INFORMATION SHEET

Diabetes Type 1 is a condition found in organisms where the hormone insulin is not produced by the beta cells of an individual. Insulin regulates the excess sugar in the blood by stimulating the uptake of sugar by the cells.

It is essential that diabetics monitor their sugar levels regularly and administer insulin under the skin into a fatty layer when required.

Symptoms of Diabetes Type I include the following:

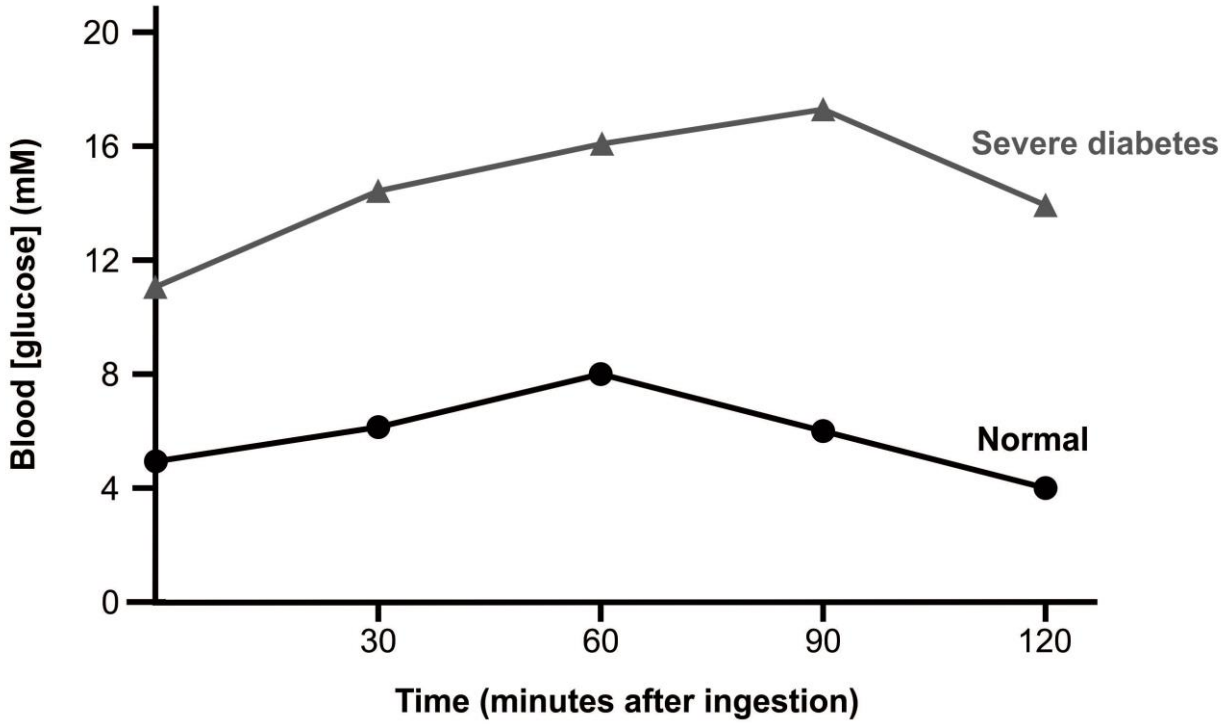
Excessive thirst, dry mouth, tiredness, wounds that will not heal, glucose in urine and loss of weight.

Why these symptoms occur:

When blood glucose rises above a certain level, it is removed from the body in urine. A resulting increase in the volume of urine occurs. The brain detects the loss of water from the body and triggers thirst in the individual.

Insulin is injected by diabetics to provide the hormone that is lacking that 'mops up' the free sugar in the blood.

Below is a typical curve of the blood sugar levels of a non-diabetic (normal) and a person suffering from Diabetes Type I in the two hours after ingesting a meal high in carbohydrates.



[Source: http://www2.gvsu.edu/chm463/diabetes/diabetes-mellitus-good.htm>]

Glucose is a **reducing sugar.** Benedict's solution is used to detect if a reducing sugar is present.

No reducing sugar present – the Benedict's solution remains blue in colour.
Trace (tiny) amounts of reducing sugar present – the solution is a greenish colour.
Moderate amounts of reducing sugar present – the solution is a brownish yellow colour.
Large amounts of reducing sugar present – the solution is an orange or brick-red colour.