

Coming Off Your Insulin Pump: Children and Teens

There may be times when you need or want to come off your pump for a short period of time (pump breakdown or “holiday”).

Before coming off your pump, you need to know your:

- total amount of basal insulin in a day
- average total daily dose of insulin
- insulin to carbohydrate ratios
- correction information (target blood glucose and insulin sensitivity factor)

Replacing Basal Insulin

You need to replace your basal insulin with Levemir® or Lantus®. These do not have “peaks” and last about 24 hours. They are usually given once per day at a set time. The most convenient time to give them is at supper or bedtime. (Breakfast is not a good time because many children and teens like to sleep-in.) If you come off your pump early in the day, you will give rapid insulin (Humalog® or Novo Rapid®) every 4 hours until the Levemir® or Lantus® is given. For example if your pump comes off at 10 a.m. and you are going to start Levemir® or Lantus® at 6 p.m., you would give a dose of rapid at 10 a.m. equal to the amount of basal insulin you would have received from 10 a.m. to 2 p.m. Again at 2 p.m. you would give another dose of rapid equal to the amount of basal insulin you would have received from 2 to 6 p.m.

Calculating the Dose of Levemir® or Lantus®

Your basal dose of insulin should be *about* $\frac{1}{2}$ of your total daily dose. If it is, then the dose of Levemir® or Lantus® is equal to the **total basal dose** that you were using in your pump.

If it is not, then you need to recalculate your basal dose so that it is equal to $\frac{1}{2}$ your total daily dose. For example if the total basal dose in a day is 40 units, but the average total daily dose is 64 units, then your basal dose of Levemir® or Lantus® is 32 units ($\frac{1}{2}$ of 64 units).

After starting Levemir® or Lantus®, wait 2 to 3 days before adjusting the dose. Your fasting morning blood sugars tell you how well it is working.



Giving Bolus Insulin

You will give Humalog® or Novo Rapid® with a pen or syringe. Calculate the dose using your insulin to carbohydrate ratio. If your blood sugar is elevated, calculate your correction insulin and add this to the food bolus.

Your pump automatically calculates insulin on board and will bolus accordingly. Follow these correction guidelines to ensure that you do not overlap your bolus doses:

- Do not correct if less than 2 hours have passed since your last bolus.
- Give $\frac{1}{2}$ the correction if 2 hours have passed since your last bolus.
- Give a full correction if 3–4 hours have passed since your last bolus.

Example:

Sarah is on holiday in Mexico. Her pump stops working at noon. Her total basal insulin is 22 units a day between 10 a.m. and 6 p.m. Her basal rate is 1.2 units per hour. Her insulin to carbohydrate ratios are 1:15. Her correction formula is $(B/G - 6) \div 3$.

At noon, Sarah eats a 90 gram lunch. Her blood sugar is 7.2. Sarah gives herself 6 units of Humalog® for lunch plus 5 units of Humalog® for the basal insulin she will be missing for the next 4 hours (1.2×4). At 4 p.m. she checks her blood glucose and it is 12.4. She uses her correction formula $(12.4 - 6) \div 3$ and gives 2 units plus another 2.5 for 2 hours of basal insulin she will be missing for the next 2 hours (1.2×2). At 6 p.m. Sarah gives 22 units of Lantus®.

Going Back on the Pump

When you are ready to go back on your pump, you must wait until it is time for your next dose of Levemir® or Lantus®. This will ensure that you do not have any overlap of basal insulin. If you are restarting your pump in the evening, be sure to set your alarm and check your blood sugar 2–3 hours after you have inserted the new infusion set.

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