GUIDELINES FOR DIABETES MANAGEMENT IN SCHOOLS

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PUBLIC SCHOOLS BRANCH

Prince Edward Island CANADA

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1 CONTENTS

2 ACKNOWLEDGEMENTS

These guidelines help to clarify the shared responsibilities of parents/guardians, principals, educators, and other school-based personnel to ensure students with Type 1 diabetes are provided with a safe and positive learning environment. Service requirements for students with diabetes may vary depending on their age and their individual needs. As such, these guidelines provide additional information, resources, and recommendations for school personnel and parents/guardians.

This document was originally based largely on the New Brunswick Department of Education and Early Childhood Development "*Handbook for Type 1 Diabetes Management in Schools"* as well as the Newfoundland and Labrador Department of Education and Early Childhood Development "*Guidelines for Diabetes Management in Schools"*. We are indebted to those two provinces for allowing us to use their valuable resources. The Department of Education and Early Years also wishes to acknowledge the Health PEI – Provincial Diabetes Program staff for their invaluable input and Diabetes Canada for their Diabetes at School resources.

3 TERMINOLOGY

Blood glucose: The amount of glucose (sugar) in the blood at a given time. More commonly referred to as blood sugar.

Blood sugar monitoring or self-monitoring of blood sugar: People with diabetes must monitor their blood sugar regularly as part of the process for achieving their target blood sugar level. Levels will change depending on food consumption, physical activity, stress, illness, problems with the insulin delivery systems, and many other unknown factors. To test blood sugar, the individual pricks their finger with a lancing device and places a drop of blood on a blood glucose test strip, which is then inserted into a blood glucose meter to obtain a reading.

Carbohydrates: One of the main sources of energy (i.e., calories). All forms of carbohydrate are broken down into glucose during digestion and increase blood glucose. Carbohydrates are found in fruits, vegetables, milk, and grains/starches such as rice, potatoes, corn and legumes, and refined sugars.

Carbohydrate (carb) counting: A popular meal planning approach for children and adolescents with diabetes that involves calculating the number of grams of carbohydrate, or choices of carbohydrate, eaten at meals or snacks. Carb counting helps students follow their meal plan and/or to determine the amount of insulin needed at each meal/snack.

Continuous Glucose Monitor (CGM): Is a monitoring device that is inserted underneath the skin, which measures "interstitial glucose", which is the glucose found in the fluid between cells. The sensor sends this information wirelessly to a monitor, smartphone, or insulin pump.

Diabetes Care Team: Refers to an interdisciplinary team comprised of a physician specialist (pediatrician or internal medicine specialist) as well as a nurse and dietitian from Health PEI's - Provincial Diabetes Program.

Fast-acting carbohydrate (or fast-acting sugar): A rapidly absorbed carbohydrate to eat or drink for the treatment of mild to moderate hypoglycemia (e.g., juice, glucose tablets). Give fast-acting sugar according to the student's Individual Care Plan.

Glucagon: A hormone that raises blood sugar. An intranasal form of glucagon is used to treat severe hypoglycemia (low blood sugar). (For more information see: *Glucagon Kits for Schools FAQ* document)

Glucose: The fuel that the body needs to produce energy. Glucose (sugar) comes from carbohydrates such as breads, cereal, fruit, and milk.

Hyperglycemia or high blood sugar: A situation that occurs when the amount of blood glucose (sugar) is higher than an individual's target range.

Hypoglycemia or low blood glucose: Occurs when the amount of blood glucose (sugar) is lower than 4 mmol/L. Hypoglycemia can be mild, moderate, or severe. If mild hypoglycemia is not treated promptly, it can become severe.

Individual Care Plan: Is a written document, outlining the plan of care while the student is at school. It provides the student's demographic and parental contact information, defines the content of the students' emergency kit, and provides direction on:

- when and how often to check blood sugar;
- treating low blood sugar (hypoglycemia);
- treating high blood sugar (hyperglycemia);
- administering insulin (if needed at school);
- administering glucagon (if needed at school); and
- mealtime and physical activity.

Note: The creation of an **Individual Care Plan** is recommended, but this is at the parent's/guardian's and student's discretion.

Insulin: A hormone that facilitates the conversion of glucose to energy. Since people with Type 1 diabetes cannot produce their own insulin, glucose builds up in the blood instead of being used for energy. They must therefore administer insulin by syringe, insulin pen, or insulin pump.

Insulin pump: A computerized device that is programmed to deliver small, steady doses of insulin throughout the day. Additional doses are given when needed to cover food intake and to lower high blood sugar levels. The insulin is delivered through a system of plastic tubing (infusion set).

Severe low blood sugar: Typically occurs when the amount of blood glucose (sugar) is lower than 2.8 mmol/L. Severe low blood sugar is an emergency situation and requires the assistance of another person as unconsciousness may occur. Guardians should call emergency services

immediately. Symptoms of severe hypoglycemia include fainting, a seizure, and difficulty speaking.

Sharps: Used syringes, insulin pen needles, and lancets. These items must be carefully disposed of in appropriate containers.

Target blood sugar range: Acceptable blood sugar levels based on current Diabetes Canada's Clinical Practice Guidelines and personalized for the student by their diabetes care team and their parent or guardian.

Type 1 diabetes: An autoimmune disease that occurs when the pancreas no longer produces any insulin or produces very little insulin. Type 1 diabetes usually develops in childhood or adolescence and affects approximately 10% of people with diabetes. There is no cure. It is usually treated with lifelong insulin injections, frequent monitoring of blood sugar levels, and careful attention to food intake and physical activity.

Type 2 diabetes: A disease that occurs when the pancreas does not produce enough insulin to meet the body's needs and/or the body is unable to respond properly to the actions of insulin (insulin resistance). Type 2 diabetes usually occurs later in life (although it can occur in children) and affects approximately 90% of people with diabetes. It is treated with careful attention to diet and exercise and usually requires medication (oral antihyperglycemic agents) and/or insulin.

4 BACKGROUND

Type 1 diabetes is a chronic life-threatening autoimmune disease that affects children of all ages. In Canada, one in 300 children have Type 1 diabetes. Children younger than 5 years and early school-aged children are the fastest growing segment of the population with Type 1 diabetes. Based on statistics, it is likely that most schools in PEI will have at least one student with Type 1 diabetes at any given time. Since children spend many hours at school, effectively managing their diabetes within the school environment is integral to their short and long-term health.

These guidelines clarify the roles and responsibilities of parents/guardians, principals, educators, and other school-based personnel to ensure students with diabetes are provided a safe and caring learning environment. The information in these guidelines is for educational purposes only and is not a substitute for professional medical advice. The provision of health support services is the ongoing responsibility of the parent/guardian. In requesting the assistance of school personnel in the provision of these services, parents/guardians are temporarily delegating limited authority to the personnel of the public education system, for a particular purpose, rather than relinquishing any part of their parental responsibility.

5 GUIDELINES FOR DIABETES MANAGEMENT IN SCHOOLS

There are two main types of diabetes:

- **Type 1 diabetes** occurs when the pancreas is unable to produce insulin. Insulin is essential for ensuring that the body's energy needs are met. It most commonly has onset in childhood years, but it can also be diagnosed in early adulthood.

- **Type 2 diabetes** occurs when the pancreas does not produce enough insulin or when the body does not effectively use the insulin that is produced. Type 2 diabetes is common in adults over the age of 40 years, however onset in childhood, while not common, is increasing due to childhood obesity and physical inactivity.

Symptoms of undiagnosed diabetes can include unusual thirst, frequent urination, unusual weight loss, extreme fatigue or lack of energy, tingling or numbness in the hands or feet, and blurred vision.

Type 1 and Type 2 diabetes is managed through a combination of medications and technology:

Insulin

- All students with Type 1 diabetes need insulin to manage their diabetes. Insulin can be administered by injection or infused through a pump. Students with Type 2 diabetes more commonly use oral medications to manage the disease, although some will require insulin.

Insulin Pumps

- Many families of students with Type 1 diabetes choose to use a pump to administer insulin. The pump can allow for greater flexibility and improved quality of life as it eliminates the need for multiple daily insulin injections. The pump delivers a continuous infusion of insulin throughout the day plus, when prompted, a bolus (or 'burst') of insulin when the student eats. For the pump to work properly, the student must wear it day and night, although it can be removed, if indicated in the student's **Individual Care Plan** for short periods (e.g., during physical education class).

Continuous Glucose Monitors (CGM)

- Students may also wear continuous glucose monitors (CGMs) which take glucose readings every few minutes, with or without insulin pumps.

Technology such as insulin pumps and CGM are helpful, but they do not work on their own. There is still the need to monitor blood sugar, food intake, and activity to make decisions about how much insulin to give and when. When a school-aged child is unable to effectively monitor and comprehend their CGM, effort must be made to implement a monitoring plan that does not interfere with the classroom learning environment. School staff can be educated on the tools used to monitor diabetes, such as CGM transmitters, but they cannot be expected to observe trending of glucose values if doing so interferes with the overall classroom environment.

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10 things school staff should know about type 1 diabetes

1. **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.

2. **Insulin is not a cure:** But it is the only treatment. Without insulin, people with type 1 diabetes would die.

3. **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.

4. **Technology is helpful, but it doesn't work on its own:** Some students wear insulin pumps to deliver insulin. A pump is another way 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.

5. **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.

6. **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.

7. **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.

8. **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.

9. **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 (hypoglycemia).

10. **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

6 DIABETES MANAGEMENT: A SHARED RESPONSIBILITY

Diabetes management in schools is based on strong collaboration between parents/guardians, students, principals, educators, school personnel, and health care professionals.

The creation of an **Individual Care Plan** is at the parent's/guardian's and student's discretion. Depending on the age, maturity, skill, and ability to self-manage their diabetes, parents/guardians/students may choose not to develop an **Individual Care Plan** for an older student (e.g., high school). In addition, students may not want to disclose their health information to the school and its staff members, which is within their individual right not to disclose.

Responsibilities of Parents/Guardians of a Student with Diabetes

In order for students with diabetes to benefit from a safe and caring learning environment, their parents/guardians are expected to:

a) Be familiar with the Guidelines for Diabetes Management in Schools and fulfill their obligations.

b) Follow appropriate diabetes management practices:
- engage with the school and the Diabetes Care Team to develop the child's **Individual Care Plan**;
- ensure their child's diabetes is monitored and addressed and ensure that they follow their medically prescribed care;
- ensure that their child's blood glucose meter is in proper working order, with sufficient supplies available on a daily basis;
- program and maintain the insulin pump, changing its parameters and the batteries;
- encourage their child to inform school personnel when they experience symptoms of hypoglycemia or hyperglycemia (see terminology section);
- ensure safe transportation of medication and disposal of items requiring special precautions, such as syringes and sharps;
- inform the school in writing of any changes in the student's **Individual Care Plan**, or any relevant information; and
- foster their child's independence in the monitoring and treatment of their diabetes in keeping with the child's age, knowledge, skills, and maturity level.

c) Make a plan
- Parents/guardians are responsible for meeting with the principal (or designate) prior to the beginning of each school year, to develop/update the **Individual Care Plan** on the services required and the school's and student's (if applicable) respective roles. This information will be recorded and signed by the parent/guardian, the principal (or designate), and the student (if applicable).

- To facilitate the establishment of a service agreement for a student with diabetes, it is recommended that parents/guardians and designated staff use the **Individual Care Plan**. (Appendix A)
- Ensure modifications are in place for special events/outings.

d) Attend training
- Parents/guardians are responsible for working with the school to meet the school's training needs.
- Parents/guardians are encouraged to attend training provided for designated school personnel.
- When appropriate, parents/guardians are also encouraged to participate in the delivery of training.

e) Provide supplies
- Parents/guardians must provide all necessary supplies, equipment, and appropriately labeled medication (including glucagon, if included in the student's **Individual Care Plan**), and ensure these are available to the school at all times and replaced prior to their expiration.
- Parents/guardians must ensure that their child always has access to their diabetes management kit containing all the elements required for their diabetes care (including on the school bus). If a student with diabetes arrives at school without their kit, it is the parent's/guardian's responsibility to ensure the kit is provided to the school as quickly as possible.
- For students who require assistance counting carbohydrates, parents/guardians are responsible for providing separate carbohydrate counts for all foods to be consumed at recess and lunch.

f) Provide medical ID
- Parents/guardians shall ensure their child wears a MedicAlert® bracelet or other suitable identification at school and school related field trips.
- For more information about the Medic Alert bracelet visit: www.medicalert.ca

Responsibilities of the Education Authority Director

The Director will:

a) Ensure school personnel are familiar with and adhere to the Guidelines for Diabetes Management in schools.

b) Make available the appropriate training for school personnel.

Responsibilities of the Principal

The principal (or designate) will:

a) Provide the Guidelines for Diabetes Management in Schools document and appropriate forms to parents/guardians as soon as possible.

b) Ensure school personnel are familiar with, and adhere to, the Guidelines for Diabetes Management in Schools.

- Parents/guardians must be provided with the opportunity to meet with designated staff to develop/update the **Individual Care Plan** (Appendix A) as required for the student. This should occur at the beginning of the school year, or as soon as possible, and be updated/revised if changes are required. A copy of each student's **Individual Care Plan** is posted in the main office. The school administration will provide a copy of the **Individual Care Plan** to the appropriate staff.
- The plan must include an agreement on the procedures to be followed for the daily management of diabetes and in case of an emergency.
- The plan must describe the parent's/guardian's, school, and student's (when appropriate) respective roles.
- Each year, and when there is a significant change in the **Individual Care Plan**, the plan must be reviewed by the school principal (or designate) and the parent/guardian.
- If the service requirements remain the same, only the signatures from the principal (or designate) and a parent/guardian are required to renew the plan.
- If the service requirements are different from the last plan, a new plan must be developed.
- With permission from the parent/guardian/student, display the identifying information in the staff room or office.

c) Ensure measures are put in place

- The principal (or designate) will ensure measures as described in the **Individual Care Plan** are put in place. The principal (or designate) will ensure there are 2 staff members trained and available to provide assistance for the care specified in the plan.
- Where appropriate, the school principal (or designate) will establish a response team. The size of the team may vary depending on the size and the structure of the school, the number of students with diabetes, and the age group.
- Ensure the student's diabetes kit/fast-acting sugar supplies are accessible to the student at all times – e.g. class, gym, field trips, lockdowns, fire drills, etc.
- Where a glucagon kit is provided by the parent/guardian, the student will carry the glucagon kit in their emergency kit at all times.
- The principal must identify a safe, consistent location to store the school's back-up glucagon kit within the school. This location must be communicated to the school's response teams, parents/guardians, and teachers.
- Ensure a sharps container is available for the students for safe disposal of sharps.

d) Arrange for training

- When a student with diabetes attends school, an information session must be provided to all appropriate school personnel at the beginning of each school year or when a student is diagnosed during the school year (or as soon as possible.)
- Additional training will be required for school personnel with more direct contact with the student with diabetes.
- Parents/guardians shall be asked to attend training.

- When appropriate, parents/guardians shall be asked to participate in training delivery.
- When appropriate, the student shall be asked to attend and/or participate in training.

All school personnel, including substitutes, will receive information available to staff to:

- identify students with diabetes by their MedicAlert® bracelet or other medical identification;
- recognize diabetes supplies;
- recognize the signs of hypoglycemia and hyperglycemia;
- know where to find fast-acting sugar (emergency supplies of fast-acting sugar should be stored in multiple locations throughout the school, such as classroom, office, gym, etc.); and
- become familiar with the established emergency procedure.

Other school personnel with more direct contact with the student with diabetes shall receive additional training to ensure that, in addition to the above, they can:

- verify the amount of food consumed by the student and count carbohydrates (as per the parent/guardian count) for students who require assistance;
- supervise the student as they calculate and prepare the correct amount of insulin for carbohydrates consumed;
- supervise the student during blood sugar checking;
- supervise the student's self-administration of insulin;
- measure blood sugar with the glucose meter;
- replace glucose meter batteries;
- put in place other procedures that may be required;
- know where to find a glucagon kit, if required; and
- carry out the emergency plan including the administration of glucagon, according to the student's **Individual Care Plan**.

Younger children will need school personnel to provide all aspects of glucose monitoring and insulin administration.

e) Medication and materials management

- Medication services will be managed according to the established procedures and the agreed student **Individual Care Plan** (Appendix A).
- Adequate precautions must be taken to store and handle medications, such as insulin and glucagon, with respect for the particular storage requirements of the medication.
- An appropriate location must be available to perform blood sugar checks and insulin injections, and if the student requests and space allows, a private location will be provided. Otherwise allow students to carry out diabetes management tasks (e.g. blood sugar monitoring) conveniently and safely, wherever and whenever needed (e.g. classroom, gym, school bus).

Depending on the age, knowledge, skills, and maturity of the student:

- A member of the school personnel should be designated to verify, during the first period of the day, that the student has their diabetes kit at school. If the student does not have their kit, the parent/guardian will be contacted to ensure the kit is provided to the school as quickly as possible.
- Students depending on their age, maturity, and **Individual Care Plan** should not be left unattended when checking their blood sugar levels or administering insulin.
- The principal (or designate) should make arrangements for parents/guardians to count carbohydrates or, if available, obtain a carbohydrate count for foods served in the cafeteria.

f) Considerations for special events and activities

After consultation with parents/guardians, modifications must be in place for special events and activities at the school and other extra-curricular events in order to prevent and be prepared for any medical emergencies that may occur.

- Parents/guardians of students with diabetes should be given advance notice, to the extent possible, of changes to the regular schedule (e.g. field trips, extra physical activities, food-related activities) so that the parent/guardian can provide the school with appropriate modifications to the student's **Individual Care Plan**. Teachers should be notified of any modification to the plan for special events/activities.
- Depending on the age, knowledge, skills, and maturity of the student, an adult should be designated to ensure the student's care is managed according to their **Individual Care Plan** and to ensure the student has their diabetes care kit and glucagon kit, if required.
- A copy of the **Individual Care Plan** (Appendix A) should be available on all excursions off the school grounds.

g) Establish a plan for other school personnel

- Measures must be in place to ensure student safety when the student is under the supervision of a casual employee including a substitute teacher who has not received the appropriate diabetes training.
- Casual employees must be provided with written instructions concerning the care of each student (when appropriate).
- If required, the principal (or designate) must specify to the casual employee, a member of the school personnel who can intervene rapidly in the case of an emergency.

Responsibilities of Educators

Teachers are expected to:

- ensure they are familiar with and adhere to the Guidelines for Diabetes Management in Schools;
- know the identity of students with diabetes in their classroom/school;
- allow students to eat their snacks and meals according to their **Individual Care Plan**, on time and in full;

- allow students to carry out the necessary diabetes care as specified in the **Individual Care Plan** (Appendix A);
- be able to recognize the signs of hypoglycemia and hyperglycemia and provide assistance and treatment as per guidelines;
- be aware of the location of the diabetes kit for the student in their classroom, and of the location of additional supplies of fast-acting sugar stored in other areas of the school (e.g. office, gym, etc.);
- be able to recognize a student's equipment, which is necessary to carry out diabetes care, such as a blood glucose meter, insulin pump, etc.;
- communicate in advance to the parent/guardian any anticipated changes in daily schedule e.g. special events/activities to allow for appropriate adjustment to child's care plan for that day;
- be aware of changes of the plan for special events/activities; and
- provide information to substitute teachers.

7 EMERGENCY TREATMENT

There are two types of diabetes-related emergencies which school personnel may encounter:

- Low blood sugar level (hypoglycemia); and
- High blood sugar level (hyperglycemia)

When dealing with cases of hypo/hyperglycemia, the student's **Individual Care Plan** should be followed. Signs/symptoms that are unique to each child with diabetes should be recorded in their **Individual Care Plan.**

The following reference tools for hypo/hyperglycemia were designed to provide all school personnel with signs and procedures in case of such an emergency. School personnel and others (e.g. bus drivers) entrusted with the supervision of students with diabetes are expected to be able to recognize the signs of mild to moderate hypoglycemia and hyperglycemia and provide assistance in case of an emergency.

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Low blood sugar

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What it is and what to do

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 **hypoglycemia.** It can be caused by:

- Too much insulin, and 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

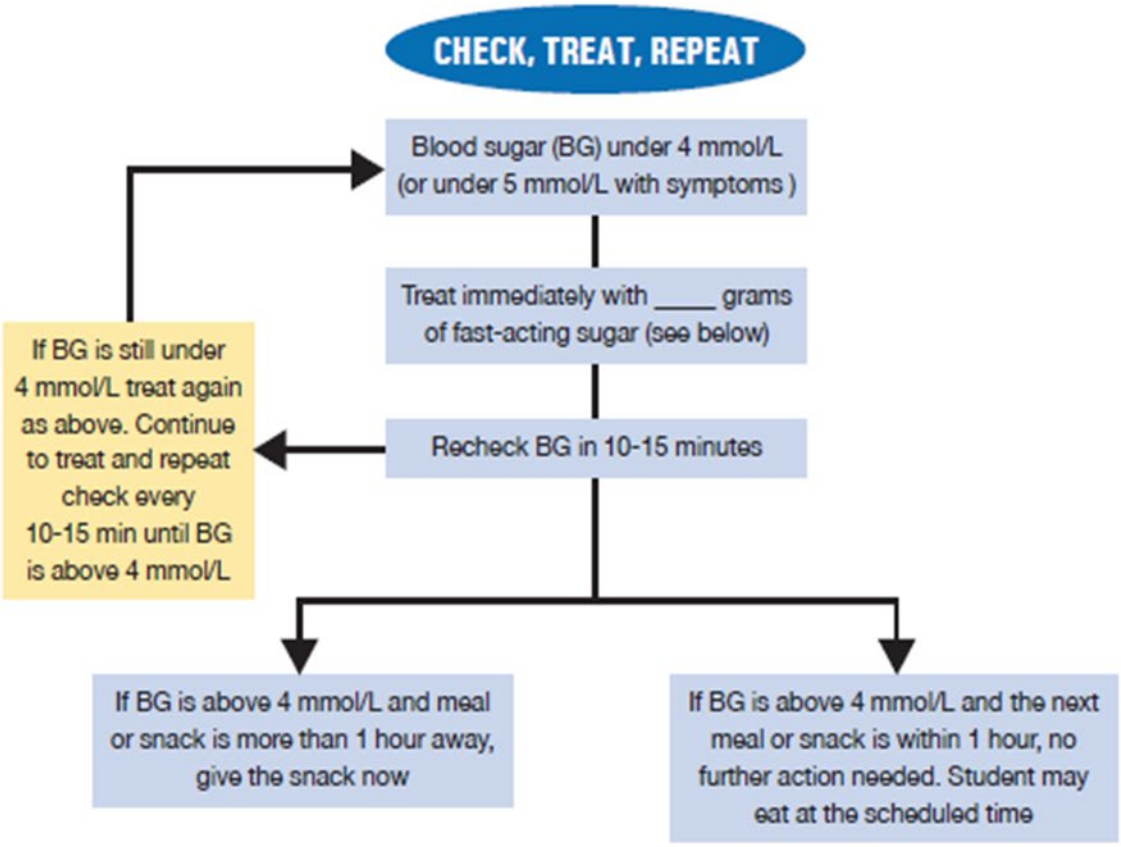

Confusion

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

How to treat low blood sugar

Remember:

1. Low blood sugar must be treated **IMMEDIATELY**
2. **DO NOT** leave a student alone if you suspect low blood sugar
3. Treat the low blood sugar **WHERE IT OCCURS.** Do not bring the student to another location. Walking may make blood sugar go even lower.
4. Even students who are independent may need help when their blood sugar is low



Give fast-acting sugar according to the student's care plan: either 10 g or 15 g

Amount of fast-acting sugar to give		
	10 g	15 g
Glucose tablets	2 tablets	4 tablets
Juice/pop	½ cup	¾ cup
Skittles	10 pieces	15 pieces
Rockets candy	1 pkg = 7 g	2 pkgs = 14 g
Table sugar	2 tsp / 2 pkgs	1 Tbsp / 3 pkgs

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High blood sugar

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What it is and what to do

High blood sugar (or hyperglycemia) 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.

Symptoms of high blood sugar


Extreme thirst


Frequent urination


Headache


Hunger


Abdominal pain


Blurry vision


Warm, flushed skin


Irritability

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 unlimited trips to the washroom, and encourage them to drink plenty of water.

Symptoms of VERY high blood sugar


Rapid, shallow breathing


Vomiting


Fruity breath

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

8 Reporting

In the event of a hyper/hypoglycemic event, schools are required to report the event through their regular Education Authority processes.

Post-Emergency

1) Staff will complete a Student Incident Form.
2) The principal (or designate) will immediately contact their board-based administrator support resource.
3) As soon as appropriate, after experiencing a hyper/hypoglycemic event, the principal will debrief with staff.
4) Staff should also be made aware of available support such as the Employee Assistance Program.
5) The principal should also consult with Student Services to access additional support.
6) If the school's back-up glucagon kit was used, the DEEY should be notified to seek a replacement device.

9 Liability Considerations

The Prince Edward Island Volunteers Liability Act generally applies and provides some legal protection from civil liability in circumstances where a person voluntarily administers aid in an emergency. It does not provide protection if it is established that injury or death were caused by the gross negligence of the volunteer providing assistance.

10 Useful Links

- Diabetes at School
  - Developed by the Canadian Pediatric Society in partnership with Diabetes Canada and the Canadian Pediatric Endocrine Group

11 Individual Care Plan

The following pages include the Individual Care Plan document which is the foundation of a student's diabetes care at school.

www.diabetesatschool.ca

Canadian Paediatric Society

DIABETES CANADA

CPEG GCEP
Canadian Pediatric Endocrine Group
Groupe canadien d'endocrinologie pédiatrique

APPENDIX A

Individual Care Plan for Students with Type 1 Diabetes

DAILY AND EMERGENCY PROCEDURES

IDENTIFICATION

Name: _____ Date of birth: _____ School year: 20___ to 20___

School: _____ Grade: _____ Homeroom teacher: _____

Home address: _____

Medical contact: _____ Phone: _____

If student has another care plan, note here: _____

Designated staff to provide support with diabetes care (minimum 2):

1. _____

2. _____

3._____

STUDENT PHOTO

Before-school care: No ☐ Yes ☐ _____ After-school care: No ☐ Yes ☐ _____

School bus #: a.m._____ p.m._____

CONTACTS

	Name	Relationship	Preferred phone #	Alternate phone #
1st				
2nd				
3rd				

EMERGENCY KITS / SUPPLIES

SCHOOL must ensure a kit is accessible at all times (class, gym, field trips, lockdowns, fire drills, etc.). Advise parents when running low on supplies. **PARENT/GUARDIANS** must maintain/refresh supplies.

CONTENTS (check all that apply)	With student	Classroom	Office	Other location(s)
Blood glucose meter, test strips, lancets				
Fast-acting sugar (juice, glucose tabs, candy) for low blood sugar				
Carbohydrate snack(s)				
Glucagon (expiry date: ___/___)				
Sharps disposal container				
Ketone strips/meter				
Insulin pen, pen needles, insulin (in case of pump failure)				
Extra batteries for meter				
Parents' names and contact numbers				
Other:				

	ROUTINE	MANAGEMENT
BLOOD GLUCOSE/SUGAR (BG) MONITORING	**Student's target blood sugar (BG) range** _____to _____mmol/L ☐ Student requires trained staff to do a blood sugar (BG) check and read the meter. ☐ Student needs supervision to do a BG check and read the meter. ☐ Student can do a BG check and read the meter on their own. Location of glucose meter(s) ☐ With student ☐ Homeroom class ☐ Other(s) _____ **Allow student to check their blood sugar at any time, in any place, respecting their wish for privacy or company.**	**Always check blood sugar when a student shows symptoms of hypoglycemia. If you are not able to check, treat it as if blood sugar is low.** Student's blood sugar should be checked at these times each day. At minimum, blood sugar checks should be completed prior to activity, lunch, and before leaving school. ☐ _____ Time _____ ☐ _____ _____ ☐ _____ _____ ☐ _____ _____ ☐ _____ Time _____ ☐ _____ _____ ☐ _____ _____ ☐ _____ _____ *Other times: _____ *Please note criteria within Physical Activity section below. **Home-school communication method:** Daily blood sugar readings should be communicated to parents/guardians via: ☐ Agenda ☐ BG readings form ☐ Text messages ☐ Other _____ Call parent/guardian if blood sugar is: ☐ Below ____ ☐ Above ____ Does student wear a continuous glucose monitor (CGM)? ☐ No ☐ Yes ☐ Yes, sometimes. ☐ If yes, see **Appendix B.**
NUTRITION BREAKS	☐ Student needs supervision during meal/snack times to ensure all food is eaten. ☐ Student can manage their food intake independently. **Allow enough time to eat meals/snacks.** **Ensure student eats meals/snacks on time.** **No food sharing.**	☐ Student can eat snack and lunch at regular school times. If not, specify when the student should eat _____ _____ Student requires a snack before: ☐ End of day/getting on bus ☐ See Physical Activity section below When treats or classroom food is provided: ☐ Student/school should contact parent/guardian in advance for instructions ☐ Student can manage independently Food restrictions ☐ Celiac disease: no gluten-containing products ☐ Allergies/intolerances: _____

	ROUTINE	MANAGEMENT
PHYSICAL ACTIVITY	**BG meter and fast-acting sugar should ALWAYS be accessible during physical activities.** **Risk of low blood sugar increases during/after physical activity**. **The student may need extra BG check(s) and/or extra food.** ☐ Student can make decisions about physical activities independently ☐ Student needs supervision/guidance around physical activity	**Notify parents/guardians whenever special activities are planned (for example, Terry Fox run, track and field day, field trip or other active event)** ☐ No action needed before activity ☐ Check blood sugar before regular physical activity classes ☐ Check blood sugar before unplanned activity Comments: _____ _____ _____ If blood sugar is: • Under 4 mmol/L, treat for low blood sugar • Between 4 mmol/L and ____ , give a snack before activity or getting on the bus (e.g. granola bar, arrowroot cookies, crackers, etc...) • Above _____, no snack is needed before activity For students on a pump: ☐ No specific pump adjustments needed ☐ Other_____
INSULIN	☐ Student does not take insulin at school. ☐ Student takes insulin at school by: ☐ pen injection ☐ pump Insulin is given by: ☐ Student, independently ☐ Student, with supervision ☐ Designated staff ☐ Other _____ Location in school where insulin will be given _____	Complete this section **only** if student takes insulin at school. Insulin by injection/pump is done at the following times: Time ☐ Before breakfast program _____ ☐ Before morning snack _____ ☐ Before lunch _____ ☐ Before afternoon snack _____ ☐ Other _____ **If BG is above _____ mmol/L, call parent/guardian** **For students using insulin pen:** ☐ Insulin can only be given at breakfast and/or lunchtime **For students using an insulin pump:** ☐ Insulin can be given anytime the student is eating ☐ There must be 2 hours between correction doses

	ROUTINE	MANAGEMENT
INSULIN VIA PUMP	A bolus calculator (which parents/guardians will provide) must be used in school settings. The pump is always programmed at home. Designated staff are responsible for ensuring that: • the BG reading and number of carbohydrates are entered at each meal/snack time • the bolus is delivered	**Training is required.** The basic steps are: 1. Check BG before the student eats. The reading will: ☐ Be sent to the pump by the meter. ☐ Need to be manually entered into the pump. 2. Enter the total number of carbohydrates to be eaten (provided by parent/guardian or the student) 3. The pump will calculate the amount of insulin to be given. Press the appropriate button to accept and deliver the bolus. **If BG is above _____ mmol/L:** ☐ Call parent/guardian ☐ Other _____
INSULIN VIA PENS OR SYRINGE	Type of insulin used: _____ **Always double-check the insulin dose before injecting to make sure the appropriate dose has been selected and is dialed correctly into the pen.** ☐ The student is able to select the appropriate dose. Designated staff should double-check the dose. ☐ Insulin is given by designated staff. A second adult must check the dose. (This task requires some training, but the adult doing it does not need to be a designated staff member listed in this care plan). ☐ Parents/guardians agree the student can give their own insulin, without an adult double-checking the dose.	**Training is required**. Here is how the dose is calculated: ☐ Parents/guardians will clearly label student's food separately with the number of carbohydrates designated for snacks or meals. They will provide an appropriate dose or tool to help designated staff select appropriate insulin dose based on the student's BG and carbohydrate intake. **OR** ☐ Parents /guardians will clearly label student's food separately with the number of carbohydrates designated for snacks or meals. The carbohydrate amount will be entered in the pump and an insulin dose will be calculated. This dose is based on the BG reading and the number of carbohydrates the student will eat. **Parents/guardians have the right to adjust insulin dosing throughout the school year as needed.**

EMERGENCY PROCEDURE FOR LOW BLOOD SUGAR (HYPOGLYCEMIA)

SYMPTOMS

MILD-TO-MODERATE LOW BLOOD SUGAR

When blood sugar (BG) is low, the student may have these symptoms:

☐ Shakiness	☐ Irritable/grouchy	☐ Dizziness
☐ Sweating	☐ Blurred vision	☐ Headache
☐ Hunger	☐ Weakness/fatigue	☐ Paleness
☐ Confusion	☐ Other(s)_____	

The student may also use these words to describe feeling low:

_____

SEVERE LOW BLOOD SUGAR

Symptoms

- Unresponsive or unconscious
- Having a seizure
- So uncooperative that you can't give juice or sugar by mouth

ACTION

<u>Never</u> leave a student with a low blood sugar alone.
Treat the low blood sugar ON THE SPOT.
Do not send the student somewhere else.

First, check blood sugar (BG). Even students who do their own checks may need help when their blood sugar is low. Then follow these steps:

Check
- If BG is under 4 mmol/L OR
- If BG is under 5 mmol/L with symptoms

Treat
- Immediately give ___ grams of fast-acting sugar (See below for student preferences and amounts)

Repeat
- After 15 minutes, check BG again:
  - If still under 4 mmol/L, treat again as above.
  - Repeat cycle every 10 to 15 minutes until BG is above 4 mmol/L

When BG is over 4 mmol/L:

- If meal or snack is more than 1 hour away, give snack now
- If meals or snack less than 1 hour away, no action needed. Student can eat at regular time

How much fast-acting sugar to give			
√		**10 g**	**15 g**
	Glucose tablets (4 g each)	2 tabs (8 g)	4 tabs (16 g)
	Juice or regular soft drink	½ cup	¾ cup
	Skittles	10 pieces	15 pieces
	Rockets (roll candy)	1 roll (7 g)	2 rolls (14 g)
	Table sugar	2 tsp / 2 pkgs	1 Tbsp / 3 pkgs

What to do

1. Place the student in recovery position.
2. Have someone call 911. Then call parents/guardians.
3. Stay with the student until ambulance arrives. Do not give food or drink (choking hazard).
4. If there is a signed consent and **mutual agreement** (see CONSENT page) to give glucagon, give it now.

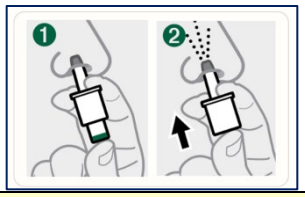
☐ **Yes, give glucagon**
☐ **No, do not give glucagon**

_____

HOW TO USE NASAL GLUCAGON

(See: *Glucagon Kits for Schools FAQ document)*

1. Remove shrink wrap. Open lid. Remove the device from tube
2. Hold the device between fingers and thumb
3. Insert the tip gently into one of the nostrils **until finger(s) touch the outside of the nose (1).**
4. Push the plunger all the way in. **Dose is complete when green line is no longer showing (2)**.
5. Once student is alert, give juice or fast-acting sugar.



When BG is under _____ mmol/L, call parent/guardian

PROCEDURE FOR HIGH BLOOD SUGAR (HYPERGLYCEMIA)

DEFINITION

Hyperglycemia = high blood glucose/sugar (BG). Levels may vary by individual.

High blood sugar is usually the result of extra food or inadequate insulin, but not always. BG also rises during illness or stress and can be due to technical problems (pump failure, missed meal bolus, etc.).

SYMPTOMS

The student may use these words to describe a high blood sugar: _____

Usual symptoms of high blood sugar for this student are:

☐ Extreme thirst	☐ Frequent urination	☐ Headache
☐ Hunger	☐ Abdominal pain	☐ Blurred vision
☐ Warm, flushed skin	☐ Irritability	☐ Other: _____

Usual symptoms of SEVERE high blood sugar

☐ Rapid, shallow breathing	☐ Vomiting	☐ Fruity-smelling breath

ACTION

Check BG. Even students who do their own checks may need help if they are unwell.

- **If student has symptoms of illness:** Call parent/guardian **immediately** if student is unwell, has severe abdominal pain, nausea, vomiting or symptoms of severe high blood sugar. A parent should pick up the student from school if blood sugar is high and they feel unwell, regardless of how old or independent they are.

- **No symptoms of illness:** If the student feels well and the BG is under _____ no immediate treatment is needed. Note the blood sugar reading using the typical home-school communication method. In the meantime:
  - Allow free access to the washroom and encourage them to drink water/sugar-free fluids.
  - Allow student to eat usual meal or snack (they may chose carbohydrate-free snacks).
  - Allow student to resume activity as normal.

- **Insulin corrections by pump:** If the student is on an insulin pump, a correction may be given (see **insulin** section of this plan). If BG has not decreased 2 hours **after** the correction, call parent/guardian.

When BG is above _____ mmol/L, call parent/guardian

CONSENT

Pre-authorizations by parents/guardians

Consent to release information: I authorize and provide consent to the school staff to use and/or share information in this plan for purposes related to the education, health and safety of my child. This may include:

1. Displaying my child's photograph on paper notices or electronic format(s) so that staff, volunteers and school visitors will be aware of my child's medical condition.
2. Communicating with bus operators.
3. Sharing information in special circumstances to protect the health and safety of the student.

Yes ☐ No ☐

Consent to transfer to hospital: I consent in advance to my child's being transported to a hospital if required, based on the judgment of school staff. I also permit a staff member to accompany my child during transport. Please note: the school principal or designate shall decide if an ambulance is to be called.

Yes ☐ No ☐

Consent to treatment: I am aware that school staff are not medical professionals and perform all aspects of the plan to the best of their abilities and in good faith. I approve of the management steps and responses outlined in this care plan, including administering glucagon if indicated.

Yes ☐ No ☐

Agreement to provide glucagon: School staff, parents/guardians, and my child (if age-appropriate) agree that glucagon can be given in the event of severe hypoglycemia. Note: School personnel must sign below to indicate pre-agreement to provide this emergency medication. For more information about glucagon see: Glucagon Kits for Schools FAQ document or https://diabetesatschool.ca/understanding/glucagon

Yes, glucagon can be given ☐ No, glucagon cannot be given ☐

AUTHORIZATION

Parent/guardian signature:_____ Date: _____

Parent/guardian name (print):_____ Relationship:_____

Student signature: _____

Heath care professional (HCP) signature: _____ Date: _____

HCP name (print): _____ Role: _____

Principal signature: _____

Principal name: _____

Designated and trained staff (minimum 2):

1. _____

2. _____

3. _____

Staff trained and designated to administer glucagon: _____

ANNUAL RENEWAL
When requirements change significantly, complete a new Individual Care Plan and share with all involved. If there are no changes between school years, use this sign-off sheet to confirm the plan has been reviewed by the school, the parent(s) and, when age-appropriate, the student.
This plan remains in effect for the _____ to _____ school year without change. Parent/guardian:_____ Date: _____ Principal: _____ Date:_____
This plan remains in effect for the _____ to _____ school year without change. Parent/ guardian:_____ Date: _____ Principal: _____ Date:_____
This plan remains in effect for the _____ to _____ school year without change. Parent/ guardian:_____ Date: _____ Principal: _____ Date:_____
This plan remains in effect for the _____ to _____ school year without change. Parent/ guardian:_____ Date: _____ Principal: _____ Date:_____
This plan remains in effect for the _____ to _____ school year without change. Parent/ guardian:_____ Date: _____ Principal: _____ Date:_____

APPENDIX B
Using Continuous Glucose Monitors in School

- A Continuous Glucose Monitor (CGM) is a monitoring device that is inserted every 7 to 15 days and automatically provides readings every 1-5 minutes, day and night. A sensor, inserted underneath the skin, measures "interstitial glucose", or the glucose found in the fluid between cells. The sensor sends this information wirelessly to a monitor.
- A CGM provides a constant picture—a pattern as opposed to a "moment-in-time" snapshot that comes from intermittent fingerprick readings.
- A fingerprick should be used to verify any CGM readings to confirm any alerts that require treatment.
- If the CGM and meter results differ, the meter BG is considered the most reliable.
- BG readings are sent to an insulin pump or to a remote device where they can be tracked. Some families are able to access their child's CGM readings remotely on their smart phone. The results are available in real time and can also be uploaded and reviewed by parents/guardians at the end of the day.
- A CGM can be used with an insulin pump and can be used by those taking insulin by injection.

	ROUTINE	MANAGEMENT
CGM – CONTINUOUS GLUCOSE MONITOR	Student wears a CGM: ☐ Always ☐ Sometimes ☐ Never ☐ The student is independent in their response to CGM results and alarms (excluding severe hypoglycemia) ☐ Student needs help to respond to the CGM results and alarms ☐ Results are sent to: ☐ Insulin pump ☐ Remote device ☐ Parent smartphone	• Low BG alarm is set at: _____ mmol/L **Low BG alarm should be confirmed with a BG check. Respond as per hypoglycemia section of this plan.** • High BG alarm is set at: _____ mmol/L OR ☐ No alarm set for highs **High BG alarm should be confirmed with a BG check. Respond as per hyperglycemia section of this plan.** • Also, BG checks are to be routinely done at the following times (check all that apply). ☐ Before lunch ☐ Before all snacks ☐ Before gym/activity ☐ Other _____