

Diabetes

Diabetes Mellitus, the full name, is an abnormally high blood glucose (sugar) level caused by the inability of the body to either produce or respond to insulin properly. Insulin is a hormone necessary to carry glucose from the bloodstream into the body cells where it is used for energy. If there is too little insulin, blood glucose levels continue to rise, as glucose is not removed from the bloodstream.

There are different types of diabetes, including:

Type 1 diabetes

Also known as insulin dependent diabetes. It generally occurs in children, but is usually diagnosed before the age of 40 years. These individuals do not produce enough insulin and therefore life-long treatment (injection) with insulin is necessary. This type of diabetes is less easy to control than type 2 diabetes. Its onset is usually rapid and symptoms experienced are severe.

Type 2 diabetes

Also known as non-insulin dependent diabetes. This type of diabetes generally occurs in adults, is the most common form of diabetes and is often associated with obesity. These people still produce insulin and by following a healthier diet may control the disease. Others may still not produce enough insulin or the reaction to the insulin is inadequate. Oral medications (hypoglycaemic agents) are therefore necessary to stimulate the pancreas to make more insulin to be able to lower blood glucose. In severe cases insulin injections may also be necessary.

Symptoms are usually mild and will appear gradually. Some may not have any symptoms at all, or they may simply complain about not feeling well. Others may experience similar symptoms to type 1 but not as intense.

Gestational diabetes

This type of diabetes occurs during pregnancy and usually disappears after childbirth. It develops as a result of hormones released during pregnancy that increase the body's resistance to insulin. Women, who have had this form of diabetes, also face a higher risk of developing type 2 later in life.

Other specific types

Results from specific genetic syndromes, surgery, drugs, malnutrition, infections and other illnesses.

Risk factors for diabetes:

Age, obesity, family history, physical inactivity, impaired glucose tolerance and certain ethnic and racial groups.

What are the symptoms for diabetes?

- Constant thirst
- Increased hunger
- Urinating more than usual
- Numbness/tingling in finger tips and toes
- Unexplained weight loss
- Blurred vision / visual disturbances
- Skin infection due to slow wound healing
- Constant tiredness

Symptoms vary from individual to individual and elderly people may not present any symptoms.

How is it diagnosed?

A blood sample is taken to test for the glucose level. High blood glucose will usually indicate diabetes. If glucose is detected in a urine sample, it also indicates diabetes and will be confirmed with a blood test. Normal blood glucose level is between 4 and 8 mmol/l.

What are the dangers of diabetes?

Those with uncontrolled diabetes can experience complications as the disease progresses. In the short term diabetics may be more susceptible to infections and in severe cases diabetes may cause coma.

In the long term, the following complications could arise:

- Eye - cataracts and retinopathy (gradual damaging of the eye) that may lead to blindness
- Kidney disease and kidney failure
- Neuropathy (gradual damaging of the nerves)
- Ulcers, infections, gangrene, etc. in feet
- Atherosclerosis (hardening of arteries), heart disease and stroke

How diabetes affects the heart

Heart disease is the leading cause of diabetes-related deaths because the constant high blood sugar is associated with narrowing of the arteries, increased blood triglycerides (a type of fat), decreased levels of HDL ("good") cholesterol, high blood pressure and heart attack. As one gets older, blood vessels are damaged and narrow progressively (atherosclerosis). This could lead to a heart attack or stroke. (Diabetics are more prone to the development of atherosclerosis and blood clot formation.)

Smoking also causes damage to blood vessels and therefore diabetic smokers are at higher risk. Additionally, when there is damage to the nervous system, the signals that should be sent to the brain to regulate heart rate and blood pressure are blocked. Symptoms of a heart attack may be vague and ignored or passed off as indigestion.

Can diabetes be cured?

Unfortunately, there is no cure for diabetes. With careful monitoring and commitment, diabetics can avoid complications and, by making the necessary lifestyle changes, can decrease the risk of heart disease and have an improved quality of life. It is especially important to control weight, cholesterol, blood pressure, to do regular exercise and to avoid smoking.

Learn all you can about the condition, your body's limits and what you can and cannot do. Identify trends in your blood sugar level patterns and make adjustments to your daily routine. Know what the symptoms of high or low blood glucose are and know what actions need to be taken in such situations.

"Hyper" vs. "hypo"

HYPERglycaemia is high blood glucose, caused by eating too much, feeling stressed, being anxious or emotional, not taking any or sufficient insulin or medication, being ill, skipping exercise or hormonal imbalances.

Symptoms that may be experienced are thirst, frequent urination, tiredness and weakness, blurred vision and, in extreme cases, even coma.

To prevent hyperglycaemia, take your medication (if prescribed), follow a healthy diet that provides enough food and do regular exercise. Have your blood glucose tested regularly and the doctor might adjust your insulin or oral medication dosage.

HYPOglycaemia is low blood glucose and is caused by eating too little food; too few carbohydrates, delaying / skipping meals or snacks, exercising harder or longer than usual, taking too much insulin or oral medication, being ill or drinking alcohol on an empty stomach.

This can occur very quickly and if not treated when the first symptoms are noticed, can lead to unconsciousness within minutes. During this time the brain does not receive enough glucose and serious damage may result.

At first mild symptoms occur, e.g. paleness, sweating, slight nausea, headache and blurred vision. Thereafter moderate symptoms such as unusual rudeness or laughter, bad temper and confusion, and lastly severe symptoms like aggression, fainting, convulsions, coma or even death. At the slightest suspicion of a "hypo", you should take some fruit, sugar or a sugared drink immediately, followed by a carbohydrate-rich meal. Always carry some food with you everywhere you go - just in case.

REMEMBER:

There is a difference between a "hypo" and "hyper". It is crucial to identify the right symptoms as they are treated differently.

Hypo it's got a fast onset, you feel sweaty, nauseous and have a loss of appetite.

Hyper it has a slow onset (12-24 hours), you'll feel thirsty and hungry.

General dietary guidelines for a diabetic:

- Attain and maintain a healthy body weight
- Eat small, regular meals, including snacks
- Do not skip any meals or snacks. Eat according to your dietician's meal plan
- Include plenty of fibre rich foods such as whole wheat bread, cereals, dry beans, vegetables and fruit
- Avoid refined carbohydrates (products made from white cake flour, sweets and foods containing sugar)
- Include at least 5 portions of fruit and vegetables in your diet every day
- Limit fat intake, especially saturated fats (mostly animal fats)
- Remove all visible fat from meat (and skin off chicken) before cooking
- Use healthier cooking methods such as steaming, baking in the oven, microwaving, boiling, braai over the fire instead of deep frying in oil or adding unhealthy fat (regular mayonnaise, butter, high fat cheese, cream)
- Use non-stick cooking sprays
- Sugar, salt and alcohol should only be used by well-controlled diabetics and then only in limited quantities
- Drink at least 6-8 glasses of water per day
- Do regular physical exercise of at least 30 minutes 5 times per week
- Exercise can accelerate weight loss and improve glucose tolerance by heightening sensitivity to insulin. A health professional should, however, be consulted before starting an exercise program

This is one in a series of brochures. For the full series and more heart smart information call the Heart Mark Diet Line on 0860 223 222 or visit www.heartfoundation.co.za