

Overnight Basal Insulin Evaluation for Type 1 Diabetes

OBJECTIVE: TO DETERMINE IF YOUR OVERNIGHT BASAL INSULIN DOSE IS CORRECT

A correct basal insulin dose is required to maintain normal fasting blood sugars and achieve pre-meal blood glucose targets. Too much basal insulin can result in hypoglycemia. Too little basal insulin can result in hyperglycemia, especially higher fasting blood glucose.

HOW TO PERFORM THE OVERNIGHT BASAL INSULIN EVALUATION

STEP 1:

Answer all of the following questions before proceeding with the basal insulin evaluation.

Questions	✓ if yes
1. I am able to eat an early dinner (preferably finish dinner by 8pm)	
2. My blood glucose 4 hours after dinner is between 5-8 mmol/L	
3. I did not have any hypoglycemia today	
4. I did not undertake any strenuous exercise on day of evaluation	
5. I am feeling well today.	
6. I was able to eat a healthy home-cooked dinner that is not high in fat	
7. I was able to avoid supper and snack after dinner	
8. I did not drink any alcohol this evening.	

NOTE: Proceed to Step 2 only if you have answered 'yes (✓)' to ALL the above questions.

STEP 2:

Perform the following blood glucose checks and fill in relevant information in the table on the next page.

- Your 4 hours after dinner blood glucose should be **between 5-8mmol** for you to proceed with the evaluation.
- Record type and dosage of your basal insulin and time of administration.
- Check your blood glucose at 2-3 AM.
- Check your blood glucose on waking up.

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The information provided in this publication is meant purely for educational purposes and may not be used as a substitute for medical diagnosis or treatment. You should seek the advice of your doctor or a qualified healthcare provider before starting any treatment or if you have any questions related to your health, physical fitness or medical conditions.

NOTE:

- Please abort the evaluation test if you experience hypoglycemia at any point of time and remember to treat your hypoglycemia.
- Do not give a correction bolus unless any overnight sugar reading exceeds 14.0 mmol/L
- If you need to give a correction bolus, please abort the evaluation test.
- Check your blood glucose one hour later to ensure your glucose are coming down.
- Plan to re-do the overnight basal evaluation on another day in case of hypoglycemia or if you need a correction bolus.

Basal Insulin Evaluation Record			
Date of Evaluation:			
Timing	4 hours after dinner (and bolus injection)	2-3am	Upon waking up
Time			
Blood glucose (mmol/L)			

Type of basal insulin used	
Dosage of basal insulin	
What time was basal insulin given?	

Interpretation:

- Your basal insulin dose is correct if you have done the evaluation correctly and your blood glucose at bedtime and on waking up differs by ± 2.0 mmol/L.
- If the fluctuation is more than ± 2 mmol/L, this indicates a need to adjust the basal insulin. Please speak to your doctor / diabetes nurse educator about this.
- You will need to repeat the evaluation on another day to confirm the settings.

Reference: Smart Pumping for people with diabetes. Howard Wolpert, MD. American Diabetes Association (2001).

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