Hôpital de Montréal pour enfants
Centre universitaire de santé McGill

Montreal Children's Hospital
McGill University Health Centre

School Protocol:
Continuous Glucose Monitor with Insulin Injections

Date: _____ **Child's Name: _____**

What is a Continuous Glucose Monitor?

- A Continuous Glucose Monitor (CGM) is a monitoring device that is inserted every 6 to 14 days and automatically provides readings every 5 minutes, day and night. The sensor is inserted underneath the skin and measures "interstitial glucose", or the glucose found in the fluid between cells. The sensor sends this information wirelessly to a monitor. It is important to know that the interstitial glucose readings can lag behind blood glucose by up to 20 minutes.
- A CGM provides a constant picture of the blood glucose as opposed to a snapshot with finger prick readings.
- Using a CGM at school helps prevent and minimize the number of low blood sugars.
- Some devices allow parents to see the blood sugar remotely on their smart phone in real time or uploaded and reviewed by parents at the end of the day.
- CGM can be used with or without an insulin pump.

<table>
<tr><th colspan="2">Shared Responsibilities</th></tr>
<tr><th>PARENTS</th><th>SCHOOL</th></tr>
<tr><td>Before starting the CGM, plan a meeting with the school.
▪ Wear the CGM for 2 weeks with no alarms set during school hours.</td><td>Support the parents in gathering key people (school nurse, principal, teacher, gym teacher, lunch supervisor, before and after school program or other responsible person for daily diabetes management).</td></tr>
<tr><td colspan="2">After 2 weeks of CGM wear, participate in the elaboration of the care plan. Regular updates in the care plan may be necessary. The care plan must be reasonable and feasible for both families and school personnel.</td></tr>
<tr><td>Teach the school how to use the CGM.</td><td>Identify a minimum of 2 school staff to be trained with the CGM (even if child is independent, they might need help sometimes).
▪ Trained staff should be minimally available at lunch but ideally be flexible to accommodate some daytime checks (ex: before physical activity, snacks, school bus) and provide assistance with insulin administration (lunch and snacks).
❖ This can be done within reasonable limits.</td></tr>
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	▪ Ensure school staff is aware child using CGM and carrying a smart device.
Before bringing child to school every day: ▪ Ensure enough battery for the day. ▪ If calibration is required, it needs to be done at home (some exceptions can apply with Medtronic auto mode).	Advise parents if both trained staff are unavailable for one day.
Provide and replenish diabetes supplies as needed: glucose meter, lancets, test strips and hypoglycemia treatment kit.	Have a dedicated area for diabetes supplies.
Establish a backup plan if the CGM is not working.	Notify parents if there is a calibration alert, CGM malfunction or as outlined in the care plan.
Review the child's CGM data and patterns and make appropriate adjustments to diabetes management.	

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CGM Care Plan

	Routine	Management
CGM	Student wears a CGM ☐ Sometimes ☐ Always ☐ Student requires trained staff to respond to CGM results and alerts/alarms. ☐ Student need supervision to respond to CGM results and alerts/alarms.	Student's CGM should be checked at the following times. ☐ Before am snack Time _____ ☐ Before lunch Time _____ ☐ Before pm snack Time _____ ☐ Before leaving school/bus Time _____ ☐ Before physical activity Time _____
Alarms /Alerts (Only with Dexcom)	▪ High blood sugar alerts: OFF ▪ Rise rate: OFF ▪ Fall rate: OFF Results are sent to ☐ Remote device ☐ Smartphone, watch, Ipod If a child uses a smart device it will need to be near him at all times and the volume will need to be loud enough to hear alerts/alarms. Do not use arrows at school. It is confusing and overwhelming for people who are not familiar with the technology.	▪ Low blood sugar alerts: ON ▪ Low BG alert is set at _____ mmol/L (between 3,5 – 4 mmol/L) ▪ Urgent low glucose alarm: ON (cannot be turned off) ▪ Urgent low soon alert (Dexcom G6): ON (notifies that the blood sugar will be 3,1 mmol/L within the next 20 minutes) ▪ Low snooze alarm: 30 minutes
Hypoglycemia/Capillary Blood Sugar	CGM Device ☐ Dexcom ☐ Freestyle Libre When to do a capillary blood sugar ☐ Anytime the student's symptoms don't match the CGM reading ☐ Signal loss ☐ Malfunction ☐ Under 4 mmol/L and wearing a Freestlyle Libre ☐ Not wearing CGM	IF THE CGM AND THE CAPILLARY BLOOD SUGAR RESULTS DIFFER, THE CAPILLARY BLOOD SUGAR IS CONSIDERED THE MOST RELIABLE. **Hypoglycemia: blood sugar under 4 mmol/L** ▪ DO NOT LEAVE THE CHILD ALONE. ▪ Give _____ mL of juice or _____ g rapid acting carbohydrates as indicated by the parents. ▪ Recheck the blood sugar after 15 minutes. ▪ If the result is still below 4,0 mmol/L, repeat the hypoglycemia treatment and notify the parents.

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	☐ Student requires trained staff to do a blood sugar check and read the meter. ☐ Student needs supervision to a blood sugar check and read the meter. ☐ Student can do a blood sugar check and read the meter on his own.	▪ When the result is more than 4,0 mmol/L: ○ If the meal or snack is more than 1 hour away, give snack now. ○ If the meal or snack is less than 1 hour away, no action needed. Student can eat at regular time.
	Allow student to check their blood sugar at any time, in any place, respecting their wish for privacy or company.	
Hyperglycemia	Hyperglycemia = High blood sugar Levels may vary by individual. Many factors can influence the blood sugar.	▪ **No intervention necessary.** ▪ Don't need to call the parents. ▪ Don't need to check ketones. ▪ Allow the child to drink water and use the washroom as needed. ▪ Child eats his lunch normally. Do not limit items in the lunch box based on blood sugar numbers. ▪ Child does not need to be more active (ex: go for a walk).
Physical Activity	Physical activity lasts 30 minutes or more and is not part of the daily routine. BG meter and a fast acting sugar should always be accessible. Risk of low blood sugar increases during/ after physical activity. Extra CGM checks and/or snacks may be required.	Notify parents whenever special activities are planned. ☐ No CGM check and student eats a snack ☐ CGM check ▪ Under 4 mmol/L, treat the hypoglycemia ▪ Between 4 mmol/L and _____ mmol/L, eats a snack before the activity ▪ Above_____ mmol/L, no snack is required before activity
	☐ Student needs supervision and guidance around physical activity. ☐ Student can make decisions around physical activity on his own.	

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Partial/Complete Removal	Adhesive is peeling off ▪ Reinforce it with approved medical tape provided by parents.	Accidental dislodgement ▪ Put the CGM device in a bag and give it back to the family.
Communications	Call parents if ☐ Sick (fever, vomiting) ☐ 2 consecutive hypoglycemia treatments ☐ CGM sensor dislodged ☐ Event or situation where school staff needs guidance	

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Signature of responsible person at school

_____

_____

Parents' signature

_____

_____

Parents' telephone number

_____

_____

Diabetes nurses: 514-412-4400 Ext: 22860

Diabetes doctor on call: 514-412-4400 Ext: 53333 (ask for the pediatric diabetes doctor on call)

Resources

https://www.diabetesatschool.ca/

http://www.bcchildrens.ca/health-professionals/learning-development/resources/diabetes-at-school

https://www.cps.ca/en/documents/position/type-1-diabetes-in-school