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DIABETES OVERVIEW

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What is diabetes?

Diabetes is a lifelong metabolic condition characterized by high levels of blood glucose, resulting from defects in insulin production or action.

The effects of diabetes can trigger serious health complications including disease of the heart, kidneys, eyes and nerves.

People effected has more than doubled during the past 20 years and it is estimated that the number will be >600 million in 2040.

CONTINUE

Type of Diabetes

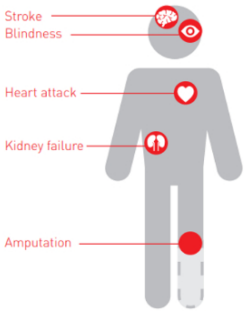
TYPE 1 DIABETES
Body does not produce enough insulin

TYPE 2 DIABETES
Body produces insulin but can't use it well

GESTATIONAL DIABETES
A temporary condition in pregnancy

Consequences

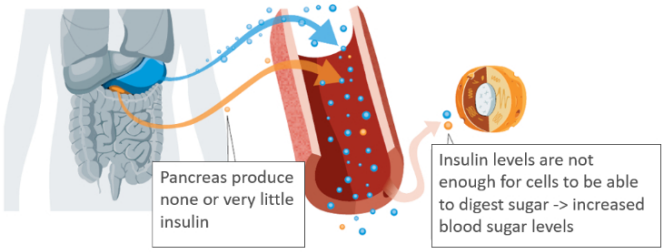
Diabetes can lead to complications in many parts of the body and increase the risk of dying prematurely.



Type 1 (Juvenile Diabetes)

Pancreas failing in producing enough insulin. Lack of insulin needs to be replaced with injections several times per day.

Treatment with insulin is essential for survival (insulin dependent)



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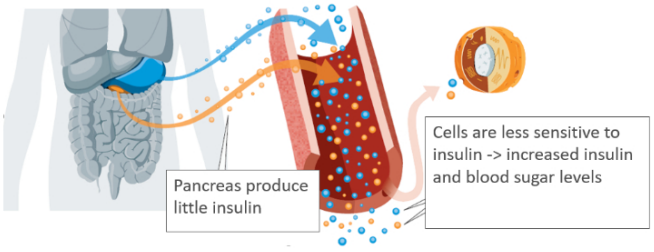
Type 2 (Adult onset Diabetes)

- Characterized by high blood sugar, insulin resistance, and relative lack of insulin.
- Primarily occurs as a result of obesity and lack of exercise. Some people are more genetically at risk than others.
- Type 2 diabetes makes up about 90% of cases of diabetes.



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Gestational Diabetes

- A condition in which a woman without previous diabetes develops high blood sugar levels during pregnancy.
- A decreased sensitivity for insulin requires an increase in insulin production.
- If the body (pancreas) is not able to manage the increased insulin need, blood sugar levels increase and gestational diabetes is developed.

Increased Risk:

- Diabetes in the family, earlier gestational diabetes, obesity, earlier deliveries of babies > 4.5 kg
- Gestational Diabetes --> Increased risks for type 2 diabetes

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The Diabetes Epidemic

Urgency for action to improve diabetes outcomes and reduce global burden of diabetes, now affecting more than **425 million** people.

The estimates of children and adolescents below age 20 with type 1 diabetes has risen to over **1 million**.

If nothing is done, the number of people with diabetes may rise to **629 million** in 2045, although positively, the incidence has started to drop in some high income countries.

At the same time, a further **352 million** people with impaired glucose tolerance are at high risk of developing diabetes.

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Diabetes Management

- There is a need for accurate, precise, and easy-to-use methods for diabetes management.
- Self monitoring of blood glucose on a daily basis is an important part of diabetes management.
- By measuring the HbA1c level in blood, it is possible to get an overall picture of the average blood sugar levels over the last 2-3 months, as a marker of long-term diabetes control (recommended to be checked 2-4 times/year).
- An elevated urine albumin level dramatically increase risk for diabetic nephropathy. Early detection and treatment will slow down or even prevent the onset.

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Diagnosis of Diabetes

Diagnosis of diabetes is established by identifying the presence of hyperglycemia. Diagnosis should **not** be made on the basis of a single abnormal plasma glucose or HbA1c value. Recommendations for diagnosis (national variations may apply):

- Fasting plasma glucose ≥ 7 mmol/L (126 mg/dL)
- Plasma glucose 2 hours after an oral glucose load of 75g ≥ 11 mmol/L (200 mg/dL)
- Symptoms of hyperglycemia and casual plasma glucose ≥ 11 mmol/L (200 mg/dL)
- **HbA1c ≥ 6.5% (48 mmol/mol)***

** An International Expert Committee in 2009 recommended that HbA1c can be used to diagnose diabetes if HbA1c level is ≥ 6.5%. Diagnosis should be confirmed with a repeat HbA1c test, unless clinical symptoms and plasma glucose levels >11.1mmol/l (200 mg/dl) are present.*

CONTINUE

Summary

- Diabetes is a lifelong metabolic condition that can trigger serious health complications if not managed properly.
- 3 major types of diabetes: Type 1, Type 2 and Gestational Diabetes.
- Urgency for action to improve outcomes and reduce global burden.
- Monitoring of blood glucose, HbA1c and urine albumin levels are important.
- Several recommendations for diagnosis:
  - Fasting plasma glucose ≥ 7 mmol/L (126 mg/dL)
  - Plasma glucose 2 hours after an oral glucose load of 75g ≥ 11 mmol/L (200 mg/dL)
  - Symptoms of hyperglycemia and casual plasma glucose ≥ 11 mmol/L (200 mg/dL)
  - HbA1c ≥ 6.5% (48 mmol/mol)

CONTINUE

References

Page 2 WHO Global Report on Diabetes 2016.
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Page 3 WHO 2016 Diabetes Infographic,v2

Page 4-6 WHO Global Report on Diabetes 2016.

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