

Pediatric Diabetes: What to Do When Sick or With Ketones

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. Ketones can be made when sugar levels are high or low.

If ketones are not managed, diabetic ketoacidosis, or DKA, can occur. Ketoacidosis can be life-threatening. Prevent DKA by following the steps in the chart below if you are sick or if you have ketones.

Symptoms	What to Do
Mild <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 insulin as usual OR make sure your insulin pump is working. Also do the following:</p> <p>Ketones: Check once a day Insulin: Give all doses (carb ratio and correction) Sugar: Check before meals/bedtime Sip: Sugar-free drinks. (Fluids are very important.)</p>
Moderate <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 insulin as usual. If using a pump, insert new site. Also do the following:</p> <p>Ketones: Check every 2-3 hours with small/moderate ketones. Check every 1-2 hours with large ketones. Insulin: Use syringe or pen* to give correction insulin every 3 hours (no carb ratio) Sugar: Check every 3 hours Sip: Sugar-free drinks if blood sugar higher than 250 mg/dL or sugary drinks if 250 mg/dL or less</p> <p>*Do not give correction insulin with insulin pump.</p>
Severe <ul style="list-style-type: none"> • Vomiting • Urine: Large ketones • Blood: Ketones >1.5 mmol/L 	

Diabetic Ketoacidosis (DKA)

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, fat is used 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.**

Staying Hydrated

Staying hydrated is important. If your child has an upset stomach, drinking slowly may help to prevent vomiting. Take small drinks (sips) every 5-10 minutes. Your child should drink about 1 ounce of fluid per year of life, up to 7-8 ounces, every hour. (example: 4 ounces every hour for a 4-year-old)

When to Call Your Doctor

- If diabetes is new for you, call with any illness.
- If you have any questions about your sick day plan.

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
- Frequent vomiting
- 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.

Checking Glucoses

If you use a continuous glucose monitor (sensor or CGM), you can watch the CGM results for trends as long as it is working as expected. Use a blood glucose meter for treatment decisions if the sensor reading does not match how you feel or if you think sensor results are not correct.

If You Use an Insulin Pump

If your sugar levels are higher or you have ketones, make sure you are getting insulin. If your pump isn't working, or the site or tubing is kinked or disconnected, this may cause high blood sugars and ketones. Make sure you get insulin by taking an injection with a pen or syringe. The amount should be based on your correction dose. Next, replace your pump site and troubleshoot the pump before using it. For more information, read [Problem Solving High Blood Sugars When Using an Insulin Pump](#). (Scan QR code below to access.)



More Information

Check out our website:

<https://patient.uwhealth.org/education/pediatric-type-1-diabetes-resources>.

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



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 ©6/2021. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#5647.