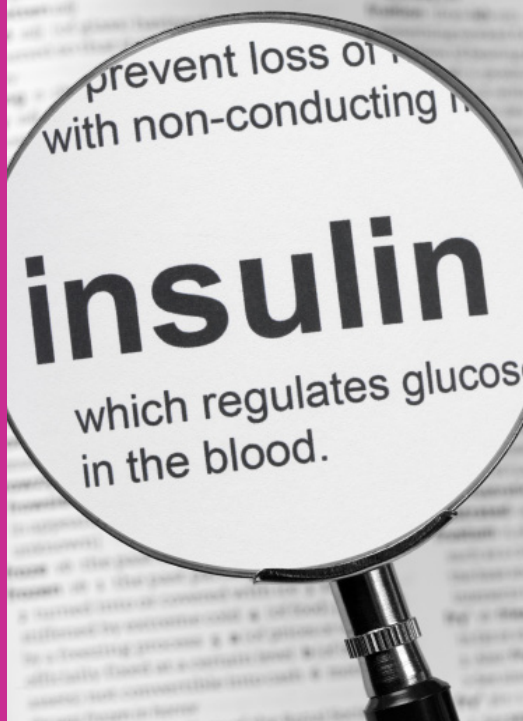




GUIDE TO DIABETES



Understanding Diabetes

Diabetes mellitus is a chronic condition in which too much glucose (sugar) is present in the blood. After we eat, various foods are broken down in the gut into sugars. The main sugar is called glucose which is absorbed through the gut wall into the bloodstream and used by the cells in the body for energy.

The glucose is helped to enter the cells by insulin - a hormone produced by the pancreas. Diabetes occurs either if you don't make enough insulin or if the insulin that you do make doesn't work effectively. If left untreated this can result in a range of complications.

Quick fact

More than 2.9 million people in the UK have diabetes and up to 850,000 more are believed to have it without realising. ¹



There are two main types of diabetes – Type 1 and Type 2.

Type 1 (childhood onset)

In Type 1 diabetes the cells in the pancreas that make insulin are destroyed causing a severe lack of insulin. This is thought to be the result of the body attacking and destroying its own cells in the pancreas - known as an auto-immune reaction.

It's not clear why this happens but a number of explanations and possible triggers have been proposed. These include:

- infection with a specific virus or bacteria
- exposure to food-borne chemical toxins
- exposure as a very young infant to cow's milk, where an as yet unidentified component triggers the autoimmune reaction.

Type 2 (adult onset)

Type 2 diabetes develops when the body can still make some insulin but not enough or when the insulin that is produced doesn't work properly. This is known as insulin resistance. In most cases this is linked with being overweight. Type 2 diabetes is the more common of the two main types and accounts for around 95% of all people with diabetes. ¹

Diabetes symptoms

The signs and symptoms of untreated diabetes are:

- excessive thirst
- excessive hunger
- frequent urination
- weight loss
- extreme tiredness
- nausea
- blurred vision
- genital itching or regular episodes of thrush
- slow healing of wounds.

Extremely elevated glucose levels can lead to lethargy and even coma.

Type 1 diabetes

In Type 1 diabetes the signs and symptoms tend to be very obvious, developing quickly, usually over a few days or weeks. If your blood glucose levels become too high, you can suffer a hyperglycaemic attack. This can happen if you haven't taken your insulin. If left untreated, hyperglycaemia can lead to diabetic ketoacidosis which can eventually cause unconsciousness and even death. Hyperglycaemia requires urgent treatment in hospital.

On the other hand, if your glucose levels become too low, you can suffer a hypoglycemic attack. This can happen if you take too much insulin. This can generally be brought under control by eating or drinking something sugary which should stop the attack. You should then eat a longer-acting carbohydrate food.

Type 2 diabetes

Symptoms of Type 2 diabetes usually develop over a few months and will not be so obvious, sometimes even non-existent. However, sufferers do still need treatment to make sure other health problems don't develop.

Many of the signs and symptoms of diabetes can be related to other causes. However, testing for diabetes is very easy, so if you constantly or regularly experience one or more of the symptoms discussed, you should visit your doctor.

In both types of diabetes, the symptoms are quickly relieved once the diabetes is treated. Also, if diabetes is suspected, tested for and diagnosed when symptoms first start appearing, other more serious symptoms of advanced diabetes can often be prevented or significantly delayed through diet, exercise and proper blood sugar management.

Quick fact

The percentage of people suffering from diabetes is increasing rapidly, to the point where many medical authorities are referring to it as an epidemic. ²

Causes and risk factors

Type 1 diabetes

Type 1 diabetes is thought to be an 'auto-immune' disease. The immune system normally makes antibodies to attack bacteria, viruses and other foreign bodies. In auto-immune diseases the immune system makes antibodies against parts of the body.

Rarely, Type 1 diabetes has other causes - for example, severe inflammation of the pancreas or surgical removal of the pancreas for various reasons.



Quick fact

Diabetes has been a recognised condition for more than 3,500 years.³

Type 2 diabetes

Type 2 Diabetes accounts for 85% of all cases of diabetes. The more risk factors that apply to you, the greater your risk of having diabetes-

Your age

You're at risk of diabetes if you're over 40 or you're over 25 and black, Asian or from a minority ethnic group. The risk also rises with age so the older you get the more at risk you are.

Your family

Having diabetes in the family puts you at risk. The closer the relative is, the greater the risk. So if your mum or dad has diabetes, rather than your aunt or uncle, it's more likely you will develop the condition too.

Ethnicity

African-Caribbean or South Asian people who live in the UK are at least five times more likely to have diabetes than the white population.

Your weight

Not all people with diabetes are overweight but the stats show that over 80% of people diagnosed with Type 2 diabetes are overweight. The more overweight and the more inactive you are, the greater your risk.

If you don't know whether you're overweight, try the BMI calculator on the NHS Choices website or ask your GP to measure your BMI or body fat percentage.



Quick fact

Diabetes is a chronic condition that affects over 150 million people in the world today.⁴

The other factors

- If you've been diagnosed with any problems with your circulation, had a heart attack or stroke or if you've got high blood pressure you may be at an increased risk of diabetes.
- Pregnant women can develop a temporary type of diabetes – gestational diabetes. Having this – or giving birth to a large baby – can increase the risk of a woman going on to develop diabetes in the future.
- Women with polycystic ovary syndrome who are overweight are at an increased risk of developing diabetes.
- If you've been told you have either impaired fasting glycaemia (IFG) or impaired glucose tolerance (IGT) it means the level of glucose (sugar) in your blood is higher than normal but you don't actually have diabetes. You should follow a healthy diet, lose weight if you need to and keep active to help yourself prevent diabetes. But make sure you regularly have your blood sugar tested.
- Other conditions such as raised triglycerides (a type of blood fat) and severe mental health problems can also increase your risk.

Treating Diabetes

The symptoms associated with diabetes all stem from the effects of high blood sugar. As such, the cornerstone of diabetes management is keeping your blood sugar as regular, and within healthy levels, as possible. This, together with a healthy lifestyle, will help to improve your wellbeing and protect against long-term damage to the eyes, kidneys, nerves, heart and major arteries. While there is no cure for diabetes, it can be treated very successfully.

The basis of blood sugar management is usually a combination of medication and diet. In Type 1 diabetes symptoms are treated by insulin injections and diet. Regular exercise is also recommended. Insulin cannot be taken by mouth because it is destroyed by the digestive juices in the stomach. So people with this type of diabetes commonly take either 2 or 4 injections of insulin each day.

If you have Type 1 diabetes, your insulin injections are vital to keep your blood sugar under control and you must have them daily.

Quick fact

In the UK 3 people every 10 minutes are diagnosed with diabetes.⁵

On the other hand, Type 2 diabetes is generally treated with lifestyle changes such as a healthier diet, weight loss and increased physical activity. On occasions tablets and/or insulin may also be needed to achieve normal blood glucose levels.

There are several kinds of tablets for people with Type 2 diabetes - some which help your pancreas to produce more insulin and others that help your body to make better use of the insulin that your pancreas does produce.

Another type of tablet slows down the speed at which the body absorbs glucose from the intestine. Your doctor will decide with you which kinds of tablets are going to work best for you and may prescribe more than one kind.

Type 2 diabetes is progressive and if your diabetes cannot be controlled through lifestyle changes and tablets your doctor may recommend that you take insulin injections.



The Glycaemic Index

Whether you have Type 1 or 2 diabetes, becoming familiar with the Glycaemic Index, which shows which foods cause blood sugar levels to rise faster than others, is an important part of proper dietary management of diabetes.

Foods with a high Glycaemic Index will make blood sugar rise very rapidly and should be avoided. Sugars and refined carbohydrates such as 'white' pasta and white bread are among the foods at the top of the list, while whole grains (complex carbohydrates) are lower on the index. Proteins are near the bottom.

Becoming familiar with the Glycaemic Index and finding which foods you like that are safest for management of your blood sugar can make overall management of your diabetes much easier.

Diabetes management can be a complex process but understanding the basics of your medication, healthy dietary choices and appropriate and regular exercise will provide a strong foundation for successful management of your diabetes throughout your life.

It's important to:

- cut down on sugar and have reduced sugar foods and drinks
- eat regularly during the day
- eat foods that are low in fat and salt
- eat lots of fruit, vegetables and pulses such as beans, lentils and peas, whole grains, nuts and seeds.
- take plenty of exercise



Useful Links

www.diabetes.co.uk

www.diabetes.org.uk

www.bbc.co.uk

www.nhsdirect.nhs.uk

www.netdoctor.co.uk

www.nhs.uk (NHS Choices)

References

- 1 <http://www.nhs.uk/Conditions/Diabetes-type2/Pages/Introduction.aspx>
- 2 <http://www.idf.org>
- 3 http://www.bbc.co.uk/health/conditions/diabetes/aboutdiabetes_what.shtml
- 4 <http://www.informationaboutdiabetes.com>
- 5 <http://www.diabetes.org.uk>

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