

Watch me: How to use this careplan

Individual Health Care Plan

Name:

Age (years)

Insulin name:

DOB:

School:

Year Group:

Date of Plan:

Review Date:

Insert Photo here

FAMILY CONTACT INFORMATION

Name		
Relationship		
Telephone number	Home: Work:	Mobile:
Email		
Name		
Relationship		
Telephone number	Home: Work:	Mobile:
Email		

Other essential contact information

JOB TITLE	NAME	TELEPHONE NUMBER
Paediatric Diabetes Nurse		
Paediatric Diabetes Nurse		
Diabetes Office no:		
Consultant		
GP		
Other relevant Health Professional		
Class Teacher		
School Nurse		
SEN Co-ordinator		
Other Relevant Teaching Staff		
Other Relevant Non-Teaching Staff		
Head Teacher		

Description of condition and details of individual treatment

Watch me: What is diabetes

- This young person has **Type 1 Diabetes**
- The young person manages their condition with a healthy diet, exercise and insulin via a continuous insulin infusion pump
- **Insulin** is required as follows:

Continuous subcutaneous insulin infusion (CSII) requires insulin with all meals & snacks

- **Blood glucose levels** need to be tested throughout each day
- Clinic appointments are every 3 months as a minimum, but may be more frequent
- In accordance with **National Guidance**, school staff should be released to attend diabetes training sessions

Glucose Monitoring

Watch me: Blood glucose monitoring

Watch me: Blood glucose test

The child/young person uses a Medtronic Continuous Glucose Monitor (CGM). How to use the CGM is covered in the next few pages. The child/young person has a blood glucose monitor, so they can test their blood glucose (BG). **THEIR EQUIPMENT MUST NOT BE SHARED**

This young person is NOT independent in glucose monitoring This young person is independent in glucose monitoring

Watch me: Lancet device (if performed by pupil only)

Watch me: Fastclix lancet device (if performed by school staff or pupil)

Watch me: Unistix lancet device (if performed by school staff)

- In class or if preferred, in a clean private area with hand washing facilities
- **Hands must be washed prior to the test**
- **Gloves to be worn by the adult**
- Blood glucose testing lancets and blood glucose strips should be disposed of safely

Usual times to check blood glucose are:

- ☐ Before meals
- ☐ Before/ After PE/swimming

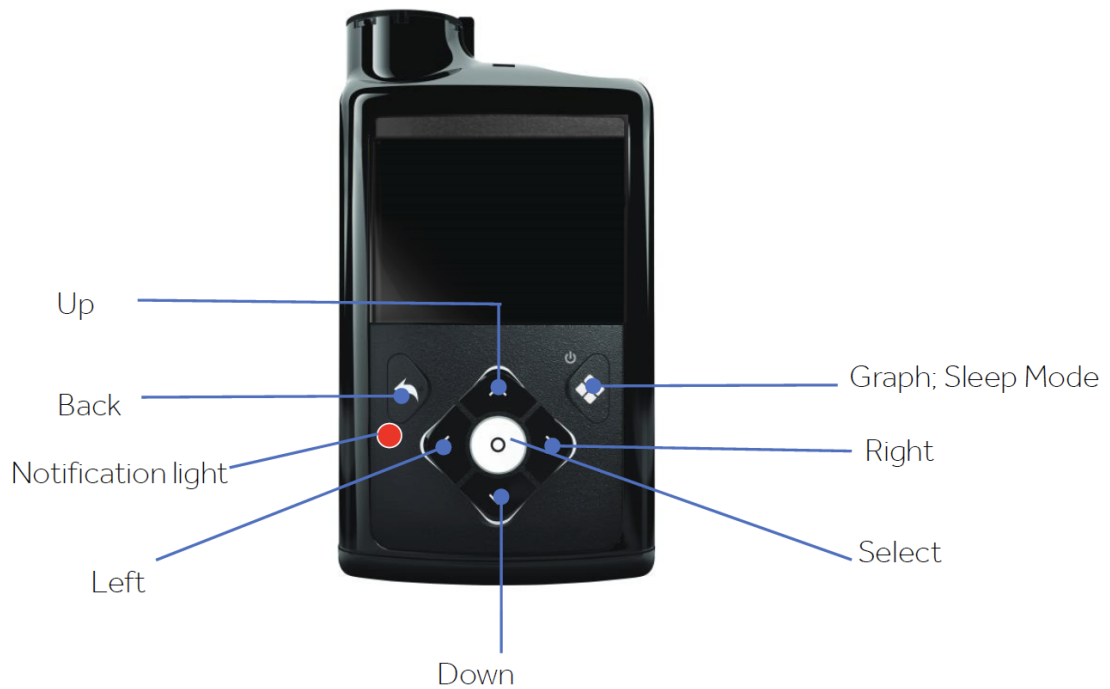
Times to do extra blood glucose checks (tick all that apply)

- ☐ When student exhibits symptoms of hypoglycaemia
- ☐ When student exhibits symptoms of hyperglycaemia
- ☐ Prior to mid-morning or mid afternoon snack
- ☐ Other If feels unwell, vomits or complains of stomach pains
- ☐ **Blood ketones** levels should be checked if blood glucose levels are 14mmol/L or above

- Results of any tests taken should be recorded and communicated with the parents if concerned
- Any blood glucose level that is outside of the target range should be acted upon, following the instructions in this management plan

Target range for blood glucose is to mmol/L

PUMP BUTTONS



Backlight

When you are not pressing buttons on the pump, you will notice that the Backlight will soon turn off. The pump is still on; it is just saving battery life. You can simply press any button to make the screen reappear.

The MiniMed™ 780G system components



It's a good idea for every student on the MiniMed™ 780G system to have extra pump supplies –

A spare unused AA battery

An infusion set, seter, reservoir and insulin if the student can change their own infusion set or change with the help of a caregiver or trained professional.


The MiniMed™ 780G system can be used in two different ways – Manual Mode and SmartGuard™ Mode.


Manual Mode is using the pump with or without a continuous glucose monitor (CGM) in a traditional way, as with the previous pump systems from Medtronic.

SmartGuard™ Mode the system automatically adjusts basal insulin every 5 minutes based on sensor glucose (SG) readings. It also can automatically deliver a correction

bolus to help correct a high SG reading. A student using SmartGuard™ Mode may still occasionally be required to do a Blood Glucose check.

Blood Glucose testing with the Accu-Chek Guide Link meter

The Accu- Chek Guide Link meter can be used for blood glucose testing and by pressing the  Back button the results are quickly sent to the pump.

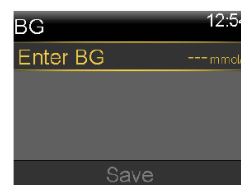
If  is not pressed there will be a delay in the display of the BG result on the pump.

Send button
Press to send BG result
immediately to the pump



Blood Glucose testing with any other meter

If you are using a different blood glucose meter you can manually input the glucose reading into the pump by the following steps



Manual Mode

Using the pump in a traditional way,

- Basal rates are pre-programmed.
- Bolusing can be done with the Bolus Wizard™ feature or with manual boluses.
- May be used with or without CGM.

Manual mode No CGM



Manual Mode with CGM



SmartGuard™ Mode

Controlled by a SmartGuard™ algorithm that self-adjusts basal insulin based on sensor glucose readings.

- Basal insulin is automatically adjusted every 5 minutes.
- May deliver a bolus automatically if the SmartGuard™ feature determines that a correction bolus is necessary
- Bolusing before meals using the Bolus Wizard™ feature is necessary.
- CGM is required.

SmartGuard™ Mode



What do the TREND ARROWS mean?

WHAT DO THE SENSOR GLUCOSE TREND ARROWS MEAN



- ↓ Or ↑ - sensor glucose (SG) has been falling or rising by at least 1-2mmol/l in last 20mins.
- ↓↓ Or ↑↑ - SG has been falling or rising by 2-3mmol/l in the last 20mins.
- ↓↓↓ Or ↑↑↑ - SG has been falling or rising by more than 3mmol/l in the last 20mins.



When using CGM, focus less on each individual glucose number and more on the direction and speed that your glucose is changing

Important information about SmartGuard™ Mode:

- Basal insulin is delivered based on Sensor Glucose (SG)
- SmartGuard™ mode uses a sensor glucose target of 5.5, 6.1 or 6.7 mmol/L. This is decided by the clinical team
- A student can temporarily change the target to 8.3 mmol/L, like for example, exercise. This is referred to as setting a Temporary Target
- Carbs must be entered into bolus option of the pump before meals
- BG checks are necessary at least every 12hrs to calibrate the sensor
- A student may receive an alert if the pump requires an action to be performed to enable the system to remain in SmartGuard™ mode

How to tell when the Minimed™ 780g has the Smartguard™ feature activated

When the pump is using the SmartGuard™ feature, the Home screen displays a shield with the current SG level.



Insulin Administration

☐ Insulin to be given before eating lunch & snacks

☐ Insulin to be given independently by student

- Insulin dose varies depending on what is being eaten

Insulin Name:	
----------------------	--

At meal times, the child/young person requires variable amounts of quick acting insulin, depending on how much they eat; insulin to carbohydrate ratio (**ICR**) and on what their blood glucose level is; insulin sensitivity ratio (**ISF** or often called a 'correction')

Insulin to carbohydrate ratio:	
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Watch me: Carbohydrate counting

Insulin sensitivity ratio:	
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Storage of insulin injections and Blood Glucose Kit

☐ Insulin to be kept in secure place in the classroom or other


☐ Insulin to be carried on person

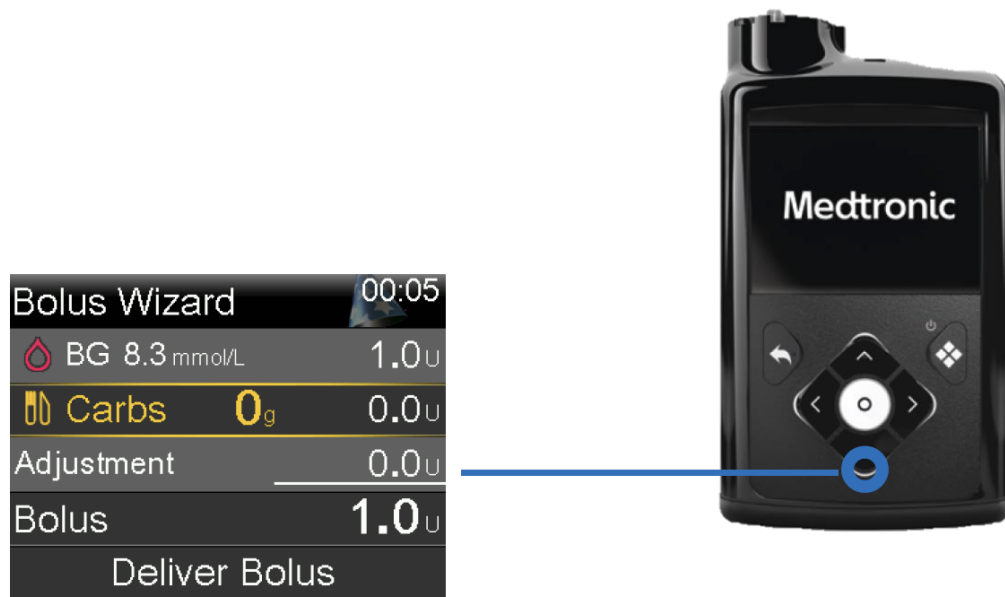
☐ Blood glucose monitoring kit to be kept in the class room or other



☐ Blood glucose monitoring kit to be carried on person

☐ All sharps to be disposed of in a sharps box

HOW TO BOLUS IN SMARTGUARD


1. Enter BG into pump if required. If no BG is required, the current sensor glucose value will be available within the bolus wizard screen
2. Press the  arrow to access the Bolus Wizard™ feature

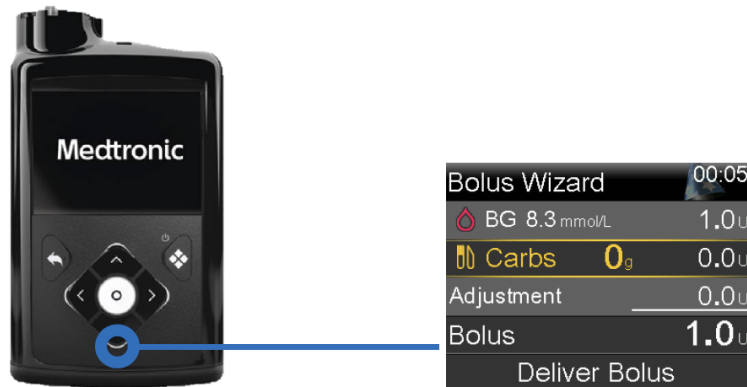



3. Enter the carbs by using the  arrow and confirm by pressing 
4. Review the bolus amount and select Deliver Bolus
5. The Home screen appears showing the bolus being delivered

USING THE PUMP IN MANUAL MODE

To deliver correction and food bolus

1. Enter BG into pump. if not using linked meter follow earlier steps via the BG Icon
2. Press the  arrow to access the Bolus Wizard™ feature



3. Enter the carbs by using the  arrow and confirm by pressing select
4. Review the bolus amount and select Deliver Bolus
5. The Home screen appears showing the bolus being delivered

To deliver correction bolus only (no food)

Enter BG as steps above however leave Carbs at 0g

Bolus Wizard		09:00
BG	8.3 mmol/L	1.0 U
Carbs	0g	0.0 U
Adjustment		0.0 U
Bolus		1.0 U
Deliver Bolus		


To deliver food bolus only (no BG)

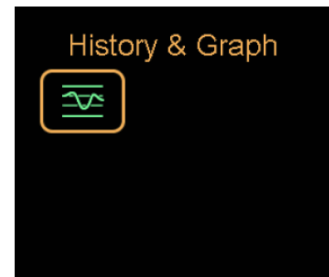
As steps above however leave BG ---mmol/L and just enter carbs

Bolus Wizard		09:00
BG	--- mmol/L	
Carbs	10g	0.6 U
Adjustment		0.0 U
Bolus		0.6 U
Next		

CHECKING LAST BOLUS AND RECENT ACTIONS

There may be times when you need to see the time or amount of the last bolus that was given. For example, you may want to check to make sure a student took a bolus at lunch. You may also want to review the last several boluses that were delivered. For example, a parent might want to know the boluses their child gave throughout the day. You can see the last several boluses delivered in Daily History.

1. Press the select button 
2. Choose the History and graph icon
3. Go into history
4. Select daily history
5. Select date you wish to review



Alarms and Alerts

Here are some common alarms and alerts you might see on a student's pump

Read and address the alert



In both of these examples, entering a BG manually or with the linked meter will address and clear the alert.

Suggested Daily Routine

Watch me: Daily routine

	Time	Notes
Arrive School		
Morning Break		
Lunch		
Afternoon Break		
School Finish		
Other		

Exercise Guide for Medtronic APS


1. Enter weight in kilograms into this box.
2. Start Temp Target before exercise and for full exercise duration.
3. Check glucose just before and every 20 minutes during exercise. Give the carbohydrate required based on the value and trend arrow. Carbohydrate choice can be changed in the drop down box
4. If swimming take the pump off and suspend the pump, resume once the pump is back on.

Sensor glucose Levels	Rate of glucose change trend arrow & action to take	Carbohydrate grams needed for 20 minutes		
less than 4.0 mmol/l	No exercise: Treat hypoglycaemia			
4.0 - 6.4 mmol/l	↓↓↓			
	↓↓			
	↓			
	↑			
	↑↑			
6.5 - 9.9 mmol/l	↓↓↓			
	↓↓			
	↓			
	↑			
10.0 - 13.9 mmol/l	Ok to exercise with any arrow			
>14.0mmol/l	Check ketones: If less than 0.6mmol/l	Ok to exercise		
	Check ketones: If 0.6mmol/l or above	No exercise until the ketones have been corrected and are less than 0.6mmol/l		

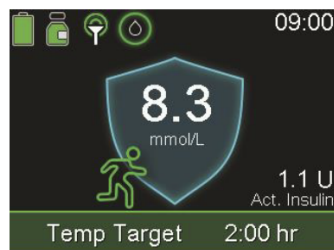
TEMPORARY TARGET IN SMARTGUARD™ MODE

A student may want to temporarily change their selected glucose target eg. For physical activity. This is called temporary target. When in SmartGuard™ the temporary target is fixed at 8.3mmol/L.


To set a temp target:

1. From the Home screen, press the  button, and then select the Smartguard™ Shield.
2. Select Temp Target to turn the feature on or off.
3. Set the duration, from 30 minutes to 24 hours, in 30-minute increments
4. Select Start.

The screen shows a Temp Target Started message, and then changes to the Home screen, where a banner shows the remaining temp target time.



To cancel a temp target:

1. From the Home screen, press  and then select the Smartguard™ shield
2. Select Cancel Temp Target.



Hypoglycaemia (Low Blood Glucose) Management

BELOW mmol/L

Watch me: hypoglycaemia

Tick the symptoms the young person currently experiences when hypoglycaemic. These symptoms may change over time and require updating.

If any of these symptoms are displayed check blood glucose immediately.

Sweating	Pallor
Trembling	Anxiety
Weakness	Headache
Confusion	Sleepiness
Slurred speech	Blurred Vision
Personality Change	Nausea and Vomiting

Note any other symptoms

- Check blood glucose to confirm hypo, and treat promptly
- Do not move the location of the young person to treat a hypo
- Hypos are described as mild, moderate or severe depending on this young person's ability to treat themselves
- The aim is to treat, and restore the blood glucose level to mmol/L or above

A hypo box should be kept in school. Contents of hypo box should include:

Fast acting glucose

Glucogel

- All staff must be aware of where the hypo box is kept
- The hypo box should be taken with the young person if moving around the school premises
- **It is parents responsibility to ensure that the hypo box is adequately stocked**

ALWAYS TREAT THE HYPO THEN CONSIDER WHAT HAS CAUSED IT:

- Too much insulin?
- Not eating enough carbohydrates?
- Missed or delayed meal?
- Intense exercise?

Severe Hypoglycaemia:

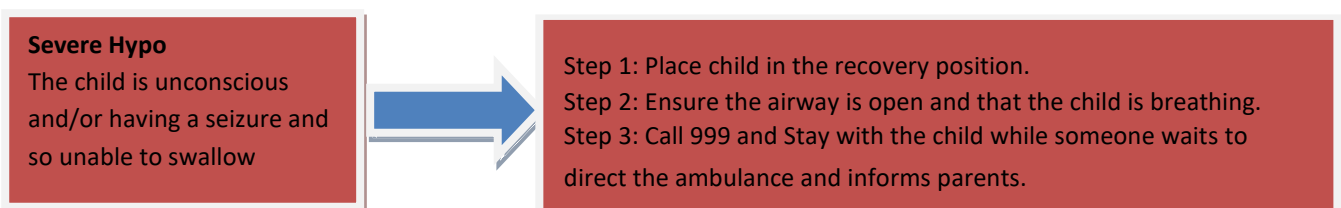
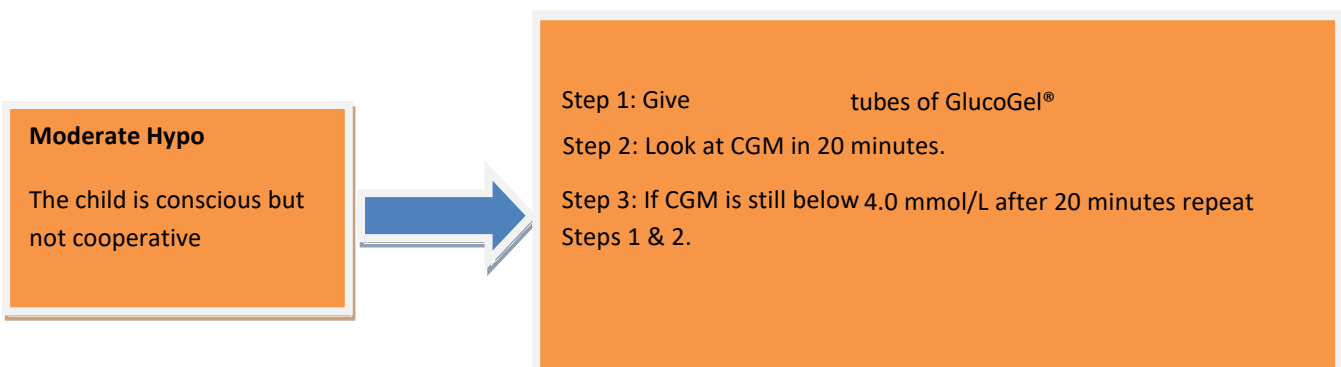
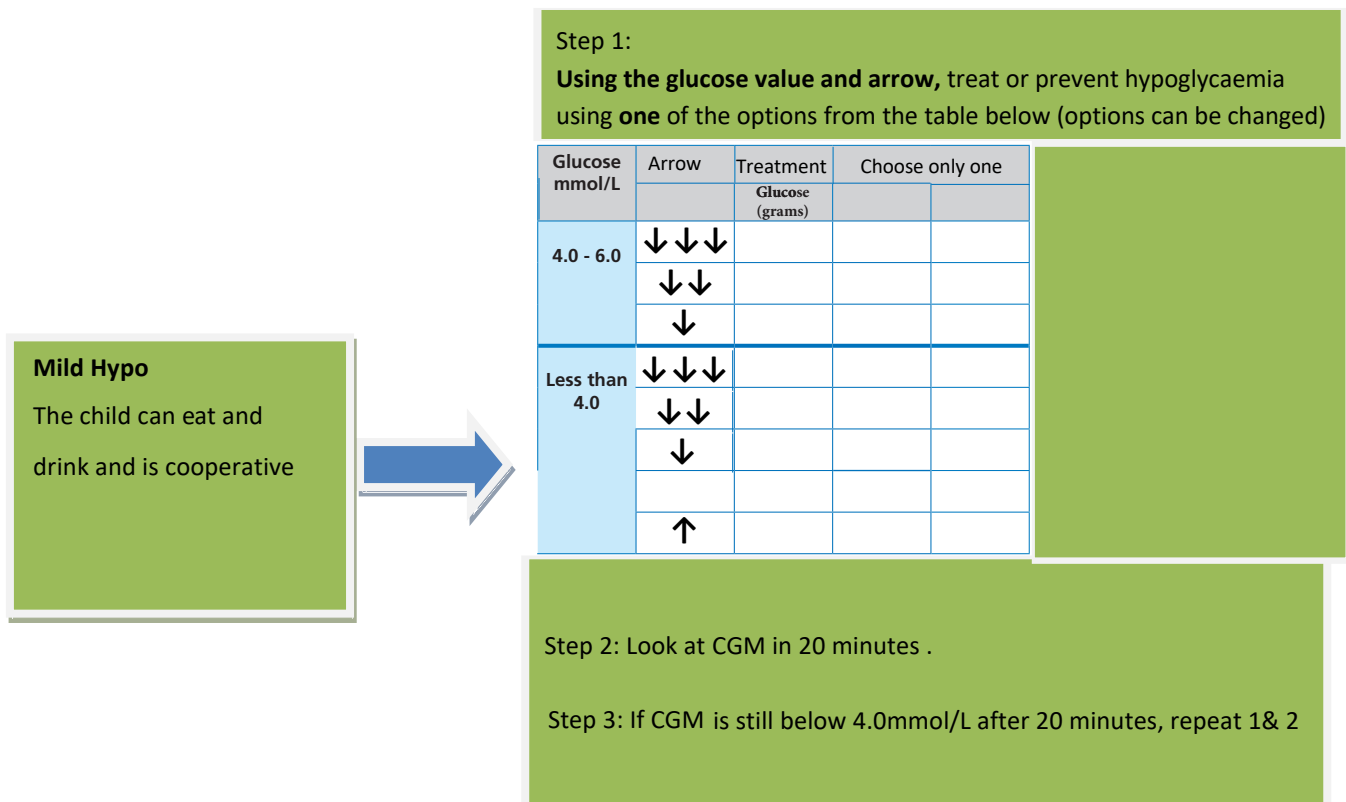
- This is where the young person is unconscious, having a seizure or is unable to take fast acting glucose orally
- This is an **extremely rare occurrence** but we need to make you aware
- How to manage severe hypoglycaemia is on the flow chart on the next page

Preventing or treating hypoglycaemia flow chart

('Hypo' or Low 'Blood Glucose')

In any of the below circumstances please refer to the **Mild Hypo** green box (as long as the child is conscious & cooperative):

1. Low glucose alarm sounds
2. Glucose value below 4.0mmol/L
3. Glucose 4.0-6.0mmol/L with a downward trending arrow at usual times of checking e.g. break-time, lunch, mid afternoon



Hyperglycaemia (High Blood Glucose) Management

14mmol/L or above

Watch me: Hyperglycaemia

Tick the symptoms the young person currently experiences when hyperglycaemic.

These symptoms may change over time and require updating.

If any of these symptoms are displayed check blood glucose immediately.

Excessive Thirst	Passing urine frequently	Note any other symptoms
Tiredness/lethargy	Blurred vision/headache	
Nausea & vomiting	Abdominal pain	
Weight Loss	Changes in behaviour	

General advice when managing hyperglycaemia

- If this young person is well there is no need to send him/her home
- Parents should be informed that this young person has had high blood glucose levels
- This young person should be encouraged to drink sugar free fluids
- This young person should be allowed to use the toilet as needed
- This young person should not exercise if his/her blood glucose level and ketones are high:
 - Blood glucose 14mmol/L or above and ketones 0.6mmol/L or above

Watch me: What are ketones?

Advice for hyperglycaemia with illness

- If has high blood glucose levels and:
 - Ketones > 1.5mmols
 - Headaches
 - Abdominal Pain
 - Nausea or Vomiting

CONTACT PARENTS IMMEDIATELY

- The young person needs to be taken home
- Parents need to monitor blood glucose and ketone levels
- Extra insulin will be required
- Parents should contact the diabetes team for advice

Watch me

Hyperglycaemia Flowchart

(‘Hyper’ or ‘High blood glucose’)

Step 1: Notified by CGM alarm at 14mmol/L or CGM level is 14.0mmol/L or above when checked

Step 2: Confirm with Blood Glucose that 14.0mmol/L or above

Steps 3: Check for Ketones

Signs and symptoms can include:

Excessive Thirst
Tiredness/lethargy
Nausea & vomiting
Weight Loss

Passing urine frequently
Blurred vision/headache
Abdominal pain
Changes in behaviour

Watch me: How to do a ketone test

High blood glucose 14mmol/L or above
Blood ketones less than 0.6mmol/L



Step 1: Drink sugar free fluids.
Step 2: Correct blood glucose by the pump.
Step 3: Check blood glucose levels 1-2 hours later.

High blood glucose 14mmol/L or above
Blood ketones 0.6 – 1.5mmol/L
Child well and no vomiting/child unwell



Step 1: Drink sugar free fluids.
Step 2: Correct high blood glucose and ketone levels with corrective dose by INJECTION, as advised by Diabetes Home Care or parents, and change cannula.
Step 3: Contact parents or Diabetes Home Care to discuss action if unwell.
Step 4: Check blood glucose levels 1-2 hours later.

High blood glucose 14mmol/L or above
Blood ketones over 1.5mmol/L
Child and/or unwell/vomiting



Step 1: Contact parents to collect as child SHOULD NOT BE IN SCHOOL.
Step 2: If vomiting and/or having difficulty breathing call 999.
Step 3: Correct high blood glucose and ketone levels with corrective dose of insulin by INJECTION and change cannula.

Watch me

Please use this box for any additional information

I give permission to the school nurse, trained diabetes personnel, and other designated staff to perform and carry out the diabetes care tasks as outlined by this Diabetes Health Care Plan.

I also consent to the release of the information contained in this Diabetes Health Care Plan to all staff members and other adults who have custodial care of my child and who may need to know this information to maintain my child's health and safety.

Watch me: Summary and how to be signed off as competent

Before signing this Care Plan, the school staff who will be supporting the young person must complete the competency assessments. Each staff member must score 80% or more to be deemed to have competent knowledge.

Staff supporting **all aspects of diabetes care** must complete two assessments. Click on the two links below and complete the competency assessments. After completion you will get an email with your answers and score to certify your competency. If it's less than 80% you need to contact the diabetes team for further support on 0121 333 9272.

[Diabetes management](#)

[Carbohydrate counting](#)

Staff who are **only supporting carbohydrate counting** are required to complete the carbohydrate counting assessment: Click on this link to take the assessment. After completion you will get an email with your answers and score to certify your competency. If it's less than 80% you need to contact the diabetes team for further support on 0121 333 9272.

[Carbohydrate counting](#)

Parents and competent staff should support newly trained staff until they feel confident in managing independently.

Plan Approved By:	Name	Signature	Date
Young Person			
Parents/ Guardian			
Diabetes Team Member			
School Representative			
School Nurse			

Who is responsible in an Emergency?

- School staff will take the action detailed above
- Parents should attend school when requested to do so

CHANGING THE BATTERY

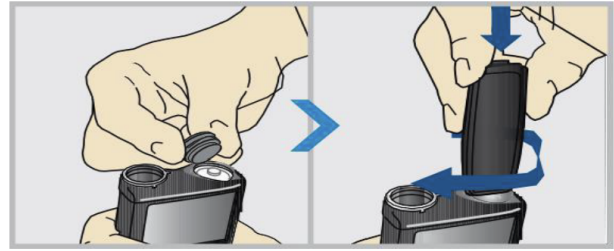
The pump is powered by a AA battery. A brand-new lithium, alkaline, or fully charged rechargeable battery can be used.



1. Unscrew the battery cap using the bottom edge of the belt clip. (Or use a thick coin.)



2. Insert battery with negative (flat) end going in first.



3. Place battery cap into the pump and use the edge of the belt clip to screw the cap back on.

Do not under-tighten or try to over-tighten the battery cap. It should be aligned horizontally with the pump case as shown here.

