Before we get started:

In understanding diabetes and how it develops, we need to understand what happens in the body without diabetes. Sugar (glucose) comes from the foods that we eat, specifically carbohydrate foods. **Carbohydrate** foods provide our body with its main energy source—everybody, even those people with diabetes, needs carbohydrate. Carbohydrate foods include bread, cereal, pasta, rice, fruit, dairy products and vegetables (especially starchy vegetables). When we eat these foods, the body breaks them down into glucose.

The glucose moves around the body in the bloodstream. Some of the glucose is taken to our brain to help us think clearly and function. The remainder of the glucose is taken to the cells of our body for energy and also to our liver, where it is stored as energy that is used later by the body. In order for the body to use glucose for energy, **insulin** is required. Insulin is a hormone that is produced by the **beta cells** in the **pancreas**. Insulin works like a key to a door. Insulin attaches itself to ‘doors’ on the cell, opening the door to allow glucose to move from the blood stream, through the door, and into the cell. If the pancreas is not able to produce enough insulin (**insulin deficiency**) or if the body cannot use the insulin it produces (**insulin resistance**), glucose builds up in the bloodstream (**hyperglycemia**) and diabetes develops. **Diabetes Mellitus** means high levels of sugar (glucose) in the bloodstream and in the urine.

What are the Signs or Symptoms of Diabetes?

- **Frequent urination** - Body tries to remove the extra glucose through the kidneys
- **Increased thirst** - Body tries to replace lost fluid due to frequent urination
- **Increased hunger** - Cells of the body feel starved of glucose as the glucose is in the bloodstream
- **Tired / Sleepiness** - All the energy is in the bloodstream and not in the cells
- **Weight loss** - Loss of calories from frequent urination and the body using fat for energy
- **Blurred vision** - Glucose build up in the eyes
- **Mood swings, confusion and difficulty concentrating** - High glucose levels in the brain
- **Frequent infections / poor healing** - High glucose levels make us at higher risk for infection and slow healing

These symptoms can be severe or very mild and this is the reason why there are many people living with diabetes who do not know they have it. Therefore you cannot rely on your body to let you know if there is a problem because you may have high blood glucose levels and little or no signs or symptoms. Detection, through screening, is key.
What Are the Main Types of Diabetes?

**Type 1 diabetes:**

In Type 1 diabetes the beta cells of the pancreas have been injured or attacked by the body’s own immune system (auto-immunity). As a result of this attack, the beta cells die and are therefore unable to make the required amount of insulin to move glucose into the cells, causing high blood sugar (hyperglycemia). Type 1 diabetes occurs in about 5-10% of those with diabetes and usually in people less than 30 years of age, but can occur at any age. The signs and symptoms have a rapid onset and are usually intense in nature. As Type 1 diabetes is caused by a lack of insulin, people need to replace what the body cannot produce itself. Insulin is used in combination with a healthy eating plan, exercise, monitoring blood sugar levels and receiving the right diabetes self-management education.

**Gestational diabetes:**

**Gestational Diabetes** is a type of diabetes that occurs in some women during pregnancy. During pregnancy, the placenta produces hormones that make the body’s cells more resistant to insulin which may cause the blood sugar level to rise. Treatment involves healthy eating, exercise, blood glucose monitoring, education and in some situations, insulin therapy. In most cases, once the baby is delivered, the blood sugar levels will return to normal and gestational diabetes disappears. However, approximately 30% of women who had gestational diabetes are at higher risk of developing type 2 diabetes. Maintaining a healthy body weight after delivery reduces this risk significantly.

**Type 2 diabetes:**

In **Type 2 diabetes** the beta cells of the pancreas produce insulin, however, the insulin amount is either not enough or not effective enough (insulin resistance) to move glucose. Type 2 diabetes has been associated with older people, though we are now seeing an increase in this type of diabetes in children. It accounts for approximately 90-95% of those with diabetes, with an increased tendency in African-American, Hispanic, American Indian and Asian populations. The main cause for the development of Type 2 diabetes is being overweight, specifically around the waist. The symptoms are usually gradual which is the reason why there are millions of people undiagnosed with Type 2 diabetes. The treatment of type 2 diabetes is aimed at controlling the blood glucose levels through healthy eating, exercise, weight loss, medication, checking blood glucose levels and education. As type 2 diabetes has a combination of factors that lead to its development, different medications may be needed, and if good control is not achieved, insulin may be required.

Education is the first step in your journey with diabetes.

South Eastern Florida Regional Diabetes Program
Diabetes Education Service
1450 Northwest 10th Avenue, Miami Fl, 33136
Phone: 305-243-3696
Fax: 305-243-5791
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