

Evaluating and Fine-Tuning Your Bolus Dose Ratios

Your initial bolus ratios, insulin-to-carb ratio (I:C) and insulin sensitivity factor (ISF), were estimates and may need to be adjusted to reach your blood glucose (BG) goals. Once your basal rates are fine-tuned, it is time to begin evaluating your bolus doses. Does your I:C ratio cover the carbs you eat? Does your ISF accurately correct high or low BG readings? Just like with evaluating basal rates, there are systematic ways to help you evaluate your bolus doses and determine what adjustments are needed.

Evaluating Your I:C Ratio

Directions	BG Checks
<ul style="list-style-type: none"> Basal rates should be evaluated and adjusted if necessary prior to evaluating your I:C ratio BG should be in target range before meal you are evaluating. You want to look at the I:C ratio alone Choose food with known carb amounts such as pre-packaged meals Choose low fat meals Do not evaluate during time of illness, stress, or after exercise unless this is your routine Evaluate all meals as you may find that you need different I:C ratios at different times of the day 	<ul style="list-style-type: none"> Check BG before meal Check BG hourly for the next 4 hours

Example of I:C Bolus Evaluation Log

Day/Date: Friday, Sept 24 Event: Breakfast I:C

	Before Meal	Hour 1	Hour 2	Hour 3	Hour 4
Time	7:00 am	8:00 am	9:00 am	10:00 am	11:00 am
BG	100	177	212	171	160
Carbs	50 grams				
Bolus	5 units (1:10 I:C ratio)				

The example above indicates that the bolus for the meal is not enough. The BG rose 112 mg/dL at 2 hours after the meal and the BG did not come down to an acceptable target BG when done working by hour 4. Therefore, the I:C ratio of 1:10 needs to be a lower number to give a larger bolus for each gram of carb. With any insulin adjustment, you want to see trends before making changes. This means you need to repeat the evaluation two to three times. It is helpful to evaluate meals at different times of the day; you may discover that your ratio doesn't work the same at different mealtimes. You may want to start with testing your breakfast ratio first one week followed by lunch the next and so on until you have found the ratio that works best for each meal or timeframe.

Evaluating the Results

- Expect your 2 hour post-meal BG to be 40-80 mg/dL higher than your before-meal BG.
- If BG returns to target 4 hours after meal, I:C ratio set correctly.
- If BG is above target 4 hours after meal, increase amount of insulin needed to cover the carbs in that meal by lowering the I:C number (eg, if on 1:15, change down to 1:13).
- If BG is below target 4 hours after meal, decrease amount of insulin needed to cover the carbs in that meal by raising the I:C number (eg, if on 1:14, change up to 1:16).

Check with your healthcare provider for I:C dose adjustment.

Bolus Dose Evaluation Logs

Use the following charts to help you pull together information from your bolus dose evaluations.

I:C Ratios

Day/Date: _____ Event: _____

	Before meal	Hour 1	Hour 2	Hour 3	Hour 4
Time					
BG					
Carbs					
Bolus					

Day/Date: _____ Event: _____

	Before meal	Hour 1	Hour 2	Hour 3	Hour 4
Time					
BG					
Carbs					
Bolus					

Day/Date: _____ Event: _____

	Before meal	Hour 1	Hour 2	Hour 3	Hour 4
Time					
BG					
Carbs					
Bolus					