

## DIABETES MELLITUS

Diabetes mellitus has become an epidemic in the India with about 16 million people above 20 years are diagnosed with the condition each year. About 17 million people, or 12 percent of the world population, have diabetes mellitus, a disease in which the body doesn't produce or properly use insulin, a hormone produced in the pancreas that converts sugar into energy.

Diabetes, the sixth leading cause of death in world, can cause serious health complications such as blindness, kidney failure, nerve damage and the need for lower-extremity amputations. In addition, diabetes is a major risk factor for cardiovascular disease, dramatically increasing the risk for heart disease and stroke.

There are three main types of diabetes:

Type 1 diabetes: about 5 to 10 percent of those with Diabetes are type 1 diabetes. It's an autoimmune disease, meaning the body's own immune system mistakenly attacks and destroys the insulin-producing cells in the pancreas. Patients with type 1 diabetes have very little or no insulin, and must take insulin every day. Although the condition can appear at any age, typically it's diagnosed in children and young adults, which is why it was previously called Juvenile diabetes.

Type 2 diabetes: is the most common form, accounting for 90 to 95 percent of those with diabetes. Usually, it's diagnosed in adults of age 40 years and above, and 80 percent of those with type 2 diabetes are overweight. Because of the increase in obesity, type 2 diabetes is being diagnosed at younger ages, including in children. Initially in type 2 diabetes, insulin is produced, but the insulin doesn't function properly, leading to a condition called Insulin resistance. Eventually, most people with type 2 diabetes suffer from decreased insulin production.

Gestational diabetes: develops during pregnancy. It occurs more often in people with a family history of diabetes. Typically, it disappears after delivery, although the condition is associated with an increased risk of developing diabetes later in life.

If you think that you have diabetes, visit your doctor immediately for a definite diagnosis. Common symptoms include the following:

- Frequent urination
- Excessive thirst
- Unexplained weight loss
- Extreme hunger
- Sudden vision changes
- Tingling or numbness in the hands or feet
- Feeling very tired most of the time
- Very dry skin
- Sores that are slow to heal
- Incidence of more infections than usual

Some people may experience only a few symptoms that are listed above. About 50 percent of people with type 2 diabetes don't experience any of the above symptoms and don't realize that they have the disease.

Diagnosis:

Your doctor will first ask you, about your medical history and perform a physical examination to check for symptoms of diabetes and high blood sugar. Diabetes usually is diagnosed with the following tests that measure the glucose levels in your blood:

**Fasting plasma glucose test:** This is the standard test for diagnosing type 1 and type 2 diabetes. You must not eat or drink anything for at least eight hours prior to this simple test in which blood is drawn to check your sugar levels. A diagnosis of diabetes will be made if you have a fasting blood sugar level of 126 milligrams per deciliter or higher on two separate days.

**Other tests:** Diabetes also may be diagnosed based on a random high glucose level of 200mg/dl and symptoms of the disease. Your doctor may wish to perform an oral glucose tolerance test, which is the traditional test for detection of diabetes mellitus.

## Treatment:

The goal of diabetes management is to keep blood glucose levels as close to normal as safely possible. Since diabetes may greatly increase the risk for heart disease and peripheral artery disease, the measures to control blood pressure and cholesterol levels are an essential part of diabetes treatment as well.

People with diabetes must take responsibility for their day-to-day care. This includes monitoring blood glucose levels, dietary management, maintaining physical activity, keeping weight and stress under control, monitoring oral medications and, if required, insulin use via injections or pump. To help patients achieve this, our Physician offers self-management educational programs that emphasize individualized diabetes care. He enables patients to make more consistent and appropriate adjustments in their therapy and lifestyle.

### *Dietary management and physical activity:*

Modifying dietary habits and increasing physical activity are typically the first steps toward reducing blood sugar levels. At our hospital, all patients work with their doctor to develop a dietary plan. We conduct workshops that provide patients with information on food nutrient content, healthy cooking and exercise.

### *Oral medications:*

Sometimes blood sugar levels remain high in people with type 2 diabetes even though they eat in a healthy manner and exercise. When this happens, medications taken in pill form may be prescribed. The medications work in several different ways. These include improve the effectiveness of the body's natural insulin, reduce blood sugar production, increase insulin production and inhibit blood sugar absorption. Oral diabetes medications are sometimes taken in combination with insulin

### *Insulin therapy:*

People with type 1 diabetes require multiple insulin injections each day to maintain safe insulin levels. Insulin is often required to treat type 2 diabetes too. Using an insulin pump is an alternative to injections. The pump is about the size of a pager and is usually worn on your belt. Insulin is delivered through a small tube (catheter) that is placed under the skin (usually in the abdomen).

There are four major types of insulin:

- Rapid-acting
- Short-acting
- Intermediate-acting
- Long-acting

Your doctor will determine your dose and how often you need to take insulin. There is no standard insulin dose as it depends on factors such as your body weight, when you eat, how often you exercise and how much insulin your body produces.