


Type 1 Diabetes: What to Do When Sick or With Ketones

Illness can cause changes in blood sugars. Most of the time blood sugars will be higher due to insulin resistance. Regardless of whether blood sugar is high or low, ketones can be produced. If the ketones are not managed during an illness, diabetic ketoacidosis, or DKA, can occur. Ketoacidosis can be life-threatening. Prevent ketoacidosis by following the steps in the chart below.

I am sick and/or I have ketones. What should I do?

Symptoms	What to Do
<p>Mild</p> <ul style="list-style-type: none"> • Able to eat and drink • No vomiting • No fever • Urine: No ketones • Blood: Ketones <0.6 mmol/L 	 <p>Take your long-acting basal insulin as usual, AND....</p> <p>Ketones: Check once a day Insulin: Give all doses – carb ratio and correction Sugar (blood): Check before meals/bedtime Sip: Sugar-free drinks. (Fluids are very important.)</p>
<p>Moderate</p> <ul style="list-style-type: none"> • Fever, nausea, or diarrhea • Urine: Small/moderate ketones • Blood: Ketones 0.6 -1.5 mmol/L 	<p>Take your long-acting basal insulin as usual, AND....</p> <p>Ketones: Check every time you urinate (pee) Insulin: Use syringe/pen to give correction insulin every 3 hours (no carb ratio) Sugar (blood): Check every 3 hours Sip: Sugar-free drinks if blood sugar >250 or sugary drinks if ≤250</p>
<p>Severe</p> <ul style="list-style-type: none"> • Vomiting • Urine: Large ketones • Blood: Ketones >1.5 mmol/L 	<p>Take your long-acting basal insulin as usual, AND....</p> <p>Ketones: Check every time you urinate (pee) Insulin: Use syringe/pen to give correction insulin every 3 hours (no carb ratio) Sugar (blood): Check every 3 hours Sip: Sugar-free drinks if blood sugar >250 or sugary drinks if ≤250</p>

When sick, stress hormones are made which raise blood sugar levels. This happens **even if your child isn't eating**. There may also be times when the blood sugar may get low.

Ketoacidosis happens when there is not enough insulin in the body. It can happen quickly, even within a few hours. When there is not enough insulin in the body, fat is burned for energy. Ketones come from the breakdown of fat. Ketones are an acid. If high levels of ketones build up in the blood, ketoacidosis develops.

Your child may make ketones even if the blood sugar is normal.

When to Call 911 or Go to the Emergency Room

There may be times that symptoms get worse. Call 911 or go to the emergency room for any of the signs/symptoms listed.

- Can't eat or drink
- Severe headache
- Vomiting more than 6 hours
- Trouble breathing
- Large ketones more than 9 hours
- Not making sense or not waking up

Symptoms of High Blood Sugars

Symptom	Cause
Urinating more	This is the body's way of getting rid of extra sugar.
Thirsty	This is because the body needs fluid.
Dehydrated	Excess fluid is lost to get rid of sugar. This happens more with vomiting and diarrhea.
Very Tired	The body is not getting enough insulin to turn sugar into energy.

How to Avoid Feeling Worse

If you have 2-3 blood sugars in a row higher than 300 mg/dL, do the following based on how you give insulin.

- If using syringes/pens: check ketones
- If using an insulin pump: change pump site and check ketones

If you have an upset stomach, drinking slowly may help to prevent vomiting. Sip drinks every 5-10 minutes.

More Information

Check out our website:

www.uwhealthkids.org/type1diabetes.

Or use a QR reader on a smart phone or other device to scan the barcode below. It will take you to our website.



The Spanish version of this *Health Facts for You* is #5647s.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright ©4/2018. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#5647.