

Diabetes

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Introduction

Diabetes, often referred to by doctors as **diabetes mellitus**, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both. Patients with high blood sugar will typically experience polyuria (frequent urination), they will become increasingly thirsty (polydipsia) and hungry (polyphagia).

- Diabetes affects 25.8 million children and adults in the United States
- Diabetes can be referred to as a chronic disease characterized by high levels of sugar(glucose) in the blood
 - How does this happen?
 - Glucose enters the bloodstream, from food we eat. This is later used for fuel in the body. Our pancreas located near the stomach makes insulin, which plays a role in moving glucose to muscles, liver cells, and fat.
 - The pancreas then fails to make enough insulin or the muscle or...
 - Fat or liver cells fail to respond to the insulin properly
 - As a result, our body's cells are starving for energy and over time, high blood glucose levels change our overall health damaging the kidney, heart, eyes, and nerves

Types of Diabetes

- There are 4 major types of diabetes:
 - 1) Type 1 Diabetes
 - usually diagnosed in childhood
 - affected by hereditary
 - sometimes there are no symptoms
 - Imperative to inject insulin daily because the body makes little or no insulin
 - frequently called the 'insulin-needed' group
 - Patients with type 1 diabetes need insulin daily to survive
 - 2) Type 2 Diabetes
 - most common
 - usually occurs in adulthood but diagnosis is increasing in the younger generation
 - affects many children
 - Body is incapable of responding to insulin
 - Rates rising due to increased obesity and failure to exercise and eat healthy
 - 3) Gestational Diabetes
 - blood sugar levels are high during pregnancy in *women*
 - Women who give birth to children over 9 lbs.

- high risk of type 2 diabetes and cardiovascular disease
- 4) Pre-diabetes
 - At least 79 million people are diagnosed with pre-diabetes each year
 - above average blood glucose levels, not high enough to be classified under type 1 or type 2 diabetes
 - long-term damage to body, including heart and circulatory system
 - Starts with unhealthy eating habits & inadequate exercise

Symptoms of Diabetes

- high blood levels of glucose
- blurry vision
- fatigue
- thirst
- painful urination
- frequent urination
- sores that do not heal
- nausea
- vomiting
- weight loss
- Hunger
- **In some cases...there are no symptoms at all!!
- **Diabetes type 1 and type 2 symptoms are closely similar, although, type 1 is often worse in severity

How does Diabetes transmit?

- Genetically (type 1 diabetes, pre-diabetes, gestational)
- Can develop due to poor diet & inadequate exercise (pre-diabetes, type 2 diabetes, gestational diabetes)
- Develops due to following factors
 - Overweight
 - High blood pressure
 - High cholesterol
 - Family history of diabetes
 - African-American, Asian-American, Latino, Hispanic-American, Native American ethnicity
 - Family history of gestational diabetes

Testing for Diabetes

- Two tests doctors use to diagnose diabetes and pre-diabetes:
 - 1) FPG (Fasting Plasma Glucose Test)
 - patient must fast for eight hours
 - doctor draws blood
 - doctor will mix blood with other liquids to determine the amount of sugar or glucose in the blood
 - this is measured in mg/dL
 - blood glucose range for pre-diabetics will be in the 100-125 mg/dL range.
 - type 2 diabetes will have blood sugar results in the range of 126 mg/dL and above
 - these levels can increase the risk of heart disease and stroke
 - 2) OGTT (Oral Glucose Tolerance Test)
 - doctor measures how well your body reacts to average dose of sugar
 - patient will be drawn blood two hours before and after he/she drinks pre-mixed beverage with the sugar
 - blood glucose levels are measured to see how the body reacted
 - Blood glucose range for pre-diabetics will be between 140-199 mg/dL.
 - For those with type 2 diabetes, the range will start at 200 mg/dL and continue to peak

How to prevent/control diabetes

- Prevention all starts with a better lifestyle
- eating healthier
- being active
- taking medicine as directed
- taking care of your body
- check feet to make sure there is no nerve damage or interruption of blood flow
- take care of teeth
- control blood pressure and high
- no smoking!
- check in with your doctor at least once a month
- have your blood sugar checked along with weight, blood pressure, and feelings
- Check blood sugar levels daily by using home monitoring device

How does diabetes affect the body?

- Diabetes can affect:
 - heart
 - kidneys (direct result from large amounts of protein being deposited into the urine)
 - eyes
 - nervous system
 - skin
 - your WHOLE body
 - long-term complications include stroke, peripheral vascular disease, hypertension, urinary infections, and coronary artery disease
 - the most frequent health risk from diabetes is known as cardiovascular disease (diabetes can cause high blood pressure that then causes an even stronger resistance to insulin)
 - Diabetes lowers our good cholesterol and raises our bad cholesterol leading to an increase of heart disease and stroke. This can cause the arteries to become clogged with fat.
 - at least 65% of people with diabetes die from heart disease or stroke

Can diabetes be cured?

- Unfortunately, there is not yet a cure for diabetes
- **BUT DON'T GIVE UP HOPE!** There are always new facts and discoveries being made every day.
- Doctors are providing treatment that can lower symptoms of diabetes of all types, which can reduce pain.
- By following a good diet and exercise plan, body may be able to use insulin minimally, or none at all in cases besides type 1
- There is also research being done on “islet” transplantation
- **This can be seen on the next slide

How can I educate myself on diabetes?

- Internet sites that might be helpful in learning more about diabetes!
 - <http://www.diabetes.org/>
 - <http://diabetes.niddk.nih.gov/>
- Brochures
 - These are often given/found at the doctors office
- read statistics
- learn benefits of good health, diet and exercise
- [Studymafia.org](http://studymafia.org)