



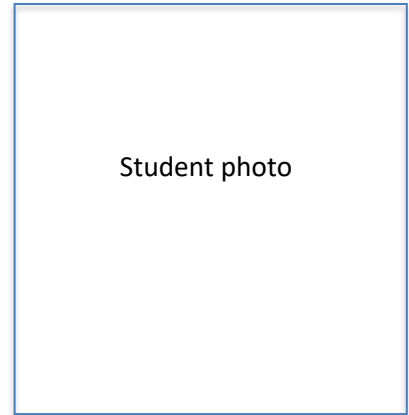
DIABETES MANAGEMENT PLAN 2020 INSULIN PUMP



Australian Paediatric Society
ISPAD school e-learning professional development
<https://www.t1d.org.au>

ISPAD Position Statement
Type 1 Diabetes in Schools
www.ispad.org/news/news.asp?id=420540

Name of Student	
Date of Birth	
Parent 1 / carer name	
Parent 1 contact	
Parent 2 / carer name	
Parent 2 contact	
Diabetes Educator name	
Diabetes Educator contact	
Doctor name	
Doctor contact number	
Insulin Pump type / model	



The individual Diabetes Management Plan (DMP) prepared by the parent /student (when capable) and the student’s medical team, communicates the medical orders for the student and is the foundation for the cooperative relationship between parent, school and medical team. (ISPAD PS 4.5) A concise Action Plan outlines recognition and individualised treatment protocols for high and low blood glucose levels and glucagon administration, if prescribed. (ISPAD PS 6.2)

The school and the authorities responsible for managing schools are responsible for executing the parental and medical orders outlined in the student’s Diabetes Management Plan and for facilitating the training of school staff, to ensure that they are competent to execute the care plan recommended by parent and medical team. (ISPAD PS 8.3)

Schools should have a clear understanding that the DMP is not to be altered by a third party under any circumstances without the consent and authorisation of the parent and medical team. (ISPAD PS 6.3)

Education and Training

Schools are responsible for ensuring that their personnel are adequately educated about T1D and trained in the application of prescribed treatment for the individual student. (ISPAD 7.1). The content of the training is the responsibility of the medical team and parent. Training should be executed by people with appropriate understanding of the student’s individual needs and skill set. (ISPAD PS 7.3)

The T1D diabetes e-learning courses (www.t1d.org.au) are required professional development for this student’s individualised medical needs. School personnel directly responsible for this student (class teacher/ homeroom teacher/ special subject teachers) are requested to complete level 1 and level 2 T1D e-learning courses. This is a legal compliance issue relating to Duty of Care to the student. Support of the student is not a voluntary agreement.

The parent’s Agent who volunteers to administer /supervise insulin must also complete T1D Level 3 course.

Parent..... Doctor.....Date /..... /20.....

Privacy

This plan contains medical information that is privileged, including the medical orders and consented treatment by the parent / legal guardian for management of their child in the school environment. This information is private and confidential so must not be shared with a 3rd party without specific written parental/ legal guardian consent. *The privacy of the student and confidentiality issues relating to the student with T1D must be respected, acknowledged and discussed with the student and parent. (ISPAD PS 3.5)*

Physical Activity Strategy

Students with T1D should be encouraged and enabled to participate in physical activity with the appropriate adjustments for safety and optimal performance (ISPAD PS 6.7)

1. Insulin dose reduction before scheduled physical activity

➤ Reduce insulin dose up to 2 hours before exercise Yes / No

If yes, how is this done? (reduced carbohydrate entry? / temporary basal?)

2. Carbohydrate addition before and after exercise:

Give _____ (type and amount of carbohydrate without insulin)

Before exercise if Blood Glucose (BG) or Sensor Glucose (SG) is _____ mmol/l

Repeat this dose of carbohydrate without insulin every 45 minutes of scheduled activity.

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

3. Swimming, vigorous activity and contact sports

An insulin pump should stay connected in most activities but may be disconnected from the student for up to 2 hours swimming, vigorous activity and contact sports. A disconnected pump **MUST** be handed to responsible adult and reconnected by the authorised adult or returned to the child at the end of activity.

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

Continuous Glucose Monitoring/Flash Glucose Sensor is prescribed in the routine treatment plan: **Yes / No**

Type (please circle) **Dexcom CGM** **Freestyle Libre Flash FGS** **Medtronic CGM**

A mobile phone, smart watch, receiver or pump may be used to receive CGM information. FGS has no alerts and must be "swiped" to record sensor glucose (SG) to a receiver or smart phone.

The following devices are **used as usual part of the medical treatment and must be present with the student at all times during school hours for medical purposes and communication to parents** Yes / No












Mobile Phone Yes / No **Smart Watch** Yes / No **Pump** Yes / No **Receiver** Yes / No

If the student is wearing a CGM or Freestyle Libre FGS, please discuss interpretation/ interventions with parents. If the device reads low or the student has symptoms of low blood glucose, a finger prick blood glucose is required to confirm the result. **Symptoms of low blood glucose should be treated regardless.** **Sensor glucose** (SG) devices have lag time approximately 5 minutes (and up to 15 mins) behind **blood glucose (BG)** levels. Understanding the lag time is important to assess the effect of low blood glucose intervention and treatment.

Refer 2019 APS Position Statement on CGM at school (based on ISPAD and ADA guidelines) at www.t1d.org.au

Please use Trend Arrows on CGM to manage glucose levels for this student Yes / No

(Training on CGM/FGS to be provided by student's medical team and/or parent).

Dexcom CGM	FGS	Medtronic CGM	Significance	Prevent low by (consider the effect of exercise)
			BG will fall >2.5mmol/l in 15 mins	If BG 6.5 mmol/l or lower – treat as low per Concise Action Plan
			BG will fall >1.7 mmol/l in 15 minutes	If BG 5.7 mmol/l or lower treat as low per Concise Action Plan
			BG will fall >0.8mmol/l in 15 minutes	If BG 4.8mmol/l or lower treat as low per Concise Action Plan
			BG will fall <0.8mmol/l in 15 minutes	Observe

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

Insulin Pump Troubleshooting Skills

If there are problems with the pump 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 fill insulin reservoir and prepare tubing and cannula change | Yes / No |
| ➤ | Able to insert new cannula / infusion line | Yes / No |
| ➤ | Able to disconnect and reconnect tubing if required | Yes / No |
| ➤ | Able to self-administer insulin injection if required without supervision | Yes / No |
| ➤ | Action and interpret CGM Alerts | Yes / No |

Insulin Pump Delivery Failure

Where there is an insulin pump delivery failure the parent should be notified immediately. If neither parent can be contacted or attend at the school within 90 minutes to fix the insulin pump delivery, the treating medical team should be notified.

Coeliac Disease

- | | | |
|---|--|----------|
| ➤ | This student also has coeliac disease so must avoid gluten (wheat) | Yes / No |
|---|--|----------|

Record Keeping

Schools must respect the privacy and confidentiality of health information relating to the student with Type 1 Diabetes. All health information must be managed in line with Commonwealth and State Privacy requirements. This information must NOT be disclosed to third parties without expressed consent of the parent.

All treatment / supervision undertaken must be recorded with the action taken, time and dose (where relevant) including (but not limited to):

- BGL results,
- insulin administration,
- treatments of low blood glucose (“hypos”)

Parents may request this information to be recorded in a Communication Book or other daily advice document (see Annexure 4). These documents and records remain the property of the parent.

Predictive alert/suspend, Hybrid Closed Loop, Open Artificial Pancreas Systems

Recent technology innovations have created systems that automatically feed information from CGM to insulin pump, with the pump then automatically responding by adjusting insulin administration to the student.

This student uses such a system for diabetes management	Yes /No
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Details of the system provided in **Annexure 5**

Communication

Caring for a student with T1D is best achieved through a cooperative, supportive and respectful relationship between the three key stakeholders – parent (and student when they are capable of greater independence in self-care), school personnel and medical team. (ISPAD PS 4.1) Parents are the final arbiters of whether their child can self-manage certain aspects of T1D, including glucose monitoring and self-administration of insulin. The medical team should guide and support parents to ensure the student is not subject to inappropriately unrealistic expectations. (ISPAD PS 6.4)

An effective communication process between parent/student (when capable) and school personnel should be respectful, transparent and easily accessible. (ISPAD PS 4.3)

The school must contact the parent in first instance. The circumstances when the parent should be contacted immediately for certain circumstances are listed by the parent in **Annexure 4**.

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

Signed _____ (parent / legal guardian) Date ____/____/20__

Name _____

Roles and Responsibilities

Medical Staff/ Treating Medical Team

The student's treating doctor or nurse practitioner is responsible for prescribing medications. The medical team is responsible for outlining in detail the recommended medical requirements for that student. This cannot be delegated to a third party that is not authorized or not suitably qualified. (ISPAD PS 8.2)

School personnel should consider the student's medical team as an accessible resource to contact with parental permission. A single member of the medical team should be identified as the source of contact for each student with T1D (ISPAD PS 4.4)

The contact person from the student's medical team is Ph.....

Parent/Legal Guardians

Parents are ultimately responsible for the medical decisions made on behalf of their child. Therefore, the parent's informed consent and decisions regarding the health and well-being of their child are paramount. It is imperative that parents remain engaged as part of the team even when the student with T1D reaches adolescence. (ISPAD PS 8.1)

Informed Consent

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 Hypo kit. I understand it is my right and responsibility to notify of any changes to the medical needs of my child with Type 1 Diabetes

Signed _____ (Parent/ legal guardian) Date ____/ ____/20__

The contents of this Diabetes Management Plan are my prescribed treatment and medical orders for this student.

Signed _____ (Doctor) Name _____ Date ____/ ____/20__

Annexure 1: Terminology

Insulin Pump

An Insulin Pump is a computerised device that delivers insulin through an infusion set delivering:

- background insulin (basal insulin)
- calculated insulin dose (bolus) upon entry of blood/sensor glucose and /or carbohydrate food content.

Terminology

- **Hypoglycaemia (Hypo)** “Low” – Blood Glucose Level (BGL) less than 4.0mmol/l. (ISPAD definition)
TREATING TEAM DEFINITION FOR THIS INDIVIDUAL (if different to ISPAD)= _____mmol/l
- **Hyperglycaemia (Hyper)** “High” – Blood Glucose Level (BGL) greater than or equal to 8.0 mmol/l.
TREATING TEAM DEFINITION FOR THIS INDIVIDUAL (if different to ISPAD)= _____mmol/l

APS recommend target range 4-8mmol/l which is world best practice (Sweden) and **does not** increase frequency of low blood glucose levels. **High blood glucose levels over 8 mmol/l are unacceptable and create unnecessary risk for the student. High blood glucose levels should NOT be accepted as commonplace.**

- **Cannula** – small Teflon or metal tube that is inserted under the skin as the portal for insulin delivery. Must be replaced every 2-3 days. Teflon may kink causing failure to deliver insulin (line failure).
- **Reservoir / Cartridge** – plastic container within the pump containing enough insulin for 2-3 days.
- **Tubing** – plastic tubing connecting the cartridge to the cannula - it cannot kink.
- **“Infusion set” or “line”**– Cannula + cartridge + tubing.
- **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.
- **Temporary Basal** - an increase or decrease in insulin basal delivery for a prescribed length of time.
- **Extended/ dual/ combo wave** –extending an insulin bolus over an extended period of time.
- **Basal** – background insulin that is delivered continuously.
- **Bolus** – insulin administered prior to food to match carbohydrate content of food.
- **Correction Bolus**- insulin administered to correct a high blood glucose.
- **“Line Failure”** – disruption to the insulin administration and delivery which may be caused by cannula kinking, blocking or being dislodged. It is rarely caused by tubing issues.
- **Insulin Pump Delivery Failure** – failure of the pump to deliver and administer insulin as a result of a pump technical fault or Line Failure.

ISPAD Recommended levels of education and training (ISPAD PS 7.8)

Level 1 - All school personnel should be educated about basic medical understanding of T1D (including recognition and urgency of treatment for low blood glucose) and the effect of T1D on the student and the entire family including the social, economic and emotional impact of living with T1D.

Level 2 - Those school personnel most responsible for the day-to-day management of the child with T1D should be also trained for the individual student to

1. recognize low blood glucose symptoms and signs,
2. initiate treatment for high or low blood glucose levels and
3. know and understand when and whom to call for assistance, including emergency responders, parents and medical team.

Level 3 -Those school personnel with authorisation or seeking authorisation through training and informed parental consent to administer insulin require a higher level of training on:

- insulin administration
- dose calculation and adjustments
- the legal aspects of insulin administration insulin
- delivery devices including insulin pumps
- glucagon administration

Annexure 2: General Issues with Type 1 Diabetes

School personnel must understand the emotional burden experienced by families when given a diagnosis of an incurable disease such as T1D that will relentlessly impact upon the student, siblings, family relationships and parental working lives. (ISPAD PS 3.1)

A diagnosis of T1D may cause students to feel different from peers and put them at risk of being stigmatised, resulting in a higher risk of experiencing anxiety and depression. The traumatised family may feel helpless and disempowered and yet have an obligation to advocate for their child. (ISPAD PS 3.2)

Each family will have access to different resources, coping skills and economic circumstances. School personnel will have varying interest and levels of expertise. Hence care of the student must be individualized. (ISPAD PS 3.3)

Type 1 is a relentless condition with over 100 points of care required daily for optimal medical management.

Schools should not expect that young people with diabetes will "learn responsibility" for self-managing T1D by leaving them unsupported during school hours. Nor will the duration the student has lived with T1D determine their ability to be self-sufficient. Young students may be capable but should not be solely responsible for their management at school. (ISPAD PS 6.9)

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.

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.

A parent cannot be expected to "fill the gap" of school resources and attend to their child's medical management during the school day. However, with a mutually supportive approach between parents and schools (and modern communication technology if available) positive outcomes for the student can be achieved. (ISPAD PS 6.5)

Students with T1D should be encouraged and enabled to participate in physical activity with the appropriate adjustments for safety and optimal performance clearly outlined in the student's DMP (ISPAD PS 6.7)

Schools should be supported by the student's medical team to establish processes to address issues and provide appropriate information regarding the use and handling of diabetes equipment including lancets, syringes/needles and used test strips. Schools should be provided with the necessary resources such as "sharps" containers (or other means of disposal, dependent on local circumstances), and information to deal with such issues constructively and cooperatively, while minimizing risks to both students and school staff. Ideally, this should be organised prior to the student commencing or returning to school following a diagnosis of T1D. (ISPAD PS 4.6)

Annexure 3: Emergency Pack

Always have available updated supplies at school or school camp:

- Blood Glucose meter, test strips, finger lancet device
- Blood ketone strips
- Blood ketone test device: FreeStyle Optimum Xceed, FreeStyle Optimum Neo or Freestyle Libre reader
- Glucagon hypokit (in-date)
- Spare lines and reservoirs
- Spare rapid acting insulin (in-date)
- Syringes / Pens/pen needles
- Batteries
- Cannula inserter (if required)
- Hypo food /glucose tablets
- Team contact details
- Pump company emergency Hotline details (please circle)
 - Medtronic 1800 777808
 - AMSL (Tandem) 1300 851056
 - Ypso 1800 447042
 - Roche 1800 428326

It is the responsibility of

- **the parent to supply these items.**
- **the school to notify the parent if supplies are low**

This Diabetes Management Plan and accompanying concise Action Plan should accompany the student on camp.

Annexure 4: Other Individual Requirements

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

Signed..... (parent)

Date / / 20.....

Annexure 5: Advanced Technology

There are an increasing number of students who manage diabetes with advanced technology that will be increasingly used in the school environment. These technologies are dependent upon CGM sensor glucose readings and include:

1. Predictive Low Alerts with Low Glucose Suspend (the insulin pump will cease delivering background insulin if the sensor glucose predicts a low glucose level).
 - a. Do not treat a predictive low alert with low blood glucose “hypo” treatment unless symptomatic or blood glucose check is under the level as instructed under Diabetes Action Plan or page 2 of this Diabetes Management Plan.
2. Hybrid Closed Loop eg Minimed 670G system with Smartguard technology
3. Open Artificial Pancreas System

The school is requested to assist the student to appropriately use this technology. The parent will supply the school with information about these systems and the required assistance to maintain optimal use of such technology during school hours.