

# Diabetes

Diabetes is a condition in which your body is unable to properly use the sugars and starches that you eat. When food is digested, much of it is turned into GLUCOSE, a form of sugar that the body uses for fuel. The pancreas, a gland near the stomach, produces a hormone called INSULIN, which helps the glucose enter the cells to produce energy. When you have diabetes, your body does not make enough insulin or the cells do not respond to the insulin produced. As a result, glucose cannot get into the cells and begins to build up in the bloodstream leading to a condition known as “HYPERGLYCEMIA” or high blood sugar. When the level of glucose becomes too high, it spills over into the urine.

## DIAGNOSIS OF DIABETES

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A blood glucose test can detect diabetes. A normal fasting blood glucose level is less than 100 mg/dl. Fasting is defined as no food intake for at least 8 hrs. A level between 100-125 mg/dl signals pre-diabetes. A fasting glucose of 126 mg/dl or above on two occasions confirms a diagnosis of diabetes. The hemoglobin A1C test, which measures average blood glucose levels for a period of up to 3 months, is also a method to check for diabetes. An A1C level of 6.5% or higher indicates the presence of diabetes. You do not need to fast for this test.

## SYMPTOMS OF DIABETES

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Symptoms vary from person to person. Some may have no symptoms at all. The most common are:

- Rapid weight loss
- Fatigue
- Increased thirst and urination
- Frequent hunger

- Blurred vision
- Slow healing wounds
- Tingling or numbness in feet
- Itching skin

## RISK FACTORS FOR DEVELOPMENT OF DIABETES

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- Family history
- Obesity
- High blood pressure
- High cholesterol and triglyceride levels
- Age (usually affects people age 45 and older)
- Physical inactivity
- History of diabetes during pregnancy
- Persons of the following descent:  
African American, Native American, Hispanic American, Asian American, and Pacific Islander

## TYPES OF DIABETES

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### Type 1 diabetes:

People with type 1 diabetes make very little or no insulin. This type of diabetes usually starts in childhood or adolescence but may occur at any age. Type 1 diabetes can be managed by daily insulin injections, a diabetic meal plan and regular exercise.

### Type 2 diabetes:

People with type 2 diabetes make some insulin but not enough, or the cells fail to respond to the insulin produced. Anyone can develop type 2 diabetes, the most common form of diabetes. This type of diabetes can be controlled by lifestyle changes and diabetes medications. If you are overweight, losing weight can improve your body's ability to use insulin.

## Gestational diabetes:

This type of diabetes appears during pregnancy and usually disappears following delivery. Many women with gestational diabetes develop type 2 diabetes later on in life. Gestational diabetes can be controlled by lifestyle changes and diabetes medications.

## MANAGEMENT OF DIABETES

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1. Follow a diabetic meal plan
  - Establish regular meal times for meals and snacks especially if you are taking insulin injections
  - Limit concentrated sweets and sugary foods/beverages
  - Limit the amount of carbohydrates from starches and fruits
  - Limit intake of saturated fat and cholesterol
  - Choose fiber rich foods
2. Take insulin or medications as prescribed.
3. Exercise regularly: physical activity strengthens heart, helps to control weight and improves blood sugar control. It may even decrease your need for insulin or medication.
4. Aim for a reasonable body weight.
5. Perform self-blood glucose monitoring (testing) with a glucose meter and have your blood glucose level checked at the laboratory regularly.
6. Limit alcohol. Take food with alcohol to prevent low blood sugar.
7. Do not smoke. Smoking hinders circulation and can worsen already existing circulatory and cardiovascular complications in diabetics.

## HYPOGLYCEMIA

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Hypoglycemia means low blood sugar (usually less than 70 mg/dl). You may feel shaky, sweaty, hungry, tired, dizzy, and confused and may even pass out. Hypoglycemia can result if:

- too much insulin or oral diabetes medication is taken
- too little food is eaten or a meal is skipped or delayed
- excess alcohol is consumed
- more than usual amount of exercise

To treat hypoglycemia, drink 4oz of juice or sweetened beverages or chew some hard candies or 3-4 glucose tablets immediately. When you feel better (usually in 15 minutes), eat some food. Always carry some glucose tablets (available at most drug stores) with you in case of emergency.

## COMPLICATIONS OF UNCONTROLLED DIABETES

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### 1. Diabetic coma or Ketoacidosis

This condition is a result of accumulation of ketones in the blood due to insufficient insulin. Signs of Ketoacidosis are nausea, vomiting, stomach cramps, deep and labored breathing, intense thirst, fruity smelling breath. Ketones are the by products of fat break down and excessive levels can lead to coma and death.

### 2. Infections

Diabetes increases susceptibility to infections of the mouth, urinary tract, vagina, foot, and skin.

### 3. Diabetic neuropathy

Nerve damages can cause a variety of symptoms such as sexual impotence, tingling sensations to severe pain or loss of sensation in the extremities, muscular weakness, and gastrointestinal disorders.

#### 4. Circulatory and cardiovascular complications

Hardening of the arteries and build up of fatty deposits advance more rapidly in diabetics, thus increasing the risk of heart attacks and strokes. Decreased circulation to the limbs may lead to gangrene of the legs resulting in amputation.

#### 5. Diabetic retinopathy

Weakened or damaged blood vessels in the eye can dim vision and cause permanent loss of vision.

#### 6. Kidney failure

High blood sugar levels may cause changes in the tiny blood vessels in the kidneys. Over time, kidney damage can occur.

### DIABETIC FOOT CARE

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Development of foot problems are more common in diabetics because of impaired circulation and nerve damage which reduces blood flow and sensitivity to pain and discomfort. Proper foot care can prevent many of these problems:

1. Examine feet daily to make sure there are no sores or infections.
2. Wash feet daily with soap and lukewarm water. Dry feet carefully, especially between toes (pat dry and avoid rubbing). Apply lotion if skin is dry.
3. Keep toenails trimmed, straight across and never dig into the corners.
4. Do not cut or apply chemical removers onto corns or calluses.
5. Keep feet warm but do not use hot water bottles or heating pads on feet or legs.
6. Examine feet daily to make sure there are no sores or infections.
7. Wash feet daily with soap and lukewarm water. Dry feet carefully, especially between toes (pat dry and avoid rubbing). Apply lotion if skin is dry.
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9. Do not cut or apply chemical removers onto corns or calluses.
10. Examine feet daily to make sure there are no sores or infections.
11. Wash feet daily with soap and lukewarm water. Dry feet carefully, especially between toes (pat dry and avoid rubbing). Apply lotion if skin is dry.
12. Keep toenails trimmed, straight across and never dig into the corners.
13. Do not cut or apply chemical removers onto corns or calluses.
14. Keep feet warm but do not use hot water bottles or heating pads on feet or legs.
15. Do not walk barefoot.
16. Wear properly fitted shoes and avoid open-toed or open-heeled shoes.
17. Wear properly fitted stockings. Avoid tight pantyhose or socks with elastic band.
18. Change socks and stockings daily.