

INSULIN ON BOARD EXPLAINED

Insulin on Board (IOB) is the calculation that tells you how much insulin is still active in your body from previous bolus doses.

During your training, you will have learnt that approximately 30% of the insulin bolus is used every hour. The Animas pumps use a patented algorithm to calculate this more accurately based on the insulin action curve of Novorapid and Humalog.

IOB is only used to adjust your correction bolus but includes all of the bolus insulin (food and correction) taken previously within your personal IOB time period. IOB varies between individuals but the average timeframe is 3½ - 4 hours. Your IOB is setup in Advanced Setup Screen 8.

IOB does not include basal insulin.

IOB is never subtracted from your current food bolus. Your food bolus always needs to match the carbohydrate you are eating.

IOB takes into account all insulin from previous boluses within the pre-set timeframe.

IOB is only deducted from the correction portion of your current bolus.

All previous boluses still on board are taken into account because even though the previous bolus may have been for food, any insulin on board will still have an effect on your current blood sugar.

In NZ, we only enter the blood glucose value if it is above your target range.

Insulin on Board Summary

Food bolus only	IOB not subtracted
Correction bolus only	IOB subtracted
Food bolus with correction bolus	IOB subtracted from correction bolus component only

Below are different scenarios to demonstrate how the pump suggests your current bolus based on your food intake, blood glucose and IOB



Scenario 1

No correction is involved in this bolus so the pump suggests the full dose for carbohydrate ignoring the insulin on board ie **2.25 units**



Scenario 2

This bolus calculation involves a high blood glucose. The insulin on board is greater than that needed for the correction though so no correction is needed. The pump suggests the full dose for carbohydrate ie **2.25 units**



Scenario 3

This bolus calculation involves a high blood glucose. There is still insulin on board so the correction is modified by subtracting the IOB from the BG bolus ($3.25 - 1.50u = 1.75u$). The pump suggests the full dose for carbohydrate and this is added to the modified correction bolus. The pump suggests **4.00 units**.



Scenario 4

This bolus calculation involves a high blood glucose. There is still insulin on board so the correction is modified by subtracting the IOB from the BG bolus ($1.50 - 1.50u = 0u$). The pump suggests the full dose for carbohydrate and this is added to the modified correction bolus. The pump suggests **2.25 units**.