



Diabetes Education Centre
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Sick Days on the Insulin Pump

When you are sick, your body does not use the insulin as well. This can cause problems such as high blood sugars and ketoacidosis. To minimize these problems, it is very important to follow these guidelines whenever you are sick:

- Check your blood glucose and blood ketones every 2 hours while you are awake and every 4 hours overnight. Test your ketones using ketone test strips or a blood ketone testing meter. When you show ketones it indicates you need more insulin and you need to drink water or sugar free fluids.
- If your blood sugars are above 14 mmol/L: follow the **Guidelines for Managing Ketoacidosis**.
- Check your temperature.
- Make sure you are drinking liquids if you are unable to keep down solid food. Drink one cup of liquid every hour while you are away to prevent dehydration. If you are unable to hold down liquids, you may need to go to the emergency room or hospital.

Insulin Adjustments

Depending on blood glucose results, you may need to make insulin pump adjustments while you are sick:

Basal adjustments to manage hyperglycemia (high blood sugar)

- Increase basal rate by 10%
- Check blood glucose in 2 hours
- If effective-continue at this temporary basal rate
- If not effective, increase the basal by 20% and reassess in 2 hours.



Bolus adjustment to manage hyperglycemia

- Your usual CF (correction factor) may not be as effective on a sick day
- If hyperglycemia is not correcting, increase your correction factor by 50% ie. Instead of 3 units, give 4.5 units.
- If the 50% is not working, consider doubling the amount ie. Instead of 3 units give 6 units.
- Correct blood glucose every 2 hours.

Basal adjustments to manage Hypoglycemia (low blood sugars)

- Decrease basal rate by 30%
- Check blood glucose in 2 hours
- If effective-continue with this temporary rate
- If not effective, decrease basal rate by 50% using advanced features on the pump to prevent stacking of insulin and reassess in 2 hours

When should I call my doctor?

- Your blood glucose stays higher than 14 mmol/L or lower than 4 mmol/L.
- If you have ketones and they don't go away after 4 hours.
- You are unable to keep liquids and solids down.
- You have a fever (temperature over 101 degrees F or 38.3 degrees C).
- You have diarrhea or are vomiting.

What foods should I eat when I'm sick?

If you are sick, you should eat or drink 10-15 grams of carbohydrate every hour.

If you are unable to eat solid foods, you could try more easily tolerated foods, such as those listed below. Each of these items equals one carbohydrate choice or approximately 15 grams of carbohydrate. Try to consume a minimum of 150 grams per day.

- 1 cup noodle soup
- ½ cup regular gelatin (Jell-o)
- ¾ cup regular soft drink, like 7-up, sprite or gingerale
- 1 popsicle
- ½ cup unsweetened applesauce
- ½ cup fruit juice
- 1 cup sports drink, like Gatorade or Powerade

Calorie-free liquids you may drink during an illness include water, diet pop and ½ cup of broth or bouillon. Have at least 1 cup (250 ml) of fluid per hour.

Guidelines for Managing Ketoacidosis (DKA)

Check for Ketones:

- If any unexplained high blood sugar
- If your blood sugar is above 14 mmol/L
- If a fruity odor is detected in the breath
- If abdominal pain is present
- If nausea or vomiting occurs
- If you are breathing rapidly and short of breath

If a moderate or large amount of ketones register on the test strip, ketoacidosis is present and treatment is required immediately.

Blood glucose levels (mmol/L)	Ketone bodies in urine	Symptoms	Suggested actions
13-15	-negative or -trace = 0.5 mmol/L	-excessive thirst & excessive urination	Measure your blood glucose level every 1-4 hours. Drink 250 ml of water every hour. Take 10% extra rapid insulin or use your sliding scale or Correction Factor
15-20	-small = 1.5 mmol/L or -moderate=4.0 mmol/L	-diarrhea and nausea or -nausea, vomiting and diarrhea	Measure your blood glucose level every 1-4 hours. Drink 250 ml of water every hour. Take 10-20% extra rapid insulin every 4 hours. Contact your Doctor or go to the hospital if there is no improvement and/or if symptoms of diabetic ketoacidosis appear.
> 20	-negative or -moderate=4.0 mmol/L or -large=8.0-16.0 mmol/L	-nausea, vomiting, diarrhea, with or without ketone bodies	Go to the hospital