

INSULIN DOSING CALCULATION

Carbohydrate Ratio: defined as 1 unit of insulin for a set number of grams of carbohydrates.

For example, for a carbohydrate ratio of 1:15, this means 1 unit of insulin for every 15 grams of carbohydrates. If the child's lunch is 45 grams of carbohydrates, the bolus would be 3 units.

Correction Factor/ Sensitivity factor: Additional Insulin that must be added into the dose for blood sugars OVER 120 (child's target blood sugar). This is called a correction bolus and is calculated using the target blood sugar, current blood sugar, and "correction factor" a.k.a. "sensitivity factor." The correction factor is defined as the number of points that a patient's blood sugar will drop with each unit of insulin.

For example, a correction factor of 1:100 means one unit of insulin should decrease the blood sugar by 100 points.

Formulas: Calculate each separately and add units together for meals and snacks and round to the nearest full or half unit.

Meal bolus = (# grams of CHO) CHO ratio

Correction bolus= (Blood sugar – Target blood sugar) divided by the Correction factor/sensitivity factor

If blood glucose before a meal or snack is less than 120, you just calculate Insulin based on the Insulin to carb ratio of 1:15. Give this before eating.

If the CGM/ Meter glucose reading is greater than 120 during a meal, Additional Insulin that must be added into the dose for blood sugars OVER 120 (child's target blood sugar). Calculate each separately and add units together for meals and snacks and round to the nearest full or half unit.

Total dose= Meal bolus + Correction bolus

Wait for at least 2 hrs. After 2 hours if the blood sugar is over 200, you can give the correction bolus without food. But if it is closer to a meal. I would include the additional dose for food

Example: If pre-breakfast blood sugar of 250, and he is having 45 grams of carbohydrates, and Insulin to carb is 1:15, and the correction factor is 130, the dose would be as follows:

1 unit for the 250 blood sugar (130 points over target of 120) +

3 units for 45 grams of carbohydrates = TOTAL of 4 units of insulin

For any blood sugar over 120, give insulin correction dose using correction factor calculation above.

Then wait at least 2 hrs, after than if the BG is over 200, then give the correction dose only

NOTE: Correction dose should ONLY be given when it has been AT LEAST TWO HOURS SINCE LAST INSULIN ADMINISTRATION.

Hope that was helpful. Please call the office with any questions, (914) 366-3400 to speak with our clinical staff.

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