

What is Diabetic Ketoacidosis (DKA)?

DKA is a dangerous condition which can happen if your body is not getting enough insulin. Your muscles start burning fat instead of sugar for energy. This produces **ketones** – acidic substances that are **toxic** to the body. At high levels, they can cause **diabetic ketoacidosis**, which is a medical emergency.

How do I avoid DKA?



Don't worry – this situation is preventable. Here's what you need to do:

- Don't miss your insulin doses (you may need to adjust your doses when you're sick, but never stop your insulin completely)
- Understand when you might be at risk
- Always keep a ketone meter & ketone test strips at home
- Ask your doctor or Diabetes Educator if you don't already have a ketone meter.

When should I check for ketones?

When your blood sugar is elevated ($>14\text{mmol/L}$), and:

- Remains elevated for a prolonged period of time *or*
- Does not react to your usual correction dose *or*
- You have reason to suspect you have not received any insulin (bolus or basal) for >4 hours *or*
- You have any symptoms of DKA



! You are at higher risk of developing DKA when you are sick. Test your blood sugars more frequently and be ready to test for ketones.



What are the symptoms of DKA?

- Nausea/vomiting
- High fever ($>39^{\circ}\text{C}$)
- Severe abdominal pain
- Difficulty breathing
- Fatigue

! If you are pregnant or taking certain diabetes medications*, you can develop DKA **even if your blood sugar level is normal**. *Invokana/Forxiga/Jardiance

I checked my ketones - what do I do next?

If your blood ketone level is elevated, you will need more insulin than usual to lower your blood sugars and bring your ketone level back to normal. You can use one of the methods explained below to help you estimate how much extra insulin to take. Make sure to drink plenty of extra fluids.



If your blood ketone level is >3.0 , go to the Emergency Room right away.

Method 1: based on total daily dose (TDD) of insulin (if using pen/syringe)

My TDD: _____ u 5% of TDD: _____ u 10% of TDD: _____ u 15% of TDD: _____ u 20% of TDD: _____ u 25% of TDD: _____ u		Blood Sugar			
	Blood Ketone	5 to 10	10 to 14	14 to 22	>22
	Less than 0.6	Take usual correction dose if needed.			
	0.6-1.4	Usual correction	5% of TDD	10% of TDD	15% of TDD
	1.5-2.9	5% of TDD	10% of TDD	15% of TDD	20% of TDD
	3.0 or more	5% of TDD	15% of TDD	20% of TDD	25% of TDD

Check your blood sugar and ketone level every 2-4 hours and repeat correction as needed.

Method 2: based on usual correction dose (if using pump or bolus calculator)

Blood Ketone	For any Blood Sugar
Less than 0.6	take usual correction dose
0.6 to 1.4	add 10% to correction dose ($\times 1.1$)
1.5 to 2.9	add 15% to correction dose ($\times 1.15$)
3.0 or more	add 20% to correction dose ($\times 1.2$)

Check your blood sugar and ketone level every 2-4 hours and repeat correction as needed.