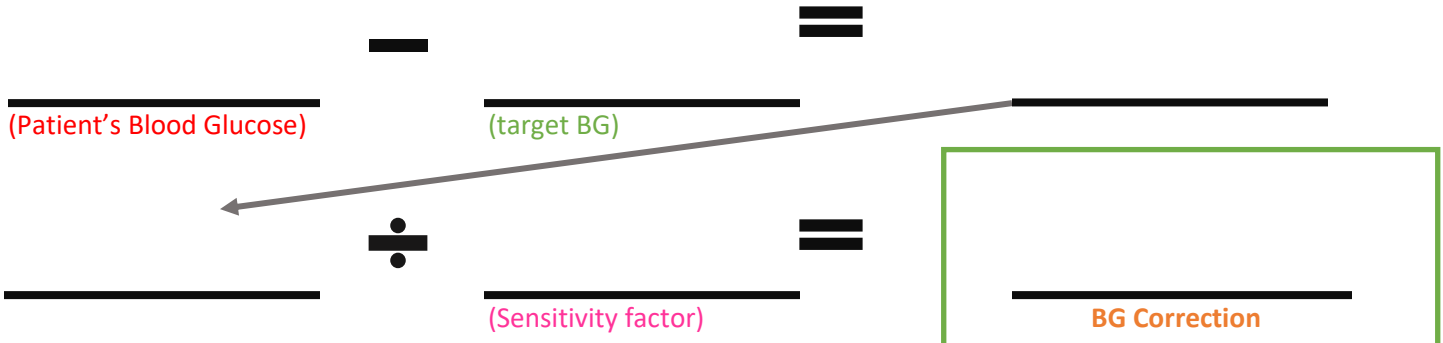
Rapid Acting Insulin Dose Calculation

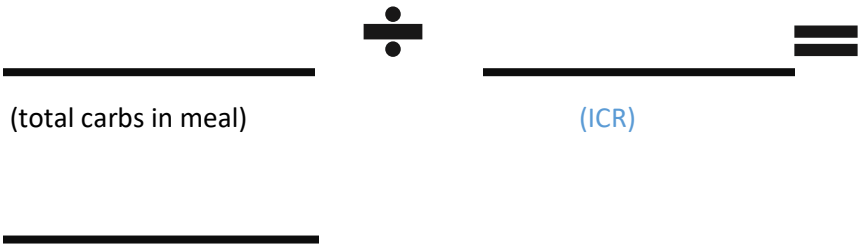
Target Blood Glucose	
Sensitivity (Hyperglycemia Correction Factor)	
ICR	
Circle one: **Full unit dosing or half-unit dosing)**	
All of these values will come from your diabetes doctor.	

Blood Glucose Correction Dose



BG Correction
Do not round

Insulin to Carbohydrate Dose



Carb Correction
Do not round

Rounds to:

Rounding Rules:

- Full Unit rounding:
  - 0-0.49 rounds to 0
  - 0.5-0.99 rounds to 1
- Half unit rounding:
  - 0.1-0.25 rounds to 0
  - 0.26 to 0.75 rounds to 0.5
  - 0.76-0.99 rounds to 1

Rapid Acting Insulin Dose Calculation

What is it?

- The insulin sensitivity formula is used to calculate rapid acting insulin doses. It uses three pieces: The **target blood glucose**, the insulin **sensitivity** and the **insulin to carbohydrate ratio** or **ICR.**
- The **target blood glucose** is the number to which the formula should lower the blood glucose after insulin is given.
- The **sensitivity** takes into consideration how much 1 unit of insulin is expected to lower the child's blood glucose
  - Most often used for dosing at meals and snacks
  - May also be used to clear ketones and for sick day management.
- The **insulin to carbohydrate ratio** takes into consideration how much a certain amount of carbohydrate is expected to raise the blood sugar.

How does it work?

Correction Dose + Carbohydrate Dose = total mealtime insulin dose

How to calculate a ***correction dose***:

BG (from glucometer) – **Target BG** (from Endo) ÷ **Sensitivity*** (from Endo) = **Correction dose (units)**

How to calculate a **carbohydrate dose:**

Total carbohydrate eaten ÷ ICR (insulin to carbohydrate ratio) = Carbohydrate dose (units)

Example:
ICR is 1 unit of insulin per 15 grams of carbohydrate.
Target BG is 130 and sensitivity* is 50.

Mealtime Blood glucose is 199 and the patient eats 79 grams.

Step 1: Calculate correction dose
BG – Target BG ÷ Sensitivity (Hyperglycemia Correction Factor) = Correction dose (units)
199 - 130 = 69 this means the patient's blood glucose is 69 points above target BG.
69 ÷ 50 = 1.38 units this is your correction dose.

Step 2: Calculation of carbohydrate dose
79 grams of carbohydrate ÷ 15 (ICR) = **5.2 units**

Step 3: Add correction dose to carbohydrate dose, then round at the end.
1.38 units + 5.2 units = 6.58

Step 4: Round. This patient would get 6.5 units if dosing in half units, 7 units if dosing in full units.