

Pediatric Endocrinology

Phone: (915)215-5700: Please ask for Pediatric Endocrinologist on Call

Fax: (915)545-8870

email: techpediando@ttuhsc.edu

HIGH BLOOD GLUCOSE (SUGAR) / SICK DAY RULES HANDOUT

Any blood sugar level above your target range is too high. Any blood sugar level above 240 mg/dl is very high. **It is important to test for ketones if your blood sugar is above 240 mg/dl. Knowing what to look for and giving the correct treatment is very important to prevent DKA, a trip to the Emergency room, or being in the hospital!**

If your Blood Sugar is over 240mg/dl:

Step 1: Test for ketones: check for ketones anytime your blood sugar is greater than 240 mg/dl or when you are sick (follow rules below if ketones present)

Step 2: Give insulin every 2 hours: Pump Users! Give correction doses by injection for Large Ketones!

If urine ketones are negative, trace or small	Use usual high blood glucose correction
If urine ketones are moderate (an emergency!)	Add 10% to your normal correction: multiply your correction dose by 1.1
If urine ketones are large (an emergency!)	Add 20% to your normal correction: multiply your correction dose by 1.2

Step 3: Give fluids

- If blood glucose is over 200, drink lots of sugar-free liquids such as water.
- If blood glucose is under 200 **and** ketones are present, drink a lot of fluids with sugar (juice, regular soda, Gatorade). Do not give insulin for these carbs. Check your glucose level every 2 hours and give insulin for your high glucose levels until ketones are gone.
- If you are vomiting, drink small, frequent sips and do not give insulin for these carbs. This will prevent starvation ketones.

Step 4: Re-check blood glucose and ketones every 2 hours and continue to give fluids until ketones are gone.

- **Pump Users: Change insertion site for large ketones**

Step 5: Call Pediatric Endocrinology (915-215-5700) if you have followed all of the above steps and are not getting better or:

- You are vomiting and cannot drink.
- You cannot get your blood sugar level in target range.
- The ketones remain large despite these steps.
- You do not understand how to calculate your sick day dose.

SICK DAY MANAGEMENT AND HYPERGLYCEMIA TREATMENT FAQ

When your child is ill or their blood glucose is above 240 mg/dl, it is important to check ketones and blood sugar frequently. Sometimes the blood sugar goes up just before a sign of illness occurs. Check with your child's primary MD to treat the illness. The pediatric endocrinologists will help you with glucose levels and diabetic ketoacidosis (DKA) prevention.

Causes of high blood sugars:

- Eating more carbohydrates than you take insulin for
- Forgetting to take insulin for food eaten
- Basal insulin is too little
- Less activity or exercise
- Stress
- Illness
- Your insulin has gone bad because the bottle got too hot or too cold, or is outdated.

FAQ's

What are ketones?

Ketones happen when your body starts using fat for fuel instead of sugar. This occurs when you do not have enough insulin to move sugar from the blood stream into the cells, (which is why we always treat ketones with insulin!). Diabetic ketoacidosis, or DKA, is the buildup of ketones and acid in the body. It is a very serious medical condition that can be life threatening.

Why do I need more insulin when I am sick?

When you are sick, the body needs more fuel to fight off the illness. Your body makes hormones that increase the release of sugar from the liver and the breakdown of fat. This causes high blood sugar and high ketone levels.

Do I still need insulin even if my blood sugar is normal or if I am throwing up?

You still need insulin even if your blood sugar is normal or you are throwing up. **Never skip a dose of long-acting insulin.** Remember, your body needs insulin to provide fuel for the body's cells (it lets the sugar into the cell). If you do not have insulin, your body uses fat for energy instead of sugar. When your body uses fat for fuel, you get ketones. The ketones are what can make you very sick and you may need to go to the hospital.

You should keep these supplies on hand on sick days:

- Fluids that contain sugar such as regular soda and sugar free fluids such as water
- Ketone test strips (make sure test strips are not "out of date")
- Extra strips to check your blood sugar level
- Glucagon emergency kit
- Thermometer

Important notes:

- Change out your insulin bottle. Start with a fresh bottle (from the pharmacy or your refrigerator) to ensure that the insulin you are using has not gone bad.
- Use a new injection site. Avoid any areas with lipohypertrophy, (lumpy, bumpy spots or overused areas).
- Never skip a dose of long-acting insulin.
- Always keep a spare bottle of each type of insulin. Refill requests will be handled only during regular business hours. Please allow 3 working days.