

# Getting Started on Your Insulin Pump

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**Starting basal rates**

Midnight	_____
3 a.m.	_____
7 a.m.	_____
11 a.m.	_____
7 p.m.	_____

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## Starting bolus dosages

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**Carbohydrate ratio:**

Breakfast:	_____ units per _____ grams of carb
Lunch:	_____ units per _____ grams of carb
Dinner:	_____ units per _____ grams of carb

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## Correction factor (sensitivity):

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**Daytime:** 1 unit of insulin for every \_\_\_\_\_ points over blood glucose of 120 (you may change your target to 100 after your pump is set).

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**Nighttime:** 1 unit of insulin for every \_\_\_\_\_ points over blood glucose of 120 (or 150 for toddlers/preschoolers).

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**Blood glucose target levels:**

Before meals	70-150 mg/dl
2 hours after meals	less than 200 mg/dl
Bedtime and nighttime	100-150 mg/dl

To best determine if these rates are right for your body, follow these rules for the first 2 to 3 weeks (or until all fasts and ratios have been determined):

- Follow a stable food pattern. Avoid foods that are difficult to count carbohydrates until pump settings are determined. Avoid foods that are high in fat because the fat will slow down the absorption of the carbohydrates.
- Have 3 meals at set times, with no carbs between meals except to treat a low.
- Do not give a bedtime carbohydrate snack unless to treat a low. Protein snack is fine.

### To Learn More

- Endocrinology  
206-987-2640
- Ask your child's healthcare provider
- [seattlechildrens.org](http://seattlechildrens.org)

### Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

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- Correct blood glucose only at mealtimes unless they are over 300 or ketones are present.
- Limit exercise for the first several days of pump use.

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### Monitor and record (or download to computer):

- Blood glucose
- Carbs eaten
- Meal boluses
- Correction boluses
- Basal rates
- Ketones if tested
- When a set change has been done

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### Check blood glucose at these times:

- Before meals
- 2 hours after meals
- At bedtime
- At midnight
- At 3 a.m.

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### Setting the basal rates:

Once you have been on the pump for several days, you will be asked to fast (not eat) during part of the day to evaluate the basal rates. **Follow these rules when fasting:**

- Do not eat during fasting period (except for minimal free foods – too many can raise your blood glucose).
- Check blood glucose every 2 hours and record in logbook.
- Treat a low blood glucose (below 70) and **stop the fast.**
- Do not correct a high blood glucose during a fast unless it is greater than 300; if you have to correct, **stop the fast.**
- Do not do any prolonged exercise on the day of the fast. Normal activities are okay.

See the accompanying worksheets for the time frames of the fasts and when to check blood glucose and the eating schedule.

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### Hypoglycemia (Low blood glucose)

**If blood glucose is below 70**, take 10 to 15 grams of carbohydrate (like 4 oz. juice or soda, 3 glucose tablets, 5 Lifesavers) then retest in 15 minutes. If still low, repeat.

You do not need to eat a follow-up snack; except if you gave a bolus in the last 2 to 3 hours, you may need a snack.

### Unexplained high blood glucose:

Your pump uses rapid acting insulin **only**. If insulin delivery is interrupted, ketosis can develop **very** quickly. **Possible causes** could be:

- Empty cartridge or pod
- Kink in cannula or tubing
- Insulin that has lost its potency or is expired
- Infusion set inserted into scar tissue
- Infusion set disconnected from pump
- Insulin is not absorbing for unknown reason

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### Treatment for unexplained blood glucose greater than 300:

- Check tubing for leaks, air bubbles, kinks and that the set or pod is inserted properly
- Check for ketones immediately
- If ketones are negative, trace or small then you can give a correction dose through the pump. Glucose level needs to be checked 1 hour later. If glucose level is not lower in 1 hour, change infusion set or pod and give correction dose with syringe or pen.
- If ketones are moderate, give 1.5 x correction dose with syringe or pen, and change infusion set or pod
- If ketones are large, give 2 x correction dose with syringe or pen, and change infusion set or pod

Continue to check for ketones every 2 hours until negative. If you continue to have moderate to large ketones after giving extra insulin, page the diabetes nurse or doctor on call at 206-987-2000 or 866-987-2000.

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**Use the same guidelines for extra correction insulin if you have ketones due to illness – corrections may be given every 2 hours on an insulin pump.**

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### Prevention of high blood glucose:

- Monitor blood glucose 4 times a day or more (fine to use GCM to monitor glucose)
- Change your cartridge and infusion set or pod every 2 to 3 days preferably during the day or at least before dinner, not at night before you go to bed
- Use good rotation for your infusion sites to get the best absorption and prevent scar tissue
- Give all boluses
- Evaluate basal rates and meal/correction boluses on an ongoing basis
- Do not disconnect pump for more than 1 to 2 hours

### What to do in case of pump failure:

Always keep a bottle of long-acting insulin in your refrigerator in case of pump failure. Give an injection of long-acting insulin as soon as your pump fails. Use your 24-hour basal total as the amount to be injected. If you do not know this total, add up all of your basal rates. When you are ready to start on the pump again, reconnect 22 hours after you gave the long-lasting insulin.

Call the customer service number on the back of your pump for help in troubleshooting the problem or obtaining a replacement pump.

**You can also use these guidelines if you are going to disconnect for 24 hours because of visiting a water park like Wild Waves or something similar.**

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### What to carry with you at all times:

- An infusion set or pod with tubing and a reservoir
- A battery
- A bottle of insulin and syringe or insulin pen and pen needles

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### Reporting blood glucose results:

**We will review the blood glucose readings every 2 to 3 days for the first 2 to 3 weeks.** The nurse who teaches your pump class will let you know what days to send in your blood glucose numbers. Please call or MyChart message before 11 a.m. on those days so we have time to review and make changes to your pump settings.

Direct line: 206-987-5452    Toll-free 1-866-987-2000 (ask for ext. 5452)

**For urgent matters** (positive ketones or vomiting) page the diabetes nurse or doctor on call 206-987-2000 or 1-866-987-2000.

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### Follow up:

Resume your usual clinic visits with the endocrinologist or advanced practice care practitioner.

Insulin pump supplies are ordered from the insulin pump company or distributor. Please contact them when you need more supplies. They may need current clinic notes from within the last 6 months. So, it is important to see your diabetes provider at least every 6 months, although every 3 months is recommended.

Try to attend the advanced pump class in the next few months. Call the scheduling center to sign up for the class at 206-987-2640, option 1.