Insulin to Carbohydrate Ratios and Correction Factors

Insulin to Carbohydrate Ratio (I:C)

Your insulin to carbohydrate ratio is how many grams of carbohydrate one unit of insulin will cover. Your ratio will help you determine how much bolus insulin to take based on the carbohydrate content of your meals and snacks.

My insulin to carbohydrate ratios:

B: _____ L: _____ S: _____

My post-meal BG target is _____

How to Calculate Insulin Dosage

$$\frac{\text{Total grams of carbs}}{\text{I:C}} = \text{Units of Bolus Insulin}$$

For example:

You eat 45g of carbohydrate and your I:C ratio is 15g

$\frac{45}{15} = 3$ Units of Insulin

How to Test your I:C Ratio

1. Start with a pre-meal BG close to the normal range 4-7 mmol/L.
2. Eat a meal lower in fat and ensure your carb count is accurate.
3. Test and record your BG levels 2, 3, and 4 hours after the meal.
4. Based on the 2-3 hour post-meal BG, adjust the following:

If your BG is **more than** 2-3 mmol/L higher than your post meal target, decrease your I:C by 1g or _____ g

If your BG is **less than** your *pre-meal* target, increase your I:C by 1g or _____ g

If your BG **stays within** your post-meal target range, your I:C ratio is correct.

*It is not uncommon to have different I:C ratios for different times of the day, so make sure you test each meal-time.

Correction Factors (ISF)

Your correction or insulin sensitivity factor (ISF) is how many mmol/L your BG levels drop when you take 1 unit of insulin.

My insulin sensitivity factors:

B: _____ L: _____ S: _____

How to Test your ISF

1. Start with a BG level that is above your target (make sure its been 3-5 hours since your last meal or bolus and when you can wait 4 hours to eat).
2. Take insulin (correction bolus) using your pump recommendation.
3. Test and record your BG levels every 1-2 hours for 4 hours.
4. Based on the 4 hour post correction BG, adjust the following:

If your BG is greater than 1.7 mmol/L **above** target **decrease** your factor by 0.3 mmol/L or _____ mmol/L.

If your BG is greater than 1.7 mmol/L **below** target **increase** your factor by 0.3 mmol/L or _____ mmol/L.

If your BG is within 2-3 mmol/L of your target, your correction factor is correct.

*You may have a higher ISF for bedtime snacks and corrections