

diabetes @school
www.diabetesatschool.ca

High blood sugar

Canadian Pediatric Society

What it is and what to do

High blood sugar (or hyperglycaemia) occurs when a student's blood sugar is higher than the target range. It is usually caused by:

- extra food, without extra insulin
- not enough insulin
- decreased activity

Blood sugar also rises because of illness, stress, or excitement. Usually, it is caused by a combination of factors.

Students are not usually in immediate danger from high blood sugar unless they are vomiting, breathing heavily or lethargic. They may have difficulty concentrating in class.

What to do

Check blood sugar. Even students who are independent may need help if they are unwell.

Contact parents immediately if a student is unwell, has severe abdominal pain, nausea, vomiting or symptoms of severe high blood sugar.

If the student is well, follow instructions for high blood sugar in their care plan. Allow extended trips to the washroom, and encourage them to drink plenty of water.

If you see these symptoms in a child without type 1 diabetes, please speak to their parents and suggest they see a doctor.

Symptoms of high blood sugar

- Extreme thirst
- Frequent urination
- Headache
- Hunger
- Abdominal pain
- Blurry vision
- Warm, flushed skin
- Irritability

Symptoms of VERY high blood sugar

- Rapid, shallow breathing
- Vomiting
- Fruity breath

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When blood sugar is below 4 mmol/L, you must act IMMEDIATELY. Do not leave a student alone if you think blood sugar is low.

Low blood sugar is also called hypoglycaemia. It can be caused by:

- Too much insulin, and/or not enough food
- Delaying or missing a meal or a snack
- Not enough food before an activity
- Unplanned activity, without adjusting food or insulin

Some of the most common symptoms of low blood sugar are:

- Shakiness
- Irritability/grouchiness
- Dizziness
- Sweating
- Blurry vision
- Headache
- Hunger
- Weakness/Fatigue
- Pale skin
- Confusion

See other side for steps to take when you suspect a student has low blood sugar.

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How teachers can support students with type 1 diabetes

Canadian Pediatric Society

All students with type 1 diabetes—no matter how independent they are—need the support of trusted, caring adults at school. If you have a student with type 1 diabetes, whether for all or part of the day, there are many simple ways you can help. Here are some suggestions:

- Learn about type 1 diabetes.** Start by exploring the resources on diabetesatschool.ca, or have a look at some of the other resources we have gathered.
- Provide parents with as much notice as possible** about field trips, special events and changes to the school routine, especially where food or activity is involved.
- Be familiar with the signs and symptoms of low blood sugar (hypoglycaemia) and high blood sugar (hyperglycaemia), and know what to do in an emergency.**
- If a student experiences a low blood sugar before or during a test/exam, allow a reasonable amount of time to treat and recover from the low (they may need up to an additional 30 to 60 minutes to complete the task).**
- Be familiar with the student's Individual Care Plan.** Know who at the school has been designated to provide day-to-day support.
- Ensure that information about the student's daily tasks and emergency plan is available to supply teachers.**
- Ensure the student has easy access to supplies for blood glucose monitoring and treating low blood sugar (their "diabetes kit").**
- Support the student's self-care by allowing blood sugar monitoring at any time or anywhere, respecting the student's wish for privacy.**
- Ensure the student eats meals and snacks on time. Allow enough time to finish eating.**
- Know that a student may need to eat outside a planned meal or snack time to prevent low blood sugar.**
- Talk to the student's parents at the start of the school year (or right after diagnosis), and agree on a way to share information as needed.**
- Ensure that the student has unrestricted bathroom access, as well as access to water at all times. This is especially important when blood sugar is high.**

For more information: www.diabetesatschool.ca

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10 things school staff should know about type 1 diabetes

Canadian Pediatric Society

- Children will not outgrow type 1 diabetes: With type 1 diabetes, the cells in the pancreas that produce insulin have been destroyed. People with type 1 diabetes will always have to take insulin injections (until there is a cure). Changes in lifestyle or diet will not "improve" type 1 diabetes.
- Insulin is not a cure: But it is the only treatment. Without insulin, people with type 1 diabetes would die.
- It takes a lot of work to manage diabetes: Children with type 1 diabetes usually look healthy. That's because they and their families are working hard to keep blood sugar levels in a target range. They do this by checking levels frequently, and acting quickly when needed—such as adding insulin to account for a special treat, or having a snack because of extra physical activity.
- Technology is helpful, but it doesn't work on its own: Some students wear insulin pumps to deliver insulin, and whether or not to use a pump is an individual choice. Other students wear continuous glucose monitors (CGMs), which take blood sugar readings every few minutes. But none of these devices works on its own. People still have to carefully monitor blood sugar, food intake, and activity, and make decisions about how much insulin to give and when.
- Blood sugar levels can change quickly: It's important to check blood sugar often, because there are many factors that can cause it to change from minute to minute.
- Low blood sugar needs immediate attention: If a student feels low, or you suspect a student is low, act right away. Do not leave the student alone. Check blood sugar, and give fast-acting sugar as needed.
- High blood sugar means extra trips to the bathroom: When blood sugar levels are high, the body tries to flush out the extra glucose through urine. Children with type 1 diabetes should always have unrestricted access to the washroom.
- Kids with diabetes can still eat sweets (and anything else): Unless they have food allergies or intolerances, students with diabetes can eat anything that others can—as long as they have enough insulin. By planning ahead, school staff can ensure kids with diabetes are included in activities involving special treats.
- Even students who are independent may need help managing diabetes: As students get older, they take on more of their diabetes management. But they still need help from time to time, especially if their blood sugar is low (hypoglycaemia).
- Kids with diabetes want to be like everyone else: Like other kids, students with type 1 diabetes want to fit in. They don't want to be singled out because of their disease. Working with students and families to ensure kids can manage their diabetes and still feel included is an important role for school staff.

For more information: www.diabetesatschool.ca

For a full sized board please use the original PDF versions or these posters. See attached files or visit <https://www.diabetesatschool.ca/tools/tools-and-resources>

Words To Know:

Type 1 diabetes: A medical condition where the pancreas no longer produces insulin, the hormone that regulates blood glucose. Without insulin, blood glucose levels build up in the blood, leading to increased thirst and urination, and decreased energy. Type 1 diabetes is an auto-immune disease, and it used to be called juvenile diabetes.

Type 2 diabetes: A medical condition where the body does not respond well to insulin, and the pancreas cannot produce enough insulin to compensate. Type 2 diabetes is more common in adults than in children and youth and is different from type 1 diabetes.

Glucose (sugar): Fuel that the body needs to produce energy. Glucose comes from carbohydrate-containing foods such as breads, cereals, fruit and milk.

Insulin: A hormone, released by the pancreas, which converts glucose (sugar) into energy. Without insulin, glucose builds up in the blood instead of being used for energy. People with type 1 diabetes do not produce their own insulin, so must administer it by syringe, pen or pump.

Fast-acting sugar: A source of carbohydrate (sugar) that the body can quickly absorb, raising blood sugar levels. Examples include juice and candy. Fast-acting sugars are used to treat mild to moderate low blood sugar levels (hypoglycemia). A student with diabetes should always have a source of fast-acting sugar close by.



Glucagon Nasal Spray: This has just been approved in Canada, so we may be seeing more children with this.

Insulin pen: A device used to inject insulin.



Insulin pump: A device that administers insulin continuously through a small tube inserted under the skin. The pump is also used to give extra insulin with meals or to correct high blood sugar levels.

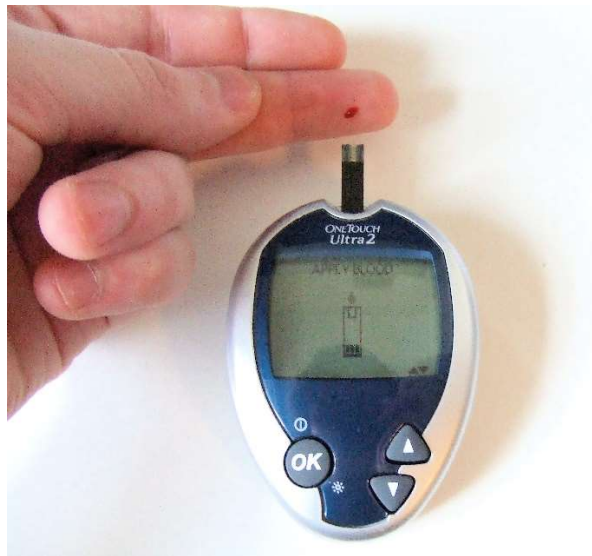


Test strip: A small disposable strip used to measure blood sugar (glucose) levels. The strip is inserted in a blood glucose meter, then a lancet is used to get a small drop of blood from a finger. Each test strip can be used only once.



Flash Glucose Monitoring: a sensor is inserted on their upper arm and a separate touchscreen reader device. When the reader device is swiped close to the sensor, the sensor transmits both an instantaneous glucose level and eight-hour trend graph to the reader.

Glucometer (or blood glucose meter): A medical device that is used to check blood sugar (glucose) level. A drop of blood is placed on a test strip, which is inserted into a hand-held meter. Students with diabetes are encouraged to keep their meter with them at all times.





Jay Cutler, quarterback for the Chicago Bears, first learned he had type 1 diabetes in May of 2008, when he was 25 years old. Though he doesn't know what it's like being a kid with diabetes, he's using his sports status to relay a very important message to young people with type 1 diabetes:

"You can live with the disease and still live the way you want."



Sara Groenewegen plays high level softball while managing her Type 1 diabetes, something she has dealt with since age nine. She is from White Rock, British Columbia. She is a member of the Team Canada Softball Team.



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13 years ago today I was diagnosed with type 1 diabetes. The picture on the left is me a few weeks after my diagnosis. Barely 100 pounds after having lost so much weight from my blood sugar being so high before going to the doctor where I would find out I was diabetic. On the right is me now. Happy and healthy. Prioritizing my physical health, working out and eating healthy and keeping my blood sugar in check. I have full control of my day to day life with this disease, and I'm so grateful to my family and loved ones who have helped me every step of the way. Never let anything hold you back from living your best life. Thank you to all my fans for your kind words and support. Means more than you know. Love you all. #grateful #diabetes #livebeyond #fbf



Salma Hayek, Oscar-nominee had gestational diabetes, which happens during pregnancy, while expecting her daughter, Valentina. Hayek has a family history of diabetes. Experts say all women should get checked for gestational diabetes when they are 24-28 weeks pregnant. Those at risk for type 2 diabetes are checked at their first prenatal visit. Gestational diabetes usually goes away after delivery, but it could return with a later pregnancy. It can also make you more likely to get type 2 diabetes later on.



Tom Hanks is an actor, who was diagnosed with Type 2 Diabetes. "I went to the doctor and he said, 'You know those high blood sugar numbers you've been dealing with since you were 36? Well, you've graduated. You've got type 2 diabetes, young man.'" Hanks added that the condition is controllable.

Glucagon: What it is, how to and use it

Glucagon is a hormone that raises a person's blood sugar (glucose). Like insulin, glucagon is produced in the pancreas. In a person without type 1 diabetes, the pancreas releases glucagon to ensure blood sugar does not drop too low.

When a person has type 1 diabetes, this doesn't happen. People with type 1 diabetes must check their blood sugar regularly, try to prevent low blood sugar, and treat it as soon as it happens with a source of fast-acting sugar (like juice, candy, or a soft drink).

If a person's blood sugar drops so low that they are unable to treat it themselves, they are having a **severe low blood sugar (severe hypoglycemia)**. Other symptoms include:

- Being unresponsive or unconscious
- Having a seizure
- Being so uncooperative that you can't give juice or sugar by mouth

NOTE:

Severe low blood sugar is an emergency. You must act immediately. Do not leave the student alone.



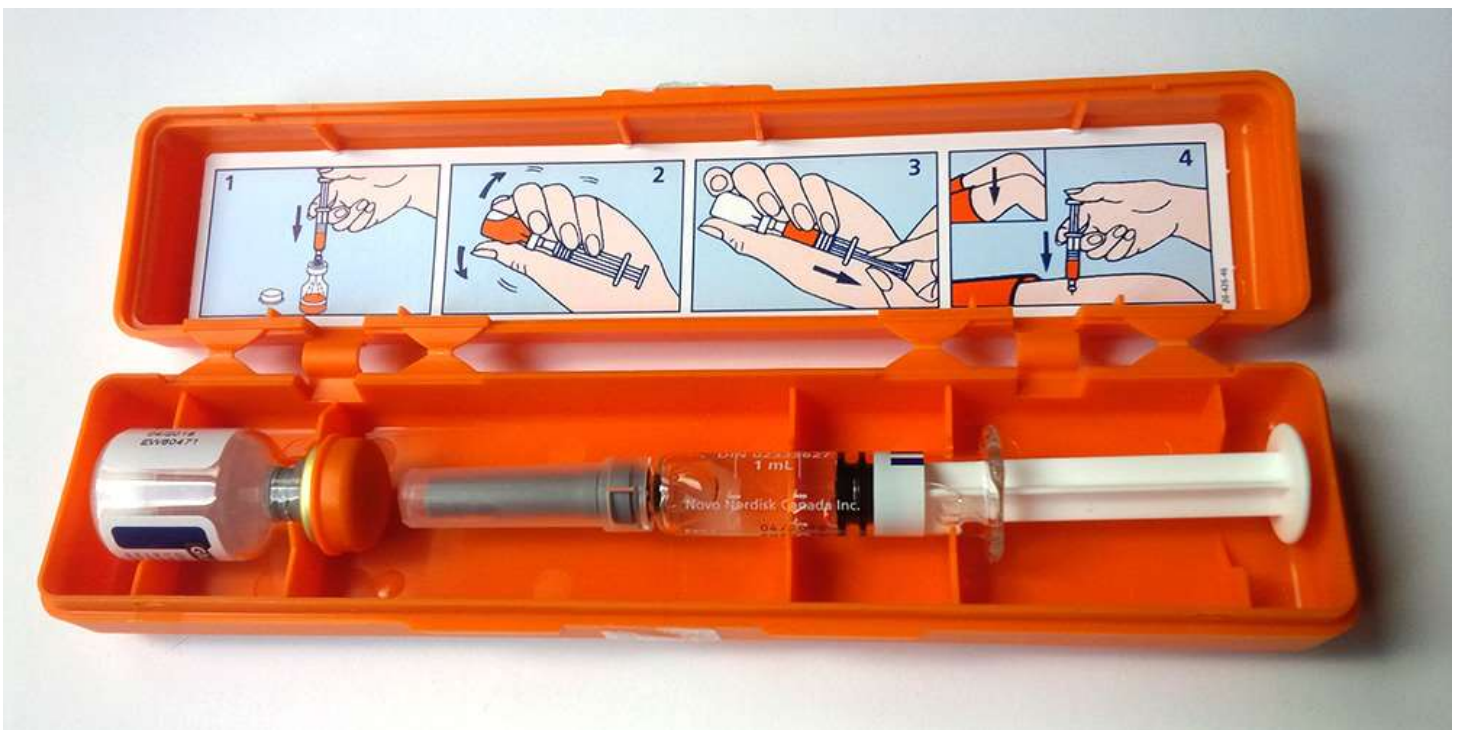
What to do for severe low blood sugar

1. Place the student in recovery position.
2. Have someone call 911. Then call the student's parents.
3. Stay with the student until ambulance arrives. Do not put anything in their mouth, such as food or drink (choking hazard).
4. If there is a signed consent and **mutual agreement** to give glucagon (usually in the student's Individual Care Plan), give it now. Staff identified in the care plan to give glucagon will have been trained.

How to use glucagon

Dose

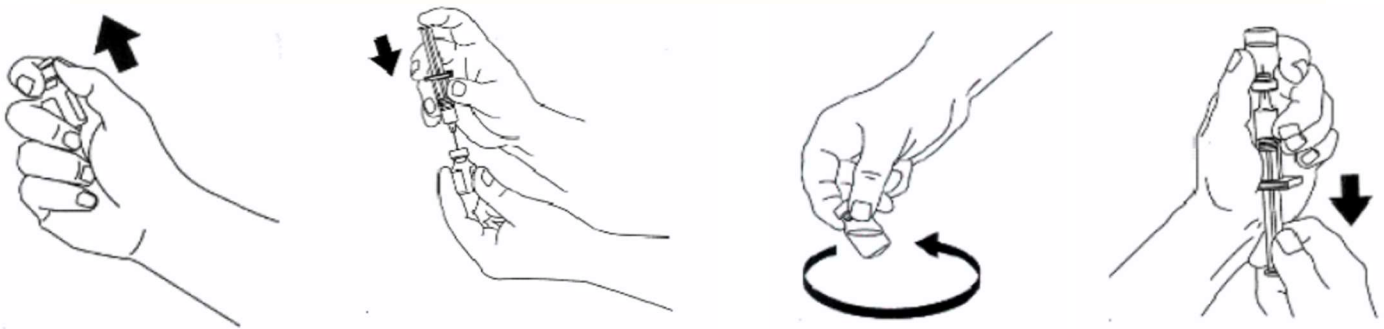
- Students **5 years old** and younger: 0.5 mg = 0.5 mL
- Students **6 years and older**:
1.0 mg = 1.0 mL



Glucagon kit, including saline-filled syringe and vial of powdered solution

Preparing and giving glucagon

1. Remove cap from vial (bottle) of powder
2. Remove needle protector from syringe and insert the needle all the way into the vial
3. Inject liquid from syringe into dry powder bottle
4. Roll the bottle gently to dissolve powder. The solution will be clear.
5. Draw the fluid (see above for dose) back into the syringe
6. Inject into outer mid-thigh (it is OK to inject it through clothing)



Recovery from severe low blood sugar

The student may take 5 to 20 minutes to wake up. Once the student is alert:

- Check blood sugar
- Give juice or fast-acting sugar
- Give a carbohydrate snack (such as crackers or a granola bar), if the student is able to eat.

A severe low blood sugar or the use of glucagon may cause nausea or vomiting. The student may not be able to eat or drink afterward. If this happens:

- Check blood sugar
- Seek medical help immediately (911 should be called even before giving glucagon. See above, **What to do**)