



Australian Paediatric Society

E- learning modules - <https://www.t1d.org.au>

DIABETES MANAGEMENT PLAN 2018

MULTIPLE DAILY INJECTIONS

Name of Student Date of Birth/...../.....

Name of School

Type of Injection therapy Syringe / Pen Insulin dose according to carbohydrates Yes /No

Emergency Contact Ph.....OR Ph

Medical team..... Ph.....OR..... Ph.....

The Diabetes Management Plan (this plan) is a document produced by the parent and medical team that outlines the individual requirements, medical needs, directives, and instructions for the management for the child with Type 1 in the school environment. The school and relevant Education provider must facilitate the execution of this Plan. The Plan is specific to this child.

The Diabetes Action Plan provides target blood glucose levels and steps for the appropriate management required for low (“Hypo”) high (“Hyper”) blood glucose levels.

The Diabetes Action and Management Plans constitute the parent’s formal instructions to the school regarding their child’s medical needs. These plans should be updated annually, or as required.

Multiple Daily Injections

Multiple Daily Injection therapy (MDI) is one of two options (the other being Insulin Pump Therapy) to deliver Intensive Insulin Therapy (IIT) to people with Type 1 diabetes. IIT is currently regarded as gold standard and is the internationally recommended optimal method of therapy for Type 1 Diabetes in children. MDI consists of a background (basal) insulin given at home and a calculated dose (bolus) of insulin according to the blood glucose and /or carbohydrate content of the food in a meal. This is calculated according to instructions from the parents and treating medical diabetes team. MDI may optimize diabetes management if used properly. Severe low Blood Glucose (Hypo) risk may be reduced. Meal timing and food quantity can be more flexible when using MDI unless the insulin is “fixed dose.” Exercise and school performance are both enhanced when Blood Glucose levels are in the normal range.

Terminology

- Pen – a device that is used to deliver the insulin. The Pen can deliver insulin in half units. The pen contains a small glass cartridge of insulin with a needle that is attached to the end of the pen. The dose is calculated and dialled into the pen. The needle is then inserted under the skin and the button at the top of the pen is depressed, administering insulin to the child.
- Syringe therapy – in this circumstance the insulin dose is drawn up via a syringe then inserted under the skin.
- Dose Calculator – this may be a pre-programmed device (such as blood glucose ‘smart meter’ like Freestyle Insulinix) or printed dosing card (ezy-Bicc)
- Ketones – chemicals produced by fat breakdown when glucose becomes unavailable as a fuel for cells to burn for energy (e.g. failure of insulin delivery). Small amounts of ketones are not usually a concern however when present in large amounts can induce nausea and vomiting, potentially leading to serious problems.

ROUTINE DAY

Requires supervision with

- Blood glucose test Remind Observe Assist Perform No
- Insulin dose calculation Remind Observe Assist Perform No
- Via Dose Calculator Via ezy-Bicc
- Food Consumption Remind Observe No
- Supervision of injection of insulin with meal at arrival mid morning lunchtime
- Amount of supervision required for insulin injection
Remind Observe Assist Perform No

Blood /Sensor Glucose testing times

(Includes any time that a hypo (low blood glucose <4mmol/l) is suspected, if unwell or before exam)

And during standard day		Blood (finger-prick)	Sensor (CGM/FGS)
➤ Upon arrival to school	Yes / No	Yes / No	Yes / No
➤ Pre-morning recess	Yes / No	Yes / No	Yes / No
➤ Pre-lunch	Yes / No	Yes / No	Yes / No
➤ Pre-leaving school	Yes / No	Yes / No	Yes / No
➤ Pre-exercise / physical activity	Yes / No	Yes / No	Yes / No

NOTE - Blood glucose levels can vary with levels of activity, stress, excitement, illness, menstruation, alcohol and type and quantity of food.

“Hypo” supplies location

- In classroom under supervision Yes / No
- With young person with diabetes Yes / No
- Other _____

Glucagon Hypokit location

- In classroom Yes / No
- In sick bay Yes / No
- With person with diabetes (locker) Yes / No
- Other _____

Hyperglycaemia (high blood glucose greater than 10mmol/l)

- See action plan.

IT IS NOT appropriate to send the student out to exercise or perform other physical activity in an attempt to reduce blood glucose. This will not be effective and may result in a higher glucose level.

If the school has been supplied with ketone strips by a parent and has been instructed how to do so, perform a blood ketone test to assess insulin administration has occurred as specified when:

- There are two high blood glucose readings (>10mmol/l) 2 hours apart (please notify parent)
- Requested after phone consultation with parent

Exercise Strategy

Exercise strategy for scheduled activity

- Reduced insulin dose before exercise Yes / No

If yes, how is this done? _____

Exercise Strategy for Carbohydrates before and after exercise:

Give _____ (type and amount of Carb without insulin)

Before exercise if BG is _____ mmol/l

And _____ (without insulin) after exercise unless BG is above _____ mmol/l








Continuous Glucose Monitor (CGM) & Flash Glucose Sensor (FGS)

If the young person is wearing a CGM or Freestyle Libre FGS, please discuss interpretation and interventions with parents. If either device reads low or the student has symptoms of low blood glucose, a finger prick blood glucose is required to confirm the result. This is because these devices have a lag time of approximately 5 minutes (and up to 15 minutes) behind blood glucose levels. This is important to assess the effect of low glucose intervention and treatment.

Please use Trend Arrows on CGM (Dexcom) and FGS (Libre)

Yes / No

(A formal training program from treating Diabetes Team / parent strongly recommend).

CGM /FGS Arrow Use (Yes /No)	Significance	Prevent or act (consider the effect of exercise especially)
Double Down 	Glucose value falling by >2.5mmol/l in 15 minutes	6.5 mmol/l or lower – fast carbs per Action plan i.e.
Single down 	Glucose value falling by 1.7-2.5mmol/l in 15 mins	6.5 mmol/l or lower
Sideways down 	Glucose value falling by maximum 1.7mmol/l in 15 minutes	5.7 mmol/l or lower
Steady 	Stable blood glucose rising/falling by maximum 0.8mmol/l in 15 minutes	4.8mmol/l or lower
Sideways up 	Glucose value rising by as much as 1.7mmol/l in 15 minutes	Increase insulin dose by 10%
Single up 	Glucose value rising by as much as 2.5mmol/l in 15 minutes	Increase insulin dose by 20%
Double up 	Glucose value rising by more than 2.5mmol/l in 15 minutes	Increase insulin dose by 25-30%

(ref Peter Adolfsson CGM Step 1-2-3 Guide)

Insulin Injection Troubleshooting Skills

If there are problems with the syringes, pens or issues relating to insulin delivery it is strongly recommended the school staff seek guidance from the parents (in the first instance) and /or the treating diabetes medical team.

Student with type 1 diabetes is consented by parents to action the following:

- Able to put together syringe and needle or pen and needle Yes / No
- Able to draw up correct dose of insulin as calculated daily Yes / No
- Able to inject and depress plunger/button to deliver insulin Yes / No
- Able to self-administer insulin injection if required without supervision Yes / No

Coeliac Disease

- This young person also has coeliac disease so must avoid gluten (wheat) Yes / No

Communication

The school must contact the parent in first instance. The circumstances when the Parent/Legal Guardian should be contacted immediately for certain circumstances (See Annexures)

The Parent may provide consent for school staff to communicate with the treating medical team if the Parent is unavailable.

I authorise school staff to contact the treating medical team for my child in the event of in an emergency

Parent/Legal Guardian

Signed _____ (parent)

Date ____/____/201__

Name _____

INFORMED CONSENT

This Plan requires the Informed Consent of the Parent/legal guardian.

Medical Staff/ Treating Medical Team

Medical staff are responsible for their prescribed medical treatment of the child. This cannot be delegated to a third party that is not authorized or suitably qualified.

Our medical team is committed to supporting the student with Type 1 Diabetes. Treatment decisions are made by the parent in conjunction with the medical team to allow optimal medical care and in the best interest of the child's short and long-term health outcomes. The medical team are obliged to undertake and advise on their prescribed treatment in line with their obligations as a Registered Health Practitioners.

Parent/Legal Guardians

The parent is responsible for the medical decisions concerning their child.

I understand that it is my right to be fully informed of any instruction, advice or training that is provided regarding the needs of my child with Type 1 Diabetes. I understand that it is my right and responsibility to instruct the School on the specific care required for my child. I understand that I am responsible for supply of all type 1 diabetes information and material, equipment, insulin, carbohydrate food, hypoglycaemia supplies and Glucagon Hypokit. I understand it is my right and responsibility to notify of any changes to the medical needs of my child with type 1 diabetes

Parent/Legal Guardian

Signed _____ (parent)

Date ____/____/201__

Name _____

Treating Medical Team

Signed _____ (doctor)

Date ____/____/201__

Name _____

Annexure 1: General Issues with Type 1 Diabetes

Young children are not capable of managing diabetes cares and will require extra support at school. The child with diabetes may be encouraged to be involved in care and perform some tasks by themselves under supervision. The student may be capable, but should not be responsible for Type 1 management during school hours as the effects of low or high blood glucose may seriously impair judgement.

There is no consensus as to what age the student may be expected to have responsibility for self-care during the school day. In most cases the child is mature enough by 12 years but a neurocognitive dysfunction, learning disability or psychosocial vulnerability can cause prolonged need for support. The parent is the best and most appropriate person to judge this in conjunction with the child's medical team and should document the amount of assistance and supervision required in the child's individual Diabetes Management Plan. The child will not "learn responsibility" by being left to their own devices in school.

Type 1 is a relentless condition with over 30 points of care required daily. Because of this, there is increasing recognition that adolescents are generally not capable of total diabetes care until they leave school and their forebrain fully develops. Adolescents have other interests, do not want to be different from their peers and having a condition such as diabetes may carry a stigma, so diabetes management is generally not a high priority. Diabetes teams aim to encourage children with Type 1 to enjoy active "normal" lives not inhibited by Type 1. Discrimination, exclusion, inappropriate comments and lack of facilitation of Type 1 requirements during school time for many children can destroy such ethos.

The student with Type 1 has individualised needs and has a right to undertake their diabetes management where they feel most comfortable. A child should be permitted, if required, to leave the classroom for toilet privileges or for Type 1 management requirements with supervision provided as required.

Annexure 2: EMERGENCY PACK (Multiple Daily Injections)

Always have available and updated supplies of the following at school:

(Responsibilities – parent to supply, school to notify if supplies low)

- Blood Glucose meter, test strips, finger lancet device
- Blood ketone strips and ketone tester (Optimum Exceed or Optimum Neo)
- Glucagon
- Spare rapid insulin and spare long acting insulin
- Syringes / Pens
- Hypo food - fast acting carbohydrate (eg Juice, glucose tablets) AND sustaining carbohydrate food
- Team contact details

Annexure 3 Other Individual Requirements

The following are also required as reasonable adjustments for the complex care of my child with Type 1 Diabetes to maintain blood glucose levels as much as possible in the normal range:

Signed..... (parent)

Date/...../ 201.....