

My Sick Day Plan for Type 1 Diabetes on Multiple Daily Injections (MDI)

When you are sick, your blood sugar levels may be harder to keep under control. Your blood sugar may go too high or too low.

Use this guide to help prevent **Diabetic Ketoacidosis (DKA)**.

Be prepared **before** you get sick.



When should I see my health care provider or go to an Emergency Department?

You may need to see your health care provider or go to the emergency department if you:

- vomit 2 times or more in a 12 hour period
 - have stomach pain and nausea that will not go away
 - have diarrhea that does not stop or is getting worse
 - have a high fever (greater than 38°C or 100.4°F)
 - have a cold, infection or flu that is getting worse
 - find your blood sugar or ketones are **not** decreasing after taking two correction doses of insulin
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What happens when I am sick? What are ketones?

When you are sick, your body may make extra sugar to help fight the fever or infection that is causing your illness. If there is not enough insulin to turn the sugar into energy, your body breaks down fat to use as an energy source. When fat breaks down, ketones are made.

Ketones can change your normal body chemistry and can cause a dangerous state called ketoacidosis.

When you have ketoacidosis you can get very sick, become dehydrated, have stomach pains, be nauseous and/or vomit. If left untreated, ketoacidosis can become life threatening.

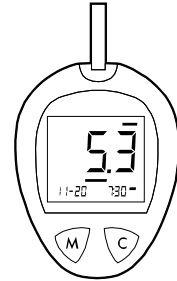
To prevent this from happening, you will need to take extra insulin and drink plenty of fluids.

The next section shows you how to figure out the amount of insulin you will need to take.

When you are sick

1. Check your blood sugar and ketone levels often.

- Check your blood sugar and ketone levels every 2 to 4 hours to see if they are coming down. Have someone else check it if you are too sick to do it yourself.
- Write down your blood sugar and ketone levels so that you have them ready if you need to call your health care provider.

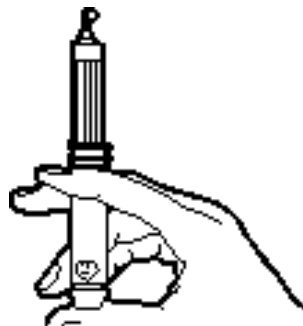


2. Take your insulin.

- Take your basal insulin dose even if you cannot eat.

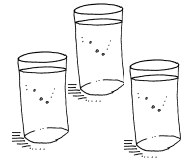
My basal insulin is: _____

- Take your bolus (rapid acting) doses of insulin (_____) for any carbohydrate you eat or drink.
- You may even need to take more insulin when you are sick. For guidelines on how much extra insulin to take, follow the chart on page 6 called “How much insulin will I need when I am sick?”



3. Drink plenty of fluids.

- ✓ Eat your usual meals and snacks (if you have snacks).
- ✓ If you are not able to eat, try one of these:
 - If your blood sugar level is below 15 mmol/L, have both sugar-containing and sugar-free fluids.
 - If your blood sugar level is 15 mmol/L or more, have sugar-free fluids.



Sugar-containing fluids. If you are **not able to eat** your usual meals and snacks try having one of these fluids (which contain 15 grams of carbohydrate) every 1 to 2 hours:

- $\frac{3}{4}$ cup regular pop
- $\frac{3}{4}$ cup juice
- 1 popsicle
- $\frac{1}{2}$ cup regular Jello
- 1 cup Gatorade or similar drink

Sugar-free fluids. Try drinking at least 1 cup of one of these sugar-free fluids every hour to prevent dehydration:

- water
 - Crystal Lite drink
 - diet pop
 - tea
 - clear soup or broth
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What foods are good to try when I am nauseous?

Eat foods that have carbohydrates and are easy to tolerate when you are nauseous or sick, such as one of these:

- 1 cup of soup
- 1 slice of toast
- 6 soda crackers



Remember



Even if you do not feel like having foods or fluids with carbohydrates at your usual meal times when your blood sugars are high, you will need to take bolus (rapid acting) _____ insulin to bring your blood sugar and ketone levels down.

Metric and Imperial Sizes

250 ml	=	1 cup
175 ml	=	3/4 cup
125 ml	=	1/2 cup
60 ml	=	1/4 cup

How much insulin will I need when I am sick?

If you have ketones, you may need to take more insulin than usual to correct a high blood sugar. Use the chart below to determine how much extra insulin to take.

Your blood sugar (mmo/L)	Your blood ketones (mmol/L)	Action needed (Bolus Insulin)	Your extra dose would be:
Less than 3.9	None	No extra insulin. Treat your low blood sugar with 15 grams of fast acting carbohydrate. Do not stop taking insulin.	
Under 7	Less than 0.6	Take your usual* insulin dose.	
Under 7	0.6 or more	Take your usual* insulin dose. If you are unable to eat or drink any carbohydrate containing food or fluids, go directly to the emergency department. You CANNOT safely treat this at home!	
7 to 14	Less than 0.6	Take your usual* insulin dose.	
7 to 14	0.6 or more	Take insulin dose for carbohydrate eaten, PLUS 10% (of TDD) extra rapid acting insulin	
Between 14 and 22	Less than 0.6	Take insulin dose for carbohydrate eaten, PLUS 10% (of TDD) extra rapid acting insulin	
Between 14 and 22	Between 0.6 and less than 1.5	Take insulin dose for carbohydrate eaten, PLUS 15% (of TDD) extra rapid acting insulin	
Between 14 and 22	Between 1.5 and 3.0	Take insulin dose for carbohydrate eaten, PLUS 15% (of TDD) extra rapid acting insulin	
More than 22	More than 3.0	Take insulin dose for carbohydrate eaten, PLUS 20% (of TDD) extra rapid acting insulin This is a medical emergency. Recheck your blood sugars and ketones. If they have not decreased, go to the emergency department right away!	

* Your **usual** insulin dose includes the insulin for carbohydrates eaten, plus correction dose for high blood sugars if needed.

Step 1	Add up the number of units of all the insulin you take in a day (both basal and bolus) which is called Total Daily Dose (TDD) _____.
Step 2	Calculate: 10% of your TDD _____ 15% of your TDD _____ 20% of your TDD _____
Step 3	Use the chart below to decide how much bolus (rapid acting) insulin (Name: _____) to take every 4 hours in addition to your insulin dose for carbohydrates eaten.

Example:

If your usual insulin (u = units) a day is:

8 u at breakfast + **8 u** at lunch + **10 u** at supper + **18 u** at bedtime

Step 1	Total Daily Dose (TDD) $8 + 8 + 10 + 18 = 44$ units
Step 2	Calculate: 10% of your TDD = 4 units or 15% of your TDD = 7 units (round up) or 20% of your TDD = 9 units (round up)
Step 3	If a person is sick at lunch with a blood sugar more than 16 mmol/L and has 0.6 mmol/L ketone level, this person would take insulin for the carbohydrate in their lunch, plus 7 units extra because of high blood sugars and ketones.

**Prevent DKA**

- ✓ Check your blood sugars and ketones every 2 to 4 hours.
- ✓ Give extra insulin if needed to stop the production of ketones.
- ✓ Drink plenty of fluids.

Important telephone numbers

Diabetes Clinic:	905-521-2100, ext. 76061
Nurse Practitioner/Nurse:	
Registered Dietitian:	
Endocrinologist:	

Call your health care provider if you need help or have questions or concerns.

Notes:
