

I can tell you about low blood sugar and how to treat it

Low blood sugar is when the blood sugar level goes too far below your child's target range. This means there is not enough energy to fuel the body. Treat this right away. This is called **hypoglycemia**.

We need enough sugar in the blood to fuel the body at all times. If our blood sugar level drops too low, the body can run out of energy quickly. It is a bit like gasoline in a car. To keep the car going, we need enough gasoline in the tank. Without enough gasoline, the car will stop.

When is a blood sugar level too low?

For children 0 to 2 years old:

Daytime Blood sugar of 100 mg/dL or less

Nighttime Blood sugar of 100 mg/dL or less

For children 3 years old and older:

Daytime Blood sugar of 80 mg/dL or less

Nighttime Blood sugar of 100 mg/dL or less

We treat low blood sugar levels with 15 grams of quick sugar with no insulin. Do not give insulin when trying to raise blood sugar. Quick sugars are things that are very sugary, like soda, juice, or candy. Quick sugar gets into the blood quickly and raises the blood sugar level. Giving only 15 grams of quick sugar will help prevent the blood sugar level from going too high above target range.

Remember, the target ranges for blood sugar levels are:

For children under 6 years old:

100-180 mg/dL during the daytime

110-200 mg/dL before bedtime and overnight

For children between 6 and 12 years old:

90-180 mg/dL during the daytime

100-180 mg/dL before bedtime and overnight

For teens between 13 and 19 years old:

90-130 mg/dL during the daytime

90-150 mg/dL before bedtime and overnight

The levels for blood sugars at night are slightly higher because it can be hard to feel and respond to symptoms of low blood sugar when we are sleeping. A low blood sugar level while sleeping increases the chances that the low will be more dangerous.

Treat a low blood sugar right away. A low blood sugar that is not treated can lead to seizure, loss of consciousness, coma, or death. Everyone who cares for your child must know how to find and treat a low blood sugar.

Common signs of low blood sugar



Shaky



Sweaty



Confused



Headache



Tired or sleepy



Hungry

Other signs of a low blood sugar

- Pale
- Cranky or whiny
- Weak
- Tingling lips or fingertips
- Nightmares
- Stomach ache or sick to the stomach

Not everyone has the same symptoms of low blood sugar. Some people do not have any symptoms at all when their blood sugar is low. Regular blood sugar checks can help catch a low blood sugar that has no symptoms. Small children may not be able to tell us when they feel different, so those who care for small children will need to watch for these symptoms.

Possible causes of low blood sugar

- Exercise
- Too much insulin
 - Correcting a high blood sugar more often than every 3 hours
 - Not counting the carbohydrates in the food correctly
 - Not eating all the carbohydrates that were served
 - Giving insulin too late after food
 - Math errors
- Drawing up too much insulin
- Honeymoon phase of diabetes

What are examples of 15 grams of quick sugar?

Always carry a quick sugar with you. Here are examples of some quick sugars:

- 3 to 4 glucose tabs
- a half cup of regular soda (4 ounces)
- a half cup of juice (4 ounces)
- 17 Skittles
- 4 Starbursts
- 6 jelly beans
- 1 Tablespoon of sugar
- a half tube of glucose gel
 - This can be rubbed on the gums if your child can't swallow.

Foods with a lot of protein, fat, or fiber (like milk, yogurt, chocolate, sandwiches) take longer to enter the blood stream. Do not use these to treat a low blood sugar quickly.

How to treat low blood sugar

We want to treat low blood sugar so it comes back to the target range but doesn't go too high. This treatment is called **The Rule of 15**.

When the blood sugar is below target range:

1. Give 15 grams of quick sugar without insulin.
2. Wait 15 minutes, then check the blood sugar to see if it worked.
3. If the blood sugar is not within target range, give 15 more grams of quick sugar, wait another 15 minutes, then check the blood sugar again.
4. If it's still not within target range, call the clinic or the on-call doctor.

For low blood sugar levels at bedtime or overnight, give a little bit of protein or fat after using The Rule of 15. This may help keep blood sugar levels steady. If the blood sugar was low at bedtime, check the blood sugar again in the middle of the night.

For example:

Your child's blood sugar is 93 mg/dL before bedtime. You give 15 grams of quick sugar, wait 15 minutes and test again. The blood sugar level went up to 118 mg/dL, which is in target range for nighttime. However, you are concerned it may go back down overnight, so you give your child a string cheese to help keep the blood sugar level steady.

If it is unsafe for your child to swallow a quick sugar, or if your child passes out or has a seizure from a low blood sugar, you will need to give your child an emergency injection of glucagon and call 911.

What is glucagon?

Glucagon is a hormone in the body that works opposite of insulin. While insulin

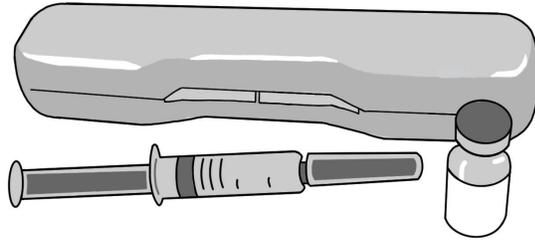
works to get sugar from the blood into the cells, glucagon works to put stored sugar from the liver into the blood. Glucagon can raise blood sugar levels without having to use food. In type 1 diabetes, sometimes we need to replace glucagon just like we replace insulin.

A **glucagon kit** for people with diabetes is similar to an Epi-Pen for people who have severe allergies. It is very rarely used, but it can be lifesaving in an emergency. Keep a glucagon kit with you at all times.

Check often to make sure the glucagon kit has not expired.

Glucagon comes in either a red or orange case. There are two things inside the case:

1. A special syringe that contains a liquid
2. A vial that contains a powder of glucagon



Keep a glucagon kit with you at all times.

The liquid and the powder are separate so your glucagon kit will have a long shelf life. When a glucagon injection is needed, mix the liquid and the powder well together before injecting.

There are 2 different doses of glucagon, a half dose and a full dose. Children who weigh less than 50 pounds need a half dose. Children who weigh more than 50 pounds need the full dose.

How to give glucagon

If it is unsafe for your child to swallow a quick sugar, or if your child passes out or has a seizure from a low blood sugar, do this right away:

1. Send someone to call 9-1-1 if possible.
If no one is able to call, first give glucagon and then call 911.
2. Turn your child onto the side so he or she doesn't choke on vomit. Do not put any food, fluid, or hard objects into the mouth.
3. Inject all the liquid from the syringe into the vial of powder.
4. Swirl or shake the bottle well.
5. Draw up the right dose as directed.
6. Give the glucagon into a big muscle, like the top of the thigh or the buttock.
7. Check the blood sugar level in 15 minutes.

Call the clinic if:

- There are 2 low blood sugars within 24 hours.
- A child wakes up two days in a row with a morning blood sugar under 100 mg/dL.
- Blood sugars are under 80 mg/dL after treating twice with the Rule of 15.
- You have had to give glucagon. We want to prevent a serious low blood sugar from happening again, and we may need to give you a new glucagon prescription.

Now that you've read this:

- Tell your nurse or doctor what blood sugar level in my child is too low.
(Check when done.)
- Tell your nurse or doctor what very low blood sugar feels like.
(Check when done.)
- Tell your nurse or doctor how to treat blood sugar that is too low.
(Check when done.)
- Tell your nurse or doctor when to give your child glucagon.
(Check when done.)
- Tell your nurse or doctor your child's dose of glucagon.
(Check when done.)
- Show your nurse or doctor how you would give your child glucagon.
(Check when done.)
- Show your nurse or doctor what and where you write on the diabetes log.
(Check when done.)
- Tell your nurse or doctor when you should share the log with your Diabetes Team.
(Check when done.)

Disclaimer

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