TYPE ONE DIABETES MANAGEMENT PLAN: 2027

Multiple Daily Injections

CYHNCN
Child & Youth Health National Clinical Network

Use in conjunction with Diabetes Action Plan.
This has been developed by specialist diabetes clinicians.

As kaitiaki (carers/guardians) of diabetes related services, it is a collective responsibility to establish an environment that facilitates a pathway for people with diabetes to navigate te ao mate huka - the world of diabetes[1].

This management plan is utilised in both school and early childhood setting. To simplify the plan, the child with Type 1 Diabetes is called "student" throughout the plan.

Student's name:	Age:	Date:

RESPONSIBLE STAFF

Staff who have voluntarily agreed to undertake training and provide support with diabetes care for the student.

Staff will require training in how to check glucose levels and how to administer insulin.

A Medication Authority Form may be required if school staff are required to administer and supervise insulin given via the pump or injection. This form may be provided by the school staff.

List below and tick those that apply

Nominated staff members:	Glucose checking	Insulin Administration

INSULIN ADMINISTRATION - The child requires an injection of insulin:

☐ Before morning tea ☐ Before lunch

Other: _____

Is supervision required: Yes No

If yes, the staff responsible need to: ☐ Remind ☐ Observe ☐ Assist ☐ Administer injection

The location in the school or ECE centre where the injections are given: _____

Please note, injections should be administered wherever the child feels comfortable.

HOW MUCH INSULIN TO BE ADMINISTERED

Parents will explain carbohydrate ratios and correction doses, or explain how to use phone app. It is the responsibility of the parent / caregiver to keep the school up to date with changes to insulin doses.

If insulin is required, calculate the amount of insulin to be administered using the following ratios or the provided sliding scale:

	Morning Tea	Lunch	Other
Carb Ratio (1 unit: grams CHO)			
Correction Ratio* (1 unit: mmol/L)			
Target GL for corrections			

**Please note: correction doses of insulin are usually not given more than every 3 hours*

Student's name: _____

[1] *Te Kaiwhakahaere Māori te Roopu mate huka Debbie Rawiri- Te Whatu Ora Waitaha Canterbury*

GLUCOSE LEVEL (GL) CHECKING

Target range for glucose levels (GLs): 4 – 10 mmol/L

- GL results outside of this target range are common
- GL check should be done where the student is, whenever needed
- The student should always wash and dry their hands when doing a GL check via finger prick.

Glucose levels will vary day-to-day and be dependent on a number of factors such as:

- Insulin dose
- Growth spurts
- Illness / infection
- Excitement / stress
- Type / quantity of food
- Age
- Level of activity

Is the student able to do their own glucose level check: Yes No

Independently? If NO, the responsible staff member needs to: ☐ Remind ☐ Observe ☐ Assist ☐ Do the check

Times to check GL (tick all those that apply)

☐ Before activity ☐ Before snack ☐ Before lunch

☐ Anytime hypo suspected ☐ Before exams / tests ☐ When feeling unwell

☐ Beginning or after school care ☐ Other routine times *(please specify):* _____

A confirmatory finger prick is required if:

- Student has signs of hypoglycemia, but sensor reading is above 3.9mmol/L with no alert
- SG fails to rise above 3.9mmol/L within 15 minutes following a hypo treatment
- SG is persistently greater than 15mmol/L for 2 hrs or more
- Any time that there is concern over the sensor accuracy or symptoms don't match CGM value

Refer to the Diabetes Action Plan

AND / OR

If the meter reads LO this means the blood GL is too low to be measured by the meter

Follow the Hypoglycaemia (Hypo) treatment on Diabetes Action Plan

If the meter reads HI this means the blood GL is too high to be measured by the meter

Follow Hyperglycaemia (Hyper) treatment on Diabetes Action Plan

Student's name: _____

SENSOR GLUCOSE (SG) MONITORING

Some students will be wearing a small sensor that sits under the skin and measures glucose levels in the fluid surrounding the cells (interstitial fluid).

A sensor glucose (SG) reading can differ from a finger prick blood glucose reading during times of rapidly changing glucose levels e.g. eating, after insulin administration, during exercise. Therefore, there may be times SG readings should be confirmed by a finger prick blood glucose check. Discuss with parent/caregiver.

☐ The student is wearing Continuous Glucose Monitor (CGM)

☐ Dexcom ☐ Freestyle Libre ☐ Guardian

☐ Other: _____

The student uses:

☐ Phone ☐ Receiver ☐ Scanner as medical device

- With CGM, a transmitter sends data to either a receiver, phone app or insulin pump.
- CGM is not a compulsory management tool.
- More information

CGM ALARMS

- CGM alarms may be 'on' or 'off'.
- To help reduce alarm fatigue, consider using glucose alert thresholds that allow for some normal fluctuations in GLs across the day e.g. high alert threshold above 15 mmol/L

If 'on' the CGM will alarm if interstitial glucose is low or high.

- Alerts for high glucose levels or in response to changing glucose trends are not recommended in this setting.

If the CGM alarms, the child will:

☐ Notify the teacher ☐ Notify the parent / caregiver

Action: When receiver or phone alarms high or low, treat as per Diabetes Action Plan.

USING CGM AT SCHOOL

- Routine monitoring times should be agreed between school/ECE centre and family.
- Staff do not need to put CGM apps on their computer, smart phone or carry receivers.
- Parents/carers are the primary contact for any questions regarding CGM use.
- Some CGM devices can be monitored remotely by family members. They should only contact the school if they foresee a prompt response is required.
- If the sensor/transmitter falls out, staff are required to keep it in a safe place to give to parents/carers. Monitoring should then be done via finger print glucose checks and entered the insulin pump/phone.
- The sensor can remain on the student during water activities.
- Student may require access to their cell phone to monitor glucose levels/bolus insulin from phone during the school day and exams. **See letter template.**

Student's name: _____

LOW GLUCOSE LEVELS

(Hypoglycaemia / Hypo)

Follow the student's Diabetes Action Plan if GL less than or equal to 3.9 mmol/L. Mild hypoglycaemia can be treated by using supplies from the student's HYPO BOX.

Hypo box location/s: _____

HYPO BOX

FAST ACTING CARBOHYDRATE FOOD	AMOUNT TO BE GIVEN

LONG-ACTING CARBOHYDRATE FOOD	AMOUNT TO BE GIVEN

- All hypo treatment foods should be provided by the parent/caregiver.
- Ideally, packaging should be in serve size bags or containers and labelled as fast acting carbohydrate food and long-acting carbohydrate food.
- If the student requires more than 2 consecutive fast acting carbohydrate treatments, call the student's parent / caregiver. Continue hypo treatment if needed while awaiting further advice.

Mild hypoglycaemia is common. However, if the student is having patterns of low GL, make sure that the parent/carer is aware.

SEVERE HYPOGLYCAEMIA (HYPO) MANAGEMENT

Severe hypoglycaemia is not common.

Follow the student's Diabetes Action Plan for any episode of severe hypoglycaemia.

DO NOT attempt to give any food or drinks to the student or rub anything onto the gums as this may lead to choking.

If the school / ECE centre is located more than 30 minutes from a reliable ambulance service, then staff should discuss Glucagon injection training with the student's Diabetes Team or with family. **Watch video resource.**

Student's name: _____

HIGH GLUCOSE LEVELS

(Hyperglycaemia / Hyper)

- Although not ideal, GLs above target range are common.
- If GL is 15.0 mmol/L or more, follow the student's Diabetes Action Plan.
- If the student is experiencing patterns of high GLs, make sure the parent/carer is aware.

KETONES

- Ketones occur most commonly when there is not enough insulin in the body.
- Ketones can be dangerous in high levels.

You will be required to check the student's blood ketone level if:

- Student is unwell or
- GL is above 15.0 mmol/L twice in 2 hours
- If blood ketones are more than 1.0 mmol/L, follow action for positive ketones on the student's Action Plan.

EATING AND DRINKING

- The student should not routinely go for prolonged periods without having access to a meal or snack containing carbohydrate (if hungry)
- Younger students require supervision to ensure appropriate amounts of food are eaten at meal and snack times
- Students with diabetes are encouraged to eat a nutritionally balanced diet and adequate food to support daily activities and being physically active. It is important NOT to restrict routine meals or snacks to manage glucose levels.
- Seek parent/carer advice regarding appropriate types of food, portion sizes, and insulin dose requirements for food at celebrations and shared kai at school
- Always allow access to drinking water and toilet facilities while the student is at school (high glucose levels can cause increased thirst and extra toilet visits)
- Does the student have Coeliac Disease?

  No Yes*

  *Seek parent/carer advice regarding gluten free food and hypo treatments.

- Does the student have a confirmed food allergy or intolerance?

  No Yes*

  *Seek parent/carer advice regarding appropriate food and hypo treatments.

EXCURSIONS / TRIPS

It is important to plan for extracurricular activities.

Consider the following:

- Ensure blood glucose meter, blood glucose strips, ketone strips, insulin, hypo and activity food are readily accessible.
- Plan for meal and snack breaks.
- Always have hypo treatment available.

CAMPS

It is important to plan for school camps and consider the following:

- Parents/carers need to be informed of any school camps at the beginning of the year.
- Checklists for whānau and school are available here.
- A separate and specific Camp Diabetes Management Plan is required.

Student's name: _____

PHYSICAL ACTIVITY AND SWIMMING

A blood glucose meter and hypo treatment should always be available

- Check glucose level before physical activity.
- Physical activity may lower glucose levels.
- The student may require an extra 'activity' carbohydrate food before every 30 minutes of planned physical activity or swimming as provided in the Activity Food Box.

Activity Food Box location/s: _____

If glucose level below _____ mmol/l prior to activity of more than 30 minutes give one carbohydrate snack from list below.

If glucose level below _____ mmol/l prior to swimming or give one carbohydrate snack from the list below.

If glucose level below _____ mmol/l during activity give one carbohydrate snack from the list below.

ACTIVITY FOOD BOX

CARBOHYDRATE FOOD TO BE USED	AMOUNT TO BE GIVEN

- Physical activity should not be undertaken if GL 3.9 mmol/L or less.
- Refer to the Diabetes Action Plan for hypo treatment.
- Vigorous activity should NOT be undertaken if the student is unwell AND/OR blood ketones are
- greater than or equal to 1.0mmol/L
- If the school has "play then eat" policy, this might need to be discussed with a parent.

EXAMS

- GL should be checked before an exam or a test.
- GL should be greater than 4.0 mmol/L before exam is started.
- Blood glucose meter, monitoring strips, hypo treatments and water should be available in the exam setting.
- Continuous Glucose Monitoring (CGM) and receivers (smart phones) should be available in the exam setting.
- Student may require access to their cell phone to monitor glucose levels/bolus insulin from phone during the school day and exams. Click here for further information to support students during exams.
- Extra time will be required if a hypo occurs or for toilet privileges.

Applications for special consideration

Students with diabetes mellitus are eligible to apply to NZQA for "Special Assessment Conditions" (SAC) on medical grounds. Students must complete a "Student application for entitlement to special assessment conditions". This form can be downloaded from the New Zealand Qualification Authority (NZQA) website. The application should be lodged at the beginning of Year 11 and 12.
For more information on the Special Assessment Conditions process please go to www.nzqa.govt.nz/

Student's name: _____

EMERGENCIES OR EVACUATIONS

Provided for diabetes care at the school by parent/carer

- ☐ Insulin / pens / pen needles (If having insulin at school)
- ☐ Finger prick device
- ☐ Blood glucose meter
- ☐ Blood glucose strips
- ☐ Blood ketone strips
- ☐ Sharps container
- ☐ Hypo food
- ☐ Activity food
- ☐ Spare battery for blood glucose meter
- ☐ Consider charger for glucose monitoring device

AGREEMENTS

PARENT/CARER

- ☐ I have read, understood and agree with this plan.
- ☐ I give consent to the school to communicate with the Diabetes Treating Team about my student's diabetes management at school or Early Childhood Centre.

First name _____ Family name _____

Signature _____ Date _____

SCHOOL/ECE CENTRE REPRESENTATIVE

- ☐ I have read, understood and agree with this plan.

First name _____ Family name _____

Role ☐ Principal ☐ Supervisor ☐ Manager ☐ Other _____
(please specify):

Signature _____ Date _____

This document has been developed by Specialist Diabetes Clinicians.
If you have concerns, please contact the child's diabetes treating team.

Student's name: _____