Diabetes

Diabetes is a condition where the body doesn't produce enough insulin to meet its needs and/or the cells in the body don't respond properly to insulin. Insulin is a hormone that is used to move glucose, a simple sugar, into the body's cells from the blood. The food that people eat provides the body with glucose, which is used by the cells as a source of energy. If insulin isn't available or doesn't work correctly to move glucose from the blood into cells, glucose will stay in the blood preventing the cells in the body from getting the fuel that they need. High blood glucose levels are harmful.

There are two main kinds of diabetes:

- Type 1 diabetes occurs when the pancreas cannot make insulin. Everyone with type 1 diabetes requires insulin injections.
- Type 2 diabetes occurs when the pancreas does not make enough insulin or the body does not use insulin properly. It usually occurs in adults, although in some cases children may be affected. People with type 2 diabetes usually have a family history of this condition and are most often overweight. People with type 2 diabetes may eventually need insulin injections.

Another less common form is gestational diabetes, a temporary condition that occurs during pregnancy. According to the Canadian Diabetes Association (CDA), about 4% of women, and up to 18% of First Nations women, will develop gestational diabetes. The problem usually clears up after delivery, but women who have had gestational diabetes have a higher risk of developing type 2 diabetes later in life.

Type 1 diabetes is an autoimmune disorder. It's believed that a combination of genetic predisposition and additional (as yet unidentified) factors provoke the immune system into attacking and killing the insulin-producing cells in the pancreas. Type 2 diabetes is mainly caused by insulin resistance. This means that no matter how much or how little insulin is made, the body can't use it as well as it should. As a result, glucose can't be moved from the blood into cells. Over time, the excess sugar in the blood gradually poisons the pancreas causing it to make less insulin and making it even more difficult to keep blood glucose under control.

Obesity is a leading cause of insulin resistance - 90% of people with type 2 diabetes are overweight. Genetic factors are also likely to be involved in the cause of type 2 diabetes. A family history of the disease has been shown to increase the chances of getting it.
Other risk factors for the development of type 2 diabetes include:

- A history of gestational diabetes
- Being 40 years of age or older
- Blood vessel disease
- First Nation, Hispanic, South Asian, Asian, or African descent
- Giving birth to a large baby
- High blood pressure
- High cholesterol
- Polycystic ovary syndrome
- Schizophrenia
- Prediabetes or impaired fasting glucose

Both type 1 and type 2 diabetes present with some clear symptoms:

- The need to urinate frequently
- Excessive thirst
- Fatigue
- Severe weight loss despite normal or excessive food intake

However, the symptoms of type 2 diabetes usually appear more gradually. People with type 2 diabetes who do not have their blood glucose under control often have a persistent, mild thirst. They urinate frequently, and often feel mild fatigue and complain of blurred vision. Many women with the disease have recurring vaginal yeast infections.
Diabetes is a major cause of heart disease and the biggest cause of blindness and kidney failure in adults. Older adults with diabetes are twice as likely to develop high blood pressure as people without diabetes.

People with diabetes are also 25 times more likely to undergo foot and other "lower extremity" amputations due to circulatory problems. Up to 50% of men who have diabetes will experience erectile dysfunction at some point.
Currently, type 1 diabetes is not preventable. However, studies have shown that type 2 diabetes can be prevented by adopting lifestyle changes that include eating a healthy diet and exercising.
In addition, some studies have shown that certain oral anti diabetes medications may play a role in preventing the development of type 2 diabetes for people who are at high risk of developing it. Lifestyle changes and medications may prevent up to 60% of type 2 diabetes.

Diabetes is a chronic condition that can last the entire lifetime of the patient. The goal of treating diabetes is to keep blood glucose levels as close to a normal range as possible thereby preventing the symptoms of diabetes and the long-term complications of the condition. It is important to work with your doctor, pharmacist or the other members of a diabetes care team to help set target blood glucose levels.

More than most conditions, treating diabetes requires a significant amount of real effort on the patient's part. Coping with diabetes is a lifelong challenge, so people with diabetes should not be afraid to speak with a doctor or pharmacist if they feel overwhelmed.

Part of a treatment plan for diabetes will involve learning about diabetes, how to manage it, and how to prevent complications. Your doctor, diabetes educator, or other health care professional will help you learn what you need to know so you are able to manage your diabetes as effectively as possible.
Like many conditions, treatment of type 2 diabetes begins with lifestyle changes, particularly in regards to diet and exercise. If lifestyle changes don't get blood glucose levels to the target range, medications may be required. Medications for type 2 diabetes include anti diabetes pills, insulin injections, or a combination of both.
Medications are very effective at treating diabetes and reducing the symptoms and long-term effects of the condition. However, hypoglycemia (low blood glucose levels) can occur when taking certain medications for diabetes.

Symptoms of hypoglycemia include:

- Anxiety
- Confusion
- Difficulty concentrating
- Dizziness
- Drowsiness
- Fatigue
- Headache
- Hunger
- Irritability
- Pale skin
- Sweating
- Tremors or shakiness
- Visual changes

If blood glucose level get extremely low, it is possible to have a seizure or lose consciousness. A health care professional can teach you how to recognize the warning signs of hypoglycemia. People with diabetes should carry candy, sugar, or glucose tablets to treat hypoglycemia.

Hypoglycemia is a side effect of many medications for type 1 and 2 diabetes, but it is never a reason to avoid treatment. The best way to avoid hypoglycemia is to monitor blood glucose.

Frequent measurement of blood glucose levels is the best way to know whether blood glucose levels are in the target range. This is easily done at home with a blood glucose monitor.
It is essential for all people with diabetes to self-monitor blood glucose levels. The number of times to test one's blood glucose will be based on the type of diabetes, the type of diabetes treatment and the level of control of the condition.

It is important to record blood glucose readings taken at different times of the day, especially after fasting as well as 2 hours after a meal. This allows your doctor or pharmacist to see a snapshot of how your blood glucose levels vary during the day and recommend treatments accordingly. Most blood glucose meters now have memory that stores a number of blood glucose tests along with the time and date they were taken. Some even allow for graphs and charts of the results to be created when the monitor is connected to a computer.
A blood test done in the laboratory called the glycosylated hemoglobin test (or A1C test) allows your health care team to see the average of blood glucose values over the last 3 months. This is a good indication of how well your blood glucose has been in control overall and allows your diabetes management team to manage your diabetes more effectively.

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