

Diabetic Ketoacidosis (DKA)

What is diabetic ketoacidosis (DKA)?

Diabetic ketoacidosis (DKA) is a serious problem that can happen when you don't have enough insulin. If you have type 1 diabetes, there's a chance you could develop DKA.

When the body does not have enough insulin to use sugar (glucose) for energy, it begins to break down the fat in your body. This creates toxic acids called ketones. When too many ketones build up, it can lead to DKA, which may cause a coma (passing out for a long time) or death.

What are the symptoms of DKA?

DKA can develop quickly. Know the warning signs:

- Extreme thirst
- Needing to pee (urinate) more often
- Feeling sick to your stomach and throwing up
- Pain in the belly (abdomen)
- Weakness
- Feeling drowsy or tired
- Shortness of breath
- Breath smells sweet or fruity
- Feeling confused

How can I know if my body is making ketones?

You'll need to check your ketone level. Some glucose meters can measure ketones using a blood ketone test strip. Special test strips can also measure ketones in urine. You can buy testing supplies at your pharmacy with or without a prescription.

Ketones may build up when your blood glucose level is high.

You should always check for ketones if:

- **Your blood glucose has been over 240 mg/dL and has not come down within 4 hours of taking your insulin correction dose.**
- **You have any symptoms of DKA.**

Follow the directions that came with your ketone test strips to find out your ketone level.

Your doctor or diabetes educator can teach you how to check for ketones and what to do if you have them. If ketones are caught early, there are some things you can do at home to help prevent a serious problem.

What should I do if I have ketones?

For high or very high levels of ketones:

Call your clinic. If you have high ketones AND you are throwing up (vomiting), have someone drive you to the Emergency Room or call 911.

More on back

For trace to moderate amounts of ketones:

Call your clinic. Ask to talk to a nurse. Tell them you have ketones due to diabetes. A doctor will call you back.

If your ketone levels are not too high (**mild**), you can likely treat the problem at home if:

- You can still drink and keep down fluids, **and**
- You or your family can check blood glucose and ketones regularly, **and**
- Your doctor is there to guide you over the phone.

Your doctor will have you:

- Check blood glucose every 2 to 4 hours.
- Check ketones every 4 hours until they're negative at least 2 times in a row.
- Take correction insulin doses as directed by your doctor or diabetes educator. You will likely need more insulin to help reduce blood glucose and stop producing ketones.
- Carbs (carbohydrates) are also needed to stop ketone production. Take your rapid-acting insulin to cover the carbohydrate you eat or drink.

- Drink plenty of fluids—this will help you flush out ketones.
 - Drink 4 ounces (½ cup) every hour of liquid that has carbohydrate. Examples: juice, regular soda
 - Drink calorie-free beverages (like water), **and** fluids containing sodium (like broth). This will help your body retain water.
 - Sports drinks like Gatorade and Powerade have both carbohydrate and sodium. They work well to put water back into (hydrate) your body.

Clinic hours are 8 a.m. to 4:30 p.m., Monday through Friday. If you need help after clinic hours:

- Call your clinic and ask to speak with the doctor on call. Or, go to Urgent Care.
- If these options don't work, go to the Emergency Room.