snack on fruit, low-fat yoghurt, unsalted nuts, raw carrots with hummus and wholegrain fruit loaf in place of processed or high-fat food.
- Choose healthy monounsaturated and polyunsaturated fats over saturated and trans-fats.

DON'T FORGET YOUR FLUIDS

Some fluids can provide a significant amount of sugar and energy so:

- choose water most of the time to quench your thirst;
- replace soft drinks with mineral or soda water with fresh lemon or lime;



- if you drink fruit juice, stick to a small glass;
- if you enjoy milk drinks, make sure they are low-fat and be careful with fruit smoothies as some are more of a meal than a drink!

3 LOSE THAT BELLY

Carrying excess weight increases the risk of diabetes, particularly when fat is around your middle. In fact, a recent study found BMI (a measure of body fat based on a person's height and weight known as body mass index) was the strongest predictor of insulin sensitivity, even in people who were a normal weight. You don't need to be the biggest loser, however. Research has shown losing just 5 to 10 per cent of your weight can significantly reduce your risk of developing diabetes. And this can easily be achieved by eating right (see opposite page) and moving more (see previous page).

4 QUIT SMOKING

Studies have shown smokers are more insulin resistant and can have a 50 per cent increased risk of developing type 2 diabetes. Smoking also increases the risk of complications for people who have any type of diabetes. In fact, giving up smoking is one of the best things you can do for your health. There is plenty of help out there – the key is finding out what will work for you. Start by seeing your GP to discuss the options available, or call or visit the quitline on 131 848 or www.quitnow.info.au.

Complications of diabetes

Persistent high blood glucose levels, often seen in undiagnosed or poorly controlled diabetes, can damage the body's organs and result in:

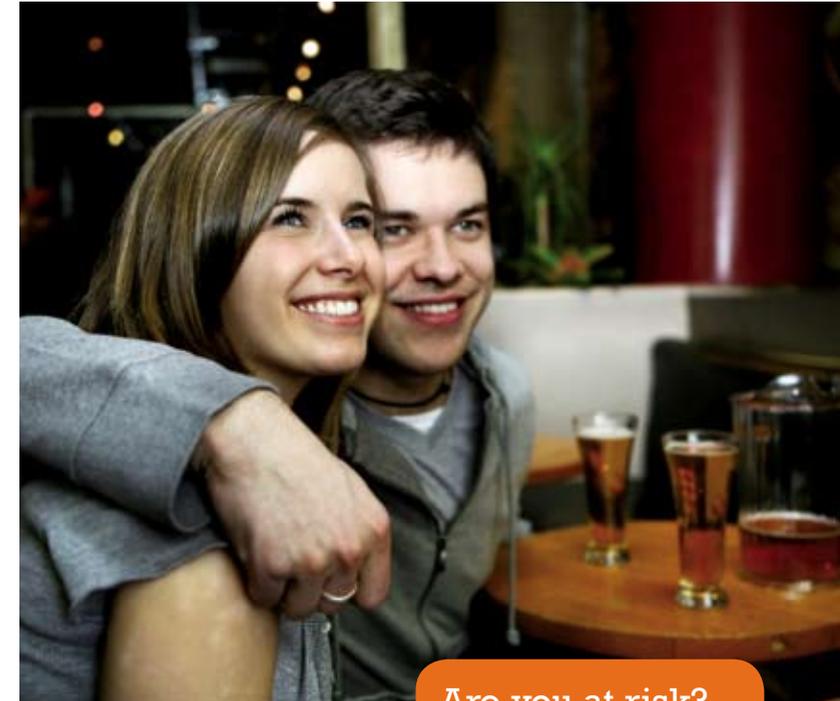
- heart disease and stroke;
- diabetic eye disease (also called retinopathy);
- kidney disease (nephropathy);
- nerve damage, particularly in the legs and feet, which can lead to ulcers and serious foot problems.

Keeping blood glucose levels as close to the normal range as possible, as well as controlling blood fats and blood pressure will minimise your chances of developing these complications.

Warning signs

People with type 1 diabetes often have a sudden onset of symptoms, while those with type 2 diabetes may not experience any symptoms or may not realise the symptoms they are experiencing are related to diabetes. Some common symptoms of diabetes include:

- increased thirst;
- frequent urination;
- blurred vision, dizziness and headaches;
- feeling tired and lethargic;
- unintentional weight loss (particularly type 1 diabetes);
- weight gain (type 2 diabetes);
- irritability and mood swings.



5 LIMIT YOUR ALCOHOL INTAKE

While studies show that drinking moderate amounts of alcohol (one drink per day for women and two for men with a few alcohol-free days each week) may actually lower the risk of diabetes, the opposite is true for people who drink greater amounts of alcohol. A high intake of alcohol (more than three standard drinks per day) can worsen both long- and short-term glucose metabolism and can cause pancreatitis (inflammation of the pancreas), which can lead to diabetes. It is also hazardous to your waistline. Try these tips to help cut down:

- Plan at least two alcohol-free nights each week and build in some other activities on those nights – seeing a movie or having a bubble bath.
- If getting a drink is the first thing you do to wind down when you get home, put on your runners and go for a walk instead.
- Most glasses hold more than one standard drink so using a smaller glass is an easy way to cut back – but don't have more drinks just because they're smaller!
- When you are out, alternate alcoholic drinks with mineral or soda water.
- Find alternatives – if you're in the habit of drinking before, during and after dinner, try iced water with lemon before and a tea or low-fat hot chocolate after dinner. Enjoy a glass of wine or two only with your meal.

Are you at risk?

If you identify with one or more of the following statements, you are at higher risk of developing type 2 diabetes, so it is important to discuss this with your doctor.

- I have a family history of type 2 diabetes.
- I have high blood pressure.
- I have heart disease.
- I am overweight.
- I am over 55.
- I am of Chinese, Indian or Pacific Islander heritage.
- I am an Aboriginal or Torres Strait Islander.
- I have polycystic ovary syndrome (PCOS).
- I developed diabetes during pregnancy.

statistics

6 GET ENOUGH SLEEP

Acute lack of sleep has been shown to worsen insulin resistance and a recent study found that sleeping too little (less than five to six hours) or too much (more than eight hours) may increase the risk of type 2 diabetes. In fact, the men in this study who slept five to six hours per night had twice the risk of diabetes compared to those who slept six to eight hours, and those who slept for more than eight hours had three times the risk. A previous study found men who had a short sleep duration or difficulties maintaining sleep had almost a three to five times higher risk of diabetes.

While the relationship has not been found to be as strong in women, one large study found women who slept more than nine hours or less than five hours had about 1.5 times the risk of developing diabetes, although after adjusting for weight the risk was only increased for long sleepers.

Getting inadequate sleep not only affects your health but being tired also makes it harder to exercise and follow a healthy diet. For most people, between six and eight hours' sleep is ideal. If you're having trouble sleeping, the following tips might help. If they don't, see a doctor.

- Your body likes routine so go to bed and get up at a similar time each day, including weekends.
- Exercise regularly, but avoid strenuous exercise late in the evening.
- Relax leading up to bedtime – avoid work, loud music and television and try a warm bath or shower and some soothing music instead.
- Avoid caffeine late in the day. Some people find a hot milk drink or cup of chamomile tea can help.
- Keep your bedroom dark and not too hot or cold.
- Guided meditation or relaxation tapes work well for some people.
- If you get excessively tired during the day and you partner complains that you snore and appear to stop breathing during your sleep, you may have sleep apnoea. This is a condition where breathing is disrupted during sleep due to blockages to the windpipe. Sleep apnoea can lead to excessive daytime sleepiness and raised blood pressure so if you have symptoms, make sure you seek help.

Getting started

If you feel you could do with some help making lifestyle changes, see an accredited practising dietitian or exercise physiologist, who can work with you to develop a realistic eating and exercise plan that's best suited to your needs and goals. To find a dietitian near you, contact the Dietitians Association of Australia, www.daa.asn.au, or 1800 812 942, and to find an exercise physiologist see the Australian Association for Exercise and Sports Science, www.aess.com.au, or (07) 3856 5622.

• In 1985, an estimated 30 million people worldwide had diabetes; in 2006, a little more than two decades later, the figure has risen to almost 250 million.

• More than 825,000 Australians have officially been diagnosed with diabetes. For every person diagnosed (excluding those with type 1 diabetes), it's believed another is undiagnosed.

• An estimated 2 million Australians have pre-diabetes.

• One person is diagnosed every seven minutes.

• Diabetes is Australia's fastest growing chronic disease. It is estimated that if the present trend continues, 4 million Australians will have diabetes by the year 2012.

• Type 2 diabetes costs Australia \$3 billion a year; 4 per cent of people who have diagnosed diabetes account for 12 per cent of health costs in Australia.

• Australia's indigenous population has the fourth highest rate of type 2 diabetes in the world.