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Government Employees
Medical Scheme

Blood Glucose



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BLOOD GLUCOSE

WHAT IS BLOOD GLUCOSE?

Blood contains a certain type of sugar known as glucose. Glucose is the body's main source of energy and comes from foods that are high in carbohydrates.

A person's blood glucose level increases slightly after eating. This causes the pancreas to produce insulin – a hormone that helps the cells absorb glucose. A normal blood-glucose level falls in the range of 3.1 – 6.5mmol/L. The amount of insulin that is released into the blood depends on the level of glucose that is present.

Type 1 Diabetes is diagnosed when the body is unable to produce insulin and the person will then need regular insulin injections or similar medication to compensate.

Type 2 Diabetes occurs when the body produces too little insulin, or the body is resistant to the insulin present. Initially, a person with Type 2 Diabetes may not need any medication, but in time may become dependent on medication or insulin shots.

Type 2 Diabetes is most often the result of age, obesity, family history, physical inactivity and ethnicity. It is becoming an increasing problem among adults and accounts for 90% of all diabetes cases. The onset of Type 2 Diabetes in children and adolescents is also rising.



HYPOGLYCEMIA (LOW BLOOD SUGAR)

Low blood sugar levels can be present in persons with diabetes, when treatment is taken without meals.

It is also caused by any number of factors such as:

- Over-medication with insulin or anti-diabetic pills
- Alcohol abuse
- Not eating regularly
- Severe infections
- Cancer involving the digestive system or the liver
- Other metabolic imbalances
- Kidney or liver failure
- Genetic defects involving the release of insulin into the body
- Presence of insulin-releasing tumours

Symptoms and dangers of low blood sugar

A person with a low blood sugar level is likely to experience any of these symptoms:

- Trembling, clammy skin, palpitations, anxiety, sweating, hunger and irritability.
- If left untreated, more severe complications will develop such as impaired thinking, confusion, headaches, seizures, loss of consciousness, coma and death.

HYPERGLYCEMIA (HIGH BLOOD SUGAR)

High blood sugar levels are caused by:

- Abnormal carbohydrate metabolism – although a certain amount of carbohydrates are necessary to provide the body with energy, eating too much of this type of food will produce more glucose than what the body needs, causing blood sugar levels to rise.
- Insulin control – lack of insulin or insulin that is not working properly will cause blood sugar levels to rise.
- Stress.
- Physical inactivity – exercise contributes towards keeping blood sugar levels within normal range.
- Infections, illness or surgery.
- Certain drugs and medication such as steroids affect blood sugar levels.

Symptoms and dangers of high blood sugar

A person is likely to have a high blood sugar level as a result of diabetes. High blood sugar levels can occur in non-diabetic persons with no symptoms at all.

Symptoms associated with high blood sugar levels are:

- Dry mouth, thirst, frequent urination, urination at night, blurred vision, dry and itchy skin, fatigue, weight loss and increased appetite.
- More severe symptoms that set in if blood sugar levels remain high over an extended period of time are difficulty in breathing, dizziness upon standing, rapid weight loss, drowsiness, confusion and loss of consciousness or coma. Nausea, headache and vomiting also occur.

CONTROLLING BLOOD GLUCOSE

Maintaining a healthy weight is essential for controlling blood sugar levels. Persons with no insulin problems, and persons with Type 2 Diabetes can reduce their risk of developing blood sugar complications through healthy diet and exercise.

- Certain foods release sugar faster than others. The Glycemic Index (GI) is an index that indicates the ability of carbohydrate-rich foods to release glucose. Foods can be ordered according to how fast they release sugars. Foods with low GI are considered to provide a longer-lasting and steadier supply of energy, and

should form an integral part of a person's diet when trying to control blood sugar levels. A healthcare provider will be able to make recommendations based on the individual's dietary needs.

- Eating six small meals throughout the day instead of three large meals will provide a more consistent blood sugar level.
- Include high fibre and mono-unsaturated fats in your diet such as nuts, olive oil, fruit and vegetables. Avoid fatty and sugary foods or overconsumption of foods that are high in carbohydrates.
- Limit alcohol consumption.
- The body requires about 30 minutes of physical activity per day in order to function properly. However, if you are physically inactive, start with five minutes a day and only increase the intensity and duration of exercise when your body feels comfortable with the adjustment.
- Practice relaxation techniques such as deep breathing or find a creative outlet to help you manage stress. Stress affects the body's blood sugar level.



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