

Insulin Pump Therapy: Coming Off the Pump

You need a plan to replace insulin and prevent diabetic ketoacidosis (DKA) if you're off your pump for longer than 2 hours. Speak with your healthcare provider.

Start Here

- If your pump fails, call the 1-800 number on the back of your pump for a replacement. Ask if the replacement will take less than 1 day. Replacement pumps cannot be shipped outside of Canada. If planning a vacation, ask the company about a loaner pump or take a vial of basal insulin and syringes with you. Talk with your diabetes team about the type of basal insulin.
- Have your current insulin doses written down in a safe place. Include basal rates, total daily units of basal, insulin-to-carbohydrate ratios, insulin sensitivity factor (ISF), and target blood sugars.
- Calculate your insulin doses for basal and bolus insulin replacement using this handout.

No Pump for Less than a Day

To replace *basal* insulin

- Use rapid insulin (Apidra®, Fiasp®, Humalog®, NovoRapid®) by syringe or insulin pen every 3 hours until the pump is re-started.
Example: Basal rate is 0.7 units/hr from 12 noon to 3 p.m. = $0.7 \times 3 \text{ hrs} = 2.1$ units (round to 2).

To replace *meal bolus* insulin

- Use the insulin-to-carbohydrate ratio that was programmed in your pump.
Example: Insulin-to-carbohydrate ratio of 1 unit per 12 grams (1:12). If eating 60 grams of carbohydrate, $60 \div 12 = 5$ units of rapid insulin.
- Don't do this step if you're not eating.

To replace *correction insulin* to correct a high blood sugar

- Use the insulin sensitivity factor (ISF) that was programmed into your pump.
Example: ISF = 2, target blood sugar = 6 mmol/L. Blood sugar is 12 mmol, so the correction would be $(12 - 6) \div 2 = 3$ units of rapid insulin.
- Check for ketones if over 14 mmol/L. Give extra insulin if needed. (Think about 1.5 times the usual correction dose if ketones are trace/0.6 mmol/L or greater and blood sugar 14 mmol/L or more).

From the examples above, the total insulin given at 12 noon is:

2 units for basal replacement
 + 5 units for meal bolus insulin
+ 3 units for correcting high blood sugar (correction insulin)
 = 10 units rapid insulin at 12 noon as injection



If no meal in 3 hours

- Replace the basal insulin for the next 3 hours and correct for high blood sugar if needed. Continue every 3 hours until the pump is re-started.
- When re-starting the pump, wait 3 hours after the last injection before starting the pump's basal rates (or use a temporary basal rate of 0% for up to 3 hours past the last injection).

Without the pump for more than a day

- To replace meal bolus insulin and correction insulin, follow the guidelines on the first page "No pump for less than a day".

Replace basal insulin with once a day Basaglar® or Lantus® (unless you've discussed an alternative basal insulin with your diabetes team)

- Calculate the total daily units of basal insulin. Inject this dose of Basaglar® or Lantus® at the time you're taken off the pump or the pump fails. Repeat every 24 hours.
Example: If the total daily basal dose is 30 units, then 30 units of Basaglar® or Lantus® insulin is given at the time the pump fails and is repeated at the same time daily.
- Use rapid insulin for meal boluses and correction insulin only (not for basal insulin).
- Re-starting the pump: Wait 24 hours from when the Basaglar® or Lantus® was last given before re-starting basal insulin in the pump.

OPTION 3: Write down any different plans your healthcare provider suggests.

Adapted from Insulin Pump Failure or Temporary Interruption, IWK Pediatric Diabetes Clinic, Halifax, N.S

This material is for information purposes only. It should not be used in place of medical advice, instruction, and/or treatment. If you have questions, speak with your doctor or appropriate healthcare provider.