

Diabetes Prevention

Diabetes is a disease characterised by uncontrolled blood glucose levels. Glucose is a sugar and provides your body with energy. Before outlining what type 2 diabetes is, it would perhaps help to explain how the body works without diabetes.

Imagine your body as a machine. All machines need a fuel tank to work. In the case of your body, this fuel is glucose. Glucose comes from the food you eat. It is either used immediately or it is stored in your liver until it is needed. However, your body cannot use glucose directly, and so needs a hormone called insulin to help it to do this.

Insulin is produced in your pancreas. Think of insulin as the key to your fuel tank. It opens the doors to your cells, allowing the glucose in. All being well, the level of glucose and insulin in your blood should always be balanced.



If there is a problem with the amount of insulin you have in your body, glucose will remain in your blood, unable to get into your cells. Eventually it will spill over into your urine. Over days to weeks, you may find symptoms such as increased trips to the toilet, thirst, weight loss (without dieting) and a craving for sugary foods. You may feel a general sense of fatigue as your body has not been able to access enough glucose from your blood.



Type 2 diabetes develops when the body becomes resistant to the effect of insulin, as though the lock of the fuel tank has been changed.

The pancreas therefore has to work increasingly hard to produce more insulin to overcome this resistance. It is usually managed through a combination of diet and lifestyle changes. Ultimately, if this is not controlled and the pancreas cannot produce enough insulin, the affected person will need to take insulin. Type 2 diabetes is preventable.



There are a number of measures that individuals can take to reduce their personal risk of developing type 2 diabetes. The key interventions focus on diet and lifestyle measures: **'Eating better, moving more'**:

It is important to set realistic personal goals within an appropriate timeframe.

Let's look at how diet and exercise effect your body's glucose levels.

A diet high in sugar and fat based foods, causes weight gain. Increasing weight puts more stress on the pancreas as more insulin is required to absorb these higher levels of glucose. This can lead to pancreatic failure, with the pancreas unable to produce enough insulin for what your body requires. Once this happens, inevitably blood glucose levels start to creep up making type 2 diabetes increasingly likely.



Find out what your appropriate weight should be, and go all out not to exceed this. Losing weight can take time, hard work and discipline—that can be frustrating. Can you work as part of a team to support each other to lose weight? It is possible to lose weight and keep it off, even if you've never done it before. Losing weight can help reduce stress on the pancreas and keep insulin production stable, rather than excessive. This can help it to work longer and more efficiently.



Eat healthily and be mindful of portion size. Use a list when shopping and don't shop hungry! Go for fresh fruit and vegetables where possible, and try to avoid too many takeaways and ready meals as these are high in fat and sugar. Leaner meats and low-fat dairy products, as well as whole grain breads and cereals are encouraged to help with weight loss. Look at food labels for sugar content information.



It's just as important to monitor what you drink.

Limit how many sugary drinks you consume a day, and reduce your caffeine intake. This has been found to raise your blood pressure, and cause dehydration.

Make weekly meal plans, and eat regular meals rather than snacking during the day. Your pancreas needs to rest. Keeping daily food and physical activity diaries, as well as recording weekly weight can help you to track your progress.



Low levels of exercise can be a vicious downward spiral. As your fitness levels reduce, motivation to do exercise becomes harder. With a more sedentary lifestyle comes increased stress on key organs including your pancreas. By exercising more, your body uses up glucose in order to help your activity, rather than storing the glucose in the tank as fat which increases weight gain.



Increase physical activity, to a point where you break a sweat, get red faced or are unable to speak in sentences clearly. The official minimum recommendation is for 20-30 minutes 5 times per week. This will help with burning your blood glucose and lowering blood pressure amongst other beneficial factors for your body as a whole. Increase your levels of activity during day to day tasks such as parking at the far end of a car park, go for the stairs or walk up the escalator. Make telephone calls standing up, and move around during advert breaks on the television. Walk briskly, dance to the radio. Whatever you're doing, you can be more active.

In the long term, over months to years, uncontrolled diabetes can contribute to the premature 'furring up' of key blood vessels. Like a river running dry, this can reduce the flow to key organs in the body, namely the brain, eyes, heart, kidneys and feet. As a result, uncontrolled diabetes can increase the risk of heart attacks, blindness, strokes, kidney disease and peripheral neuropathy, sometimes resulting in amputation.

If you are at risk of developing type 2 diabetes, act now. Once you have the condition, it becomes very difficult to reverse the effects.