

3 - Insulin therapy

The treatment of type 1 diabetes mellitus (T1DM) is based on the subcutaneous administration of insulin using a pen (Basal Bolus regimen) or a micropump.

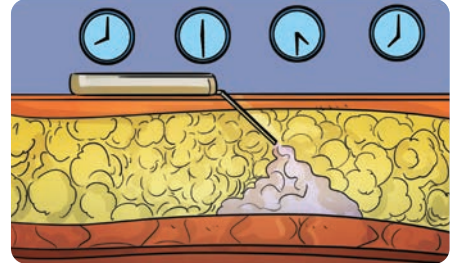
Basal Bolus and micropump therapy



The Basal Bolus regimen involves a dose of slow-acting insulin (basal), usually before going to bed, which acts for about 24 hours, and doses of fast-acting insulin (boli) before each meal.



A micropump is a small medical device, about the size of a mobile phone, that continuously injects only fast-acting insulin through a thin tube connected to a needle inserted into the subcutaneous tissue.



Using a micropump is the best way to mimic the physiological secretion of insulin by a normal pancreas, by varying the amount administered at different times of the day.

How micropumps work...



Micropumps have different delivery rates, which are set by a doctor on a case-by-case basis, or established by an algorithm in advanced hybrid systems. The boli are administered at mealtimes, when corrections are required, or for snacks.



In order to be able to manage and use a micropump properly, it is important to learn to recognise the amount of carbohydrates contained in the meal (carbohydrate counting)...



...and to know your insulin sensitivity factor (to what extent 1 unit of insulin lowers your blood glucose) and the insulin-to-carbohydrate ratio (how much carbohydrate is "absorbed" with 1 unit of insulin).

... and when



In the event of poor metabolic control or reduced insulin requirements, micropumps are indicated during pregnancy, starting from the planning stage.



They are recommended for people who do jobs that make it difficult to manage the illness with several daily doses, and for those who have frequent unnoticed "hypos" (short for 'hypoglycaemias').



Micropumps can be used alone or in combination with a device that measures blood glucose continuously using a sensor (CGM).