



Education and Culture  
Lifelong learning programme  
COMENIUS



**COMENIUS  
MULTILATERAL SCHOOL PARTNERSHIP PROJECT  
EAT SMART**

# DIABETES

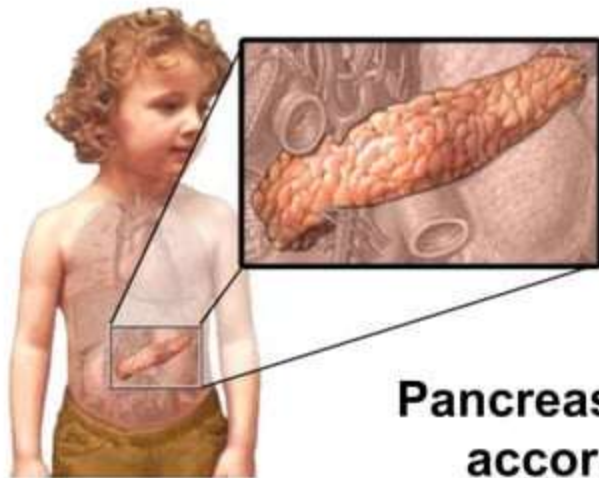
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## DIABETES

- **Diabetes** 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.



## INSULIN PRODUCTION



**Pancreas produce insulin  
according to the blood  
glucose level**



## **What happens if there is a problem with the production of insulin?**

- Glucose in blood is not able to go into the cells.
- The cells can't meet energy needs and energy is tried to be provided from 'fat' and protein'.
- Using 'fat' as the energy source results the increasing of keton in the body.



- With the usage of protein as energy source, the patient feels themselves tired and sluggish.
- If blood glucose is too high, it is tried to be thrown away by kidneys so the patients begin to urinate so often.
- As a result, the patients feel thirsty and start to drink a lot.



- On the other hand, despite eating so often and a lot, the patients lose weight.



# THE TYPES OF DIABETES

- While type 1 and type 2 are the most common form of diabetes, there are others that you may hear about. **Impaired Glucose Metabolism or Pre-diabetes**
- There are two pre-diabetes conditions: **Impaired glucose tolerance (IGT)** is where blood glucose levels are higher than normal but not high enough to be classified as diabetes.
- **Impaired fasting glucose (IFG)** is where blood glucose levels are escalated in the fasting state but not high enough to be classified as diabetes.



- **Teyp 1 Diabetes:**Type 1 diabetes is usually diagnosed in children and young adults. Only 10% of people with diabetes have this form of the disease.
- In type 1 diabetes, the body does not produce insulin.







- Patients with **type 1 diabetes** will need to take insulin injections for the rest of their life. They must also ensure proper blood-glucose levels by carrying out regular blood tests and following a special diet.



- **Type 2 diabetes:**

- The body does not produce enough insulin for proper function, or the cells in the body do not react to insulin.

Approximately 90% of all cases of diabetes worldwide are of this type.



- Some people may be able to control their type 2 diabetes symptoms by losing weight, following a healthy diet, doing plenty of exercise, and monitoring their blood glucose levels.
- However, type 2 diabetes is typically a progressive disease .
- it gradually gets worse and the patient will probably end up have to take insulin, usually in tablet form.



- **Overweight and obese people** have a much higher risk of developing type 2 diabetes compared to those with a healthy body weight.
- The risk of developing type 2 diabetes is also greater as we get older.
- Men whose testosterone levels are low have also been found to have a higher risk of developing type 2 diabetes.



## GESTATIONAL DIABETES

This type affects females during pregnancy.

The majority of gestational diabetes patients can control their diabetes with exercise and diet. Undiagnosed or uncontrolled gestational diabetes can raise the risk of complications during childbirth. The baby may be bigger than he/she should be.



## WHAT CAUSES DIABETES?

- Diabetes causes vary depending on your genetic makeup, family history, ethnicity, health and environmental factors.
- There is no defined diabetes cause because the causes of diabetes vary depending on the individual and the type.



# THE SYMPTOMS OF DIABETES



## HOW ARE DIABETES AND PRE-DIABETES DIAGNOSED?



- Blood tests are used to diagnosis diabetes and pre-diabetes . Lab analysis of blood is needed to ensure test results are accurate.
- Glucose measuring devices used in a health care provider's office, such as finger-stick devices, are not accurate enough for diagnosis but may be used as a quick indicator of high blood glucose.





## DIABETES TREATMENT

- Prevention and treatment often involve :
- physical exercise,
- being a normal body weight.
- Healthy diet




## DIET PLAN

- Daily nutritional needs should be taken frequently but small portions.



## BELOW ARE SOME DIABETES MYTHS:

- **People with diabetes should not exercise** – not true!!
  - Exercise is important for people with diabetes, as it is for everybody else.
  - Diabetes patients should discuss exercise with their doctors before starting the exercise.
  - **Fat people always develop type 2 diabetes eventually** - this is not true.
  - Being overweight or obese raises the risk of becoming diabetic, they are risk factors, but do not mean that an obese person will definitely become diabetic.
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- **Children can outgrow diabetes** - this is not true.
- Nearly all children with diabetes have type 1; insulin-producing beta cells in the pancreas have been destroyed. These never come back. Children with type 1 diabetes will need to take insulin for the rest of their lives, unless a cure is found one day.
- **Only older people develop type 2 diabetes** - things are changing.
- A growing number of children and teenagers are developing type 2 diabetes due to the explosion in childhood obesity rates, poor diet, and physical inactivity.




- **If you have diabetes you cannot eat chocolates or sweets** - people with diabetes can eat chocolates and sweets if they combine them with exercise or eat them as part of a healthy meal.
- **Diabetics cannot eat bread, potatoes or pasta** - people with diabetes can eat starchy foods. However, they must keep an eye on the size of the portions.



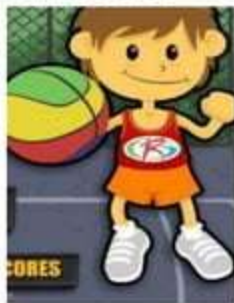
- **Diabetes diets are different from other people's**
  - the diet doctors recommend healthy nutritions; healthy for everybody. Meals should contain plenty of vegetables, fruit, whole grains, and they should be low in salt and sugar, and saturated or trans fat.



## SOME COMPLICATIONS LINKED TO BADLY CONTROLLED DIABETES:

- **Eye complications** - glaucoma, cataracts, diabetic retinopathy, and some others.
  - **Foot complications** - neuropathy, and sometimes gangrene which may require that the foot be amputated
  - **Heart problems** - heart disease when the blood supply to the heart muscle is diminished
  - **Hypertension** - common in people with diabetes, which can raise the risk of kidney disease, eye problems, heart attack and stroke
  - **Mental health** - uncontrolled diabetes raises the risk of suffering from depression, anxiety and some other mental disorders
  - **Hearing loss** - diabetes patients have a higher risk of developing hearing problems
  - **Gastroparesis** - the muscles of the stomach stop working properly
  - **Stroke** - if blood pressure, cholesterol levels, and blood glucose levels are not controlled, the risk of stroke increases significantly
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## WHAT CAN BE DONE FOR DIABETES AT SCHOOL?



- Brochures and films should be prepared to inform the students about diabetes
- Students should be informed about the importance of healthy eating and doing exercises.





- School canteens should be controlled and warned to sell healthy food and healthy drinks rather than fast food and fizzy drinks.



- Students should be informed about not eating fast food
- Parents should be informed about healthy nutrition and the importance of home made food in children's bag.



- Teachers should follow their students about their health problems. If they have some symptoms with any diseases, they should contact with the parents.
- They also should inform the students about the importance of their health.



THANKS  
FOR YOUR ATENTIONS

