

# DIABETES

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# WHAT IS DIABETES?

**Diabetes is a condition where the level of sugar in your blood is too high.**

Our body needs sugar for energy.

We get this energy from the food and drinks we eat.



**To do this, our body makes a chemical called Insulin.**

This is made in the pancreas.

Insulin allows the sugar in our blood to enter the cells and fuel our body.



**In Diabetes, the pancreas doesn't sense when sugar has entered the blood.**

This means it doesn't produce enough Insulin.

Sugar stays in the blood instead of entering the cells, and so the blood sugar levels rise to higher than normal.

This leads to the many symptoms of Diabetes.



# ***What is Diabetes????***

- Diabetes is a disease that occurs when your blood glucose, also called blood sugar, is too high.
- Insulin, a hormone made by the pancreas, helps glucose from food get into your cells to be used for energy.

- There is **hyperglycemia or elevated blood glucose** levels in people with diabetes after meals.
- Because **the body doesn't make enough—or any—insulin or doesn't use insulin well.**

- Even though the **blood has plenty of glucose**, the cells **not able to get essential fuel for energy**.
- Over time, **having too much glucose in your blood** can cause health problems.
- Although **diabetes has no cure**, you can take steps to manage your diabetes and stay healthy.

# What is diabetes?

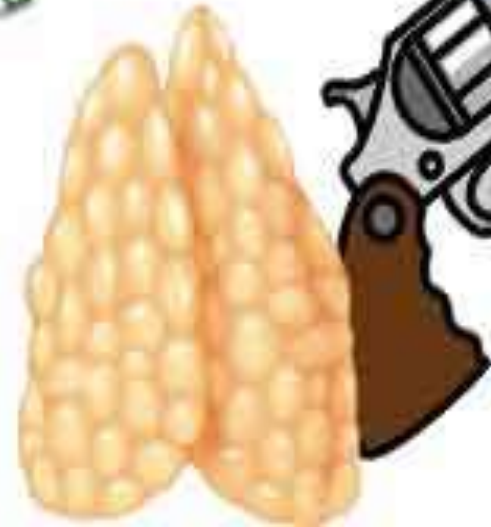
Diabetes is a metabolism disorder. T2D is insulin/leptin disorder. T1D is immune destroys insulin producing cells; no insulin production.



T2



T1



- Sometimes people call diabetes “**a touch of sugar**” or “**borderline diabetes.**”
- These terms suggest that someone doesn't really have diabetes or has a less serious case, ***but every case of diabetes is serious.***



# Criteria for Diabetes Diagnosis

**A1C  $\geq$  6.5%\***

*Perform in lab using NGSP-certified method and standardized to DCCT assay*

**OR**

**FPG  $\geq$  126 mg/dL (7.0 mmol/L)\***

*Fasting defined as no caloric intake for  $\geq$  8 hrs*

**OR**

**2-hr PG  $\geq$  200 mg/dL (11.1 mmol/L) during OGTT (75-g)\***

*Performed as described by the WHO, using a glucose load containing the equivalent of 75g anhydrous glucose dissolved in water*

**OR**

**Random PG  $\geq$  200 mg/dL (11.1 mmol/L)**

*In persons with symptoms of hyperglycemia or hyperglycemic crisis*

- Unless clinical diagnosis is clear, same test to be repeated immediately using a new blood sample for confirmation
- 2 discordant results? Result above diagnostic cutpoint should be repeated



# Types of Diabetes

## Type 1 diabetes

β-cell destruction

## Type 2 diabetes

Progressive insulin secretory defect

## Gestational Diabetes Mellitus (GDM)

## Other specific types of diabetes

Monogenic diabetes syndromes

Diseases of the exocrine pancreas, e.g., cystic fibrosis

Drug- or chemical-induced diabetes

# SYMPTOMS OF DIABETES



ALWAYS HUNGRY



ALWAYS THIRSTY



WEIGHT GAIN



UNEXPLAINED WEIGHT LOSS



BLOOD PRESSURE



NUMB HANDS OR FEET



DIZZINESS



HIGH BLOOD SUGAR



SEXUAL DISORDER



FREQUENT URINATION



EYE DAMAGE



CANDIDA

# Potential Warning Signs of Diabetes



Increased frequency of urination



UTIs or yeast infections



Extreme exhaustion



Unintentional weight loss



Intense hunger or thirst



Tingling or numbness in extremities



Slow-healing wounds

# Diabetes Complications



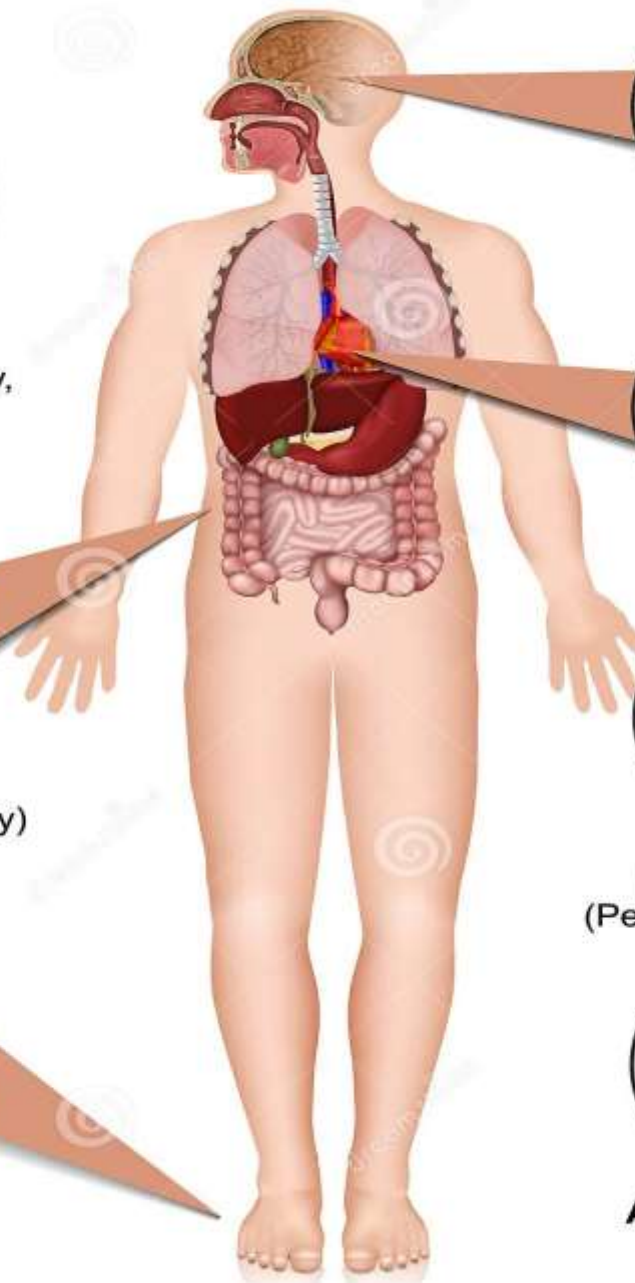
**Eye disease**  
(Diabetic retinopathy,  
Glaucoma,  
Cataract)



**Renal failure**  
(Diabetic nephropathy)



**Diabetic foot**



**Stroke**



**Heart damage**



**Nerve disease**  
(Peripheral neuropathy)



**Arteriosclerosis**



# How to Prevent Complications From Type 2 Diabetes



Ensure cholesterol levels are normal



Eat a balanced diet



Keep blood glucose within its recommended range



Maintain a healthy body weight



Take medication as prescribed

## Research Advancements >> Dramatic Drop In Diabetes-Related Complications



Heart Attack

-67.8%



Stroke

-52.7%



Amputation

-51.4%



Kidney Failure

-28.3%



Provided by the American Diabetes Association



# DIABETIC DIET



Fish, Cheese, Salad



Water, Green Juice



Fresh Fruits



Low Carb Cakes



Sugar Free Ice-Cream



Real Meat



Wegetable Pasta



Bunless Burgers



Red Wine, Spirits



Snack, Fried Food



Soda, Fruit Juice



Bread, Bakery Products



Sweets & Cakes



Ice-Cream



Processed Meat



Pasta With Meat



Burgers & Fries



Beer & Coctails

