

Ketoacidosis

Ketoacidosis (hey-toe-ass-i-DOE-sis) is a serious condition that can lead to diabetic coma (passing out for a long time) or even death. Ketoacidosis may happen to people with Type 1 diabetes.

Ketoacidosis occurs rarely in people with Type 2 diabetes. But some people, especially older people, with Type 2 diabetes may experience a different serious condition. It's called hyperosmolar nonketotic coma (hi-per-oz-MOE-lar non-key-TOT-ick KO-ma).

Ketoacidosis means dangerously high levels of ketones. Ketones are acids that build up in the blood. They appear in the urine when your body doesn't have enough insulin. Ketones can poison the body. They are a warning sign that your diabetes is out of control or that you are getting sick.

Treatment for ketoacidosis usually takes place in the hospital. But you can help prevent ketoacidosis by learning the warning signs and checking your urine and blood regularly.

What are the warning signs of Ketoacidosis?

Ketoacidosis usually develops slowly. But when vomiting occurs, this life-threatening condition can develop in a few hours. The first symptoms are:

- Thirst or a very dry mouth
- Frequent urination
- High blood glucose (sugar) levels
- High levels of ketones in the urine
- Next, other symptoms appear:
 - Constantly feeling tired
 - Dry or flushed skin
 - Nausea, vomiting, or abdominal pain (Vomiting can be caused by many illnesses, not just ketoacidosis. If vomiting continues for more than two hours, contact your health care provider).
 - A hard time breathing (short, deep breaths)
 - Fruity odor on breath
 - A hard time paying attention, or confusion

Ketoacidosis is dangerous and serious. If you have any of these symptoms, contact your health care provider IMMEDIATELY, or go to the nearest emergency room of your local hospital.

How do you know if you have large amounts of ketones?

A simple urine test can detect ketones. You use a test strip, like a blood testing strip. Ask your health care provider when and how you should test for ketones. Many experts advise to check your urine for ketones when your blood glucose is more than 240 mg/dl.

When you are ill (when you have a cold or the flu, for example), check for ketones every four to six hours. And check every four to six hours when your blood glucose is more than 240 mg/dl.

Also, check for ketones when you have any symptoms of ketoacidosis.

What if you find higher-than-normal levels of ketones?

If your health care provider has not told you what levels of ketones are dangerous, then call when you find moderate amounts after more than one test. Often, your health care provider can tell you what to do over the phone.

Call your health care provider at once if:

- Your urine tests show large ketones
- Your urine tests show large ketones and your blood glucose is high
- You have vomited more than twice in four hours and your urine tests show high ketones

Do NOT exercise when your urine tests show ketones and your blood glucose is high. High levels of ketones and high blood glucose levels can mean your diabetes is out of control. Check with your health care provider about how to handle this situation.

What causes Ketoacidosis?

Ketones mean your body is burning fat to get energy. Moderate or large amounts of ketones in your urine are dangerous. They upset the chemical balance of the blood.

Commonly, the flu, a cold, or other infections may sometimes bring on ketoacidosis.

Here are three basic reasons for moderate or large amounts of ketones:

- Not getting enough insulin. Maybe you did not inject enough insulin. Or your body could need more insulin than usual because of illness. If there is not enough insulin, your body begins to break down body fat for energy.
- Not enough food. When people are sick, they often do not feel like eating. Then, high ketones may result. High ketones may also occur when someone misses a meal.
- An insulin reaction (low blood glucose). When blood glucose levels fall too low, the body must use fat to get energy. If testing shows high ketones in the morning, the person may have had an insulin reaction while asleep.

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If you are a registered University of Illinois student and you have questions or concerns,
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If you are concerned about any difference in your treatment plan and the information
in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.uiuc.edu>