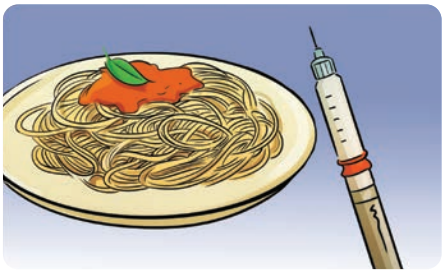
9 - Carbohydrate counting

Carbohydrate counting (or Carb Counting) is a technique for calculating the amount of carbohydrate in a meal and deciding the dose of insulin required to absorb them. It requires a structured education programme.

What is it?

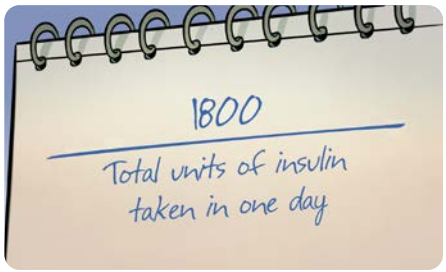
Formulas are used to calculate two parameters – the insulin sensitivity factor and the personal insulin-to-carb ratio – which can then be adjusted based on the content of the blood glucose and diet diary, as discussed with the Diabetes Team.

The insulin sensitivity factor indicates to what extent blood glucose is lowered with 1 unit of insulin and it is useful for correcting hypos and calculating the dose of insulin properly.

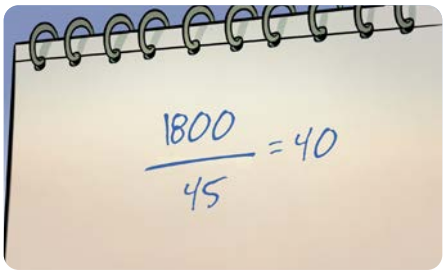


The insulin-to-carb ratio indicates how much carbohydrate is absorbed with 1 unit of insulin.

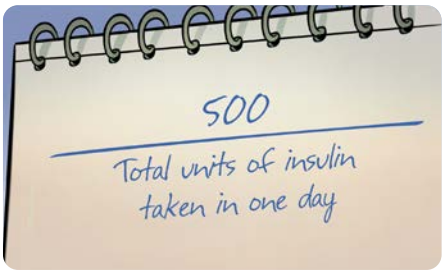
How to calculate it



Specialists calculate the specific **insulin sensitivity factor** for each patient using special formulae or by analysing his or her diet diary together with a dietician.



The most commonly used formula is, for example: 1800/45 = 40
This means that 1 unit of insulin lowers blood glucose by 40 mg/dL.



Specialists calculate the specific **insulin-to-carb ratio** for each patient. The most commonly used formula is: 500/ Total units of insulin per day.

Diet diaries and Bolus advisor monitors

Diet diaries are booklets with pictures of meals and descriptions of the weight and amount of carbohydrates (carbs) they contain and are very useful for calculating the quantity of carbohydrate.

Bolus advisors are systems that, based on the data set (insulin sensitivity factor and insulin-to-carb ratio and the amount of carbohydrate estimated for the meal, suggests the bolus (units of insulin) to administer.

With these apps the bolus advisor can help manage the administration of insulin even in particular situations, like exercise and intercurrent illnesses, using customisable pre-set parameters that adjust the bolus suggested.

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