

When Taking SGLT2 Inhibitors and Insulin: Prevent and Manage Diabetic Ketoacidosis

When you are taking a SGLT2 Inhibitor and insulin, there is a greater chance of you getting diabetic ketoacidosis. This sheet explains what it is, what you can do, and when to get help.

What is Diabetic Ketoacidosis?

Diabetic KetoAcidosis (DKA) is a serious health problem. In fact, it is the biggest medical emergency related to diabetes.

When your body does not have enough insulin, you are not able to use glucose for energy. Instead, your body starts to burn fat, which results in too much acid in the blood. This acid is called ketone. A high level of ketones in the blood is toxic to your body and must be treated right away.

What causes DKA?

Some situations that can lead to DKA when taking SGLT2 inhibitor are:

- very low carbohydrate diet
- not eating for a long time
- drinking alcohol often or in large amounts
- too low a dose of insulin for the amount of food or exercise
- stopping insulin
- having surgery and right after surgery
- having had DKA before

How can you prevent DKA?

- Keep active.
- Follow your diabetes diet.
- Take your medicines and insulin as directed.
- Monitor your blood sugar level.
- Adjust your insulin dose as needed.
- Check your urine ketone levels, especially when sick or under stress.
- Get help if you suspect you have DKA by going to the nearest Emergency Department.

What to watch for

The early signs of DKA usually include a high blood sugar level along with ketones in urine. **However, when taking SGLT2 Inhibitors,** blood sugars are often normal but ketones are present in urine.

Signs of possible DKA

- feeling sick to your stomach (nausea)
- throwing up (vomiting)
- stomach pain
- weakness
- fatigue
- excessive thirst
- rapid breathing

What to do

If you suspect you might have DKA, check your ketone level using a Blood Ketone test strip. In this case, it is better to test your blood for ketones than to test your urine. It can take a while for the ketones to show in urine.

Blood Ketone level	What to do
Less than 0.6mmol/L	No action at this time
0.6 to 1.5mmol/L	Re-test your blood sugar and blood ketones in 2 to 4 hours
1.5 to 3.0mmol/L	Might be getting DKA Take action to reverse DKA
More than 3.0mmol/L	Need emergency treatment

Urine Ketone level	What to do
Negative to Small	No action at this time
Moderate to Large	Might be getting DKA Need emergency treatment

Actions to reverse DKA:

- Drink plenty of sugar-free fluids such as water, clear diet pop, soup broth, or weak, caffeine-free tea.
- Drink liquids and eat foods containing carbohydrate every 2 hours. Adjust your insulin dose based on how much carbohydrate you eat or drink.
- Check your blood ketone level every 2 to 4 hours.
- Arrange to see your doctor as soon as possible. Ask your doctor if you should continue to take SGLT2 Inhibitor.

When to get help

Go to the nearest Emergency Department if:

- Your urine ketones are 'moderate to large' or your blood ketones are more than 3.0mmol/L
- You are not able to eat or drink for more than 24 hours because you are feeling sick or throwing up.
- You have diarrhea lasting longer than 24 hours.

In the Emergency:

- Tell the Emergency staff what medications you are taking
- Ask the Emergency staff to check your blood ketones as soon as possible.

Remember

When in doubt, go to the nearest Emergency Department.