

**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**

<b>Name</b>		
<b>Relationship</b>		
<b>Telephone number</b>	<b>Home:</b>  <b>Work:</b>	<b>Mobile:</b>
<b>Email</b>		
<b>Name</b>		
<b>Relationship</b>		
<b>Telephone number</b>	<b>Home:</b>  <b>Work:</b>	<b>Mobile:</b>
<b>Email</b>		

### 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 injections
- Insulin injections are required as follows:

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

- **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 Dexcom continuous glucose monitor (CGM). How to use the Dexcom is covered in the next few pages. There may be times when a blood glucose test is required such as when Dexcom is not operating effectively or symptoms do not match the glucose reading on the Dexcom. At these times a blood glucose test will be required.

The child/young person has a blood glucose monitor, so they can test their blood glucose (BG). BG monitoring is an essential part of daily management: **THEIR EQUIPMENT MUST NOT BE SHARED AND SHOULD BE AVAILABLE AT ALL TIMES – NOT LOCKED AWAY.**

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)**

This procedure should be carried out:

- 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

Target range for blood glucose is                      to                      mmol/L

**Usual times to check CGM are:**

- ☒ Before meals
- ☒ Before/ After P.E./Swimming
- ☐ Other times – please state:

**Times to take action on the CGM readings and alarms**

- ☒ When glucose level falls to          mmol/l a low alert sounds – Follow the hypoglycaemia flow chart
- ☒ When glucose level rises to          mmol/l a high alert sounds follow the hyperglycaemia flow chart

☒ Blood ketones should only be checked if the CGM stays above 14.0mmol/l for 90 minutes. A repeat alarm is set to notify if the CGM reading has been above 14.0mmol/l for 90 minutes. If the reading comes below 14.0mmol/l, no alarm will sound.

## School Training for CAMS APS FX

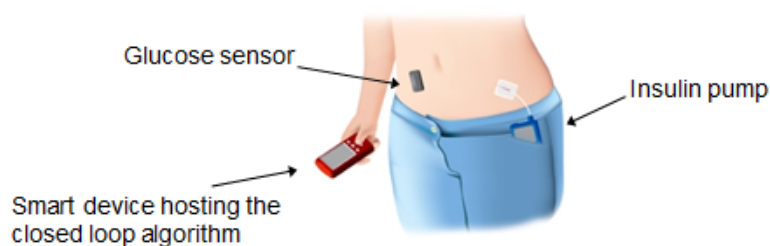
- Sign up here <https://camdiab.cdep.org.uk>
- Go to your home page
- Click on **"Select Topic"**
- Choose **"CamAPS FX Training for Schools"**
- It will take 30 minutes

### DIABETES TREATMENT

This young person uses a hybrid closed-loop system. This is a system comprised of 3 components that work together to mimic an unaffected pancreas. One component is the insulin pump. This is a device which enables delivery of insulin in a more accurate and flexible means than conventional injection therapy. The device is attached to a tube which delivers insulin directly underneath the skin without the need for further injections. The next component is a continuous glucose monitor (CGM). A CGM comprises of a sensor; a small filament which is inserted just under the skin; and a transmitter, which sits above the skin. The sensor is able to read glucose levels in the body in real time; and communicate these readings. The final component is an application (App). This app is able to use the real time information from the CGM, and make a decision on the amount of insulin required to maintain "good control".

A hybrid closed loop device is NOT able to administer extra insulin for food automatically. As such, the system must be given the appropriate information to calculate the required amount of insulin. Carbohydrate counting remains a very significant and necessary skill.

Pupils with diabetes will have to attend clinic appointments to review their condition. Appointments are typically every 3 months, but may be more frequent. These appointments may require a full day's absence. Education authority staff should be released to attend the necessary diabetes training sessions in accordance with national guidance.



[Click here to watch a 30 second video on “How to start Auto Mode”](#)

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## AUTO MODE

When the system is in auto mode; the CamAPS FX app is controlling the amount of insulin the pump is delivering. When Auto Mode is working appropriately, the pump, sensor and phone are communicating in real time.

The background of the home screen will change color depending on this communication:

- Auto Mode On – **Green**
- Auto Mode Attempting – **Orange**
- Auto mode Off – **Dark Grey**

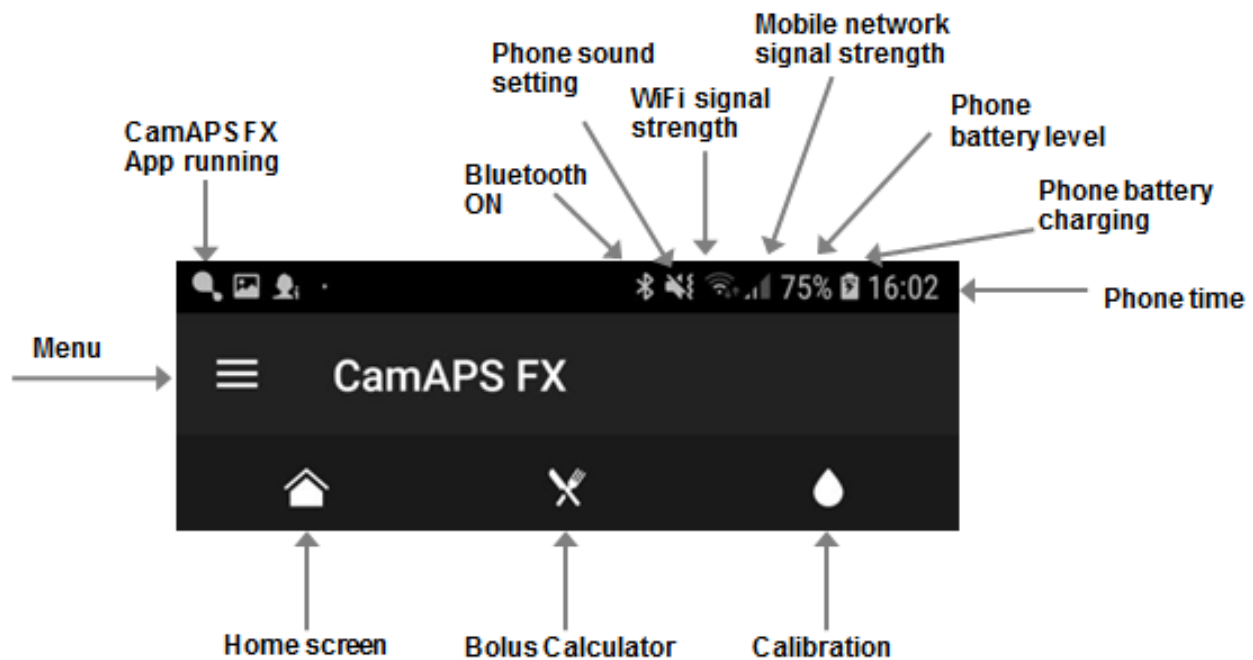
When Auto Mode is Off, the pump continues to deliver insulin; but at a pre-programmed rate. You should still be able to view the glucose reading on the phone. If the system remains out of Auto mode for 2 Hours, please contact the family for further advice.

**NOTE:** Information on the condition preventing Auto Mode operation can be found by tapping the ‘i’ icon in the bottom left corner of the screen.

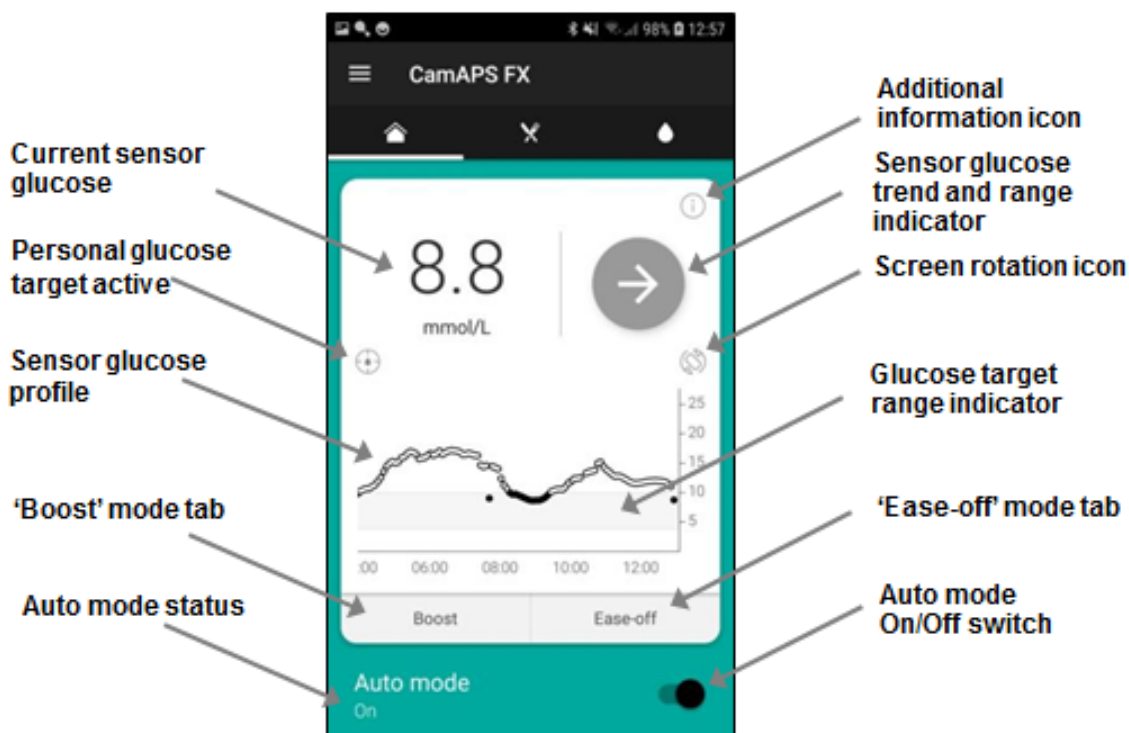
Once Auto Mode On is activated by the user, the system will stay in this mode until the user deactivates it.



## CamAPS FX



Other Home Screen information is shown below.



**NOTE:** For good Bluetooth communication, the android smartphone with the CamAPS FX app needs to stay **within 6 meters** of the child or young person wearing the DANA RS insulin pump and Dexcom G6 sensor.

## CamAPS FX

### Sensor Glucose Trend and Range

The sensor glucose trend and range indicator are represented by a large colored circle at the top right corner of the main section of the home screen.

The background color of the circle indicates sensor glucose status:

Above high glucose alert level (**yellow**)

Below low glucose alert level (**red**)

Within target range (**grey**)

The white arrow inside the circle shows the speed and direction of the glucose trend based on recent readings. A double arrow head indicates a rapid glucose rise or fall.



Glucose within target range and steady



Glucose within target range and falling



Glucose within target range and rising



Glucose within target range and falling fast



Glucose within target range and rising fast



Glucose below low glucose alert range and falling slowly



Glucose above high glucose alert range and steady



## 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

<b>Insulin Name:</b>	
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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')

<b>Insulin to carbohydrate ratio:</b>	
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**Watch me: Carbohydrate counting**

<b>Insulin sensitivity ratio:</b>	
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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

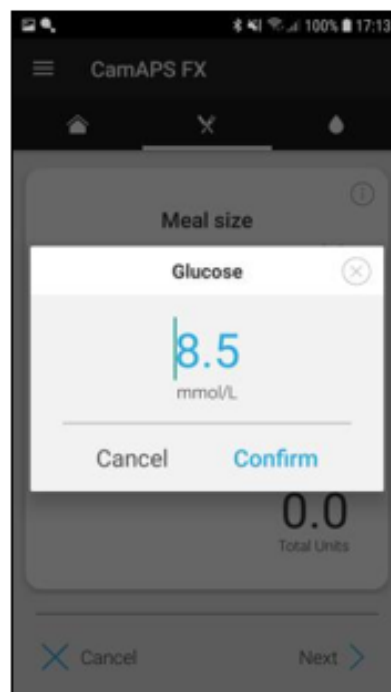
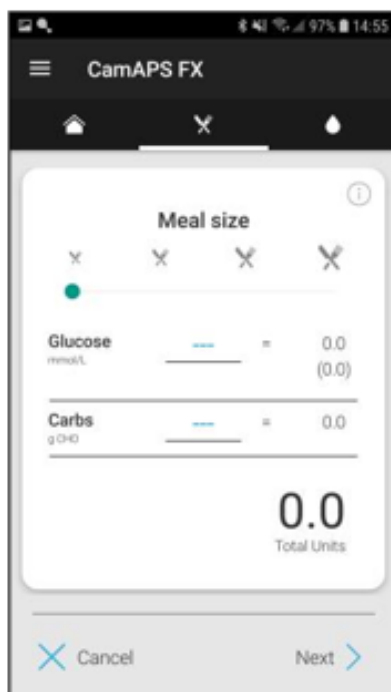
☐ All sharps to be disposed of in a sharps box

## **Bolus Calculator**

The Bolus Calculator allows you to bolus for meals and snacks, or to calculate and deliver a correction bolus. You can initiate a bolus when the Auto Mode is On or Off. Only a step bolus can be administered via the Bolus calculator. An extended bolus or combination bolus (step bolus combined with an extended bolus) cannot be delivered.

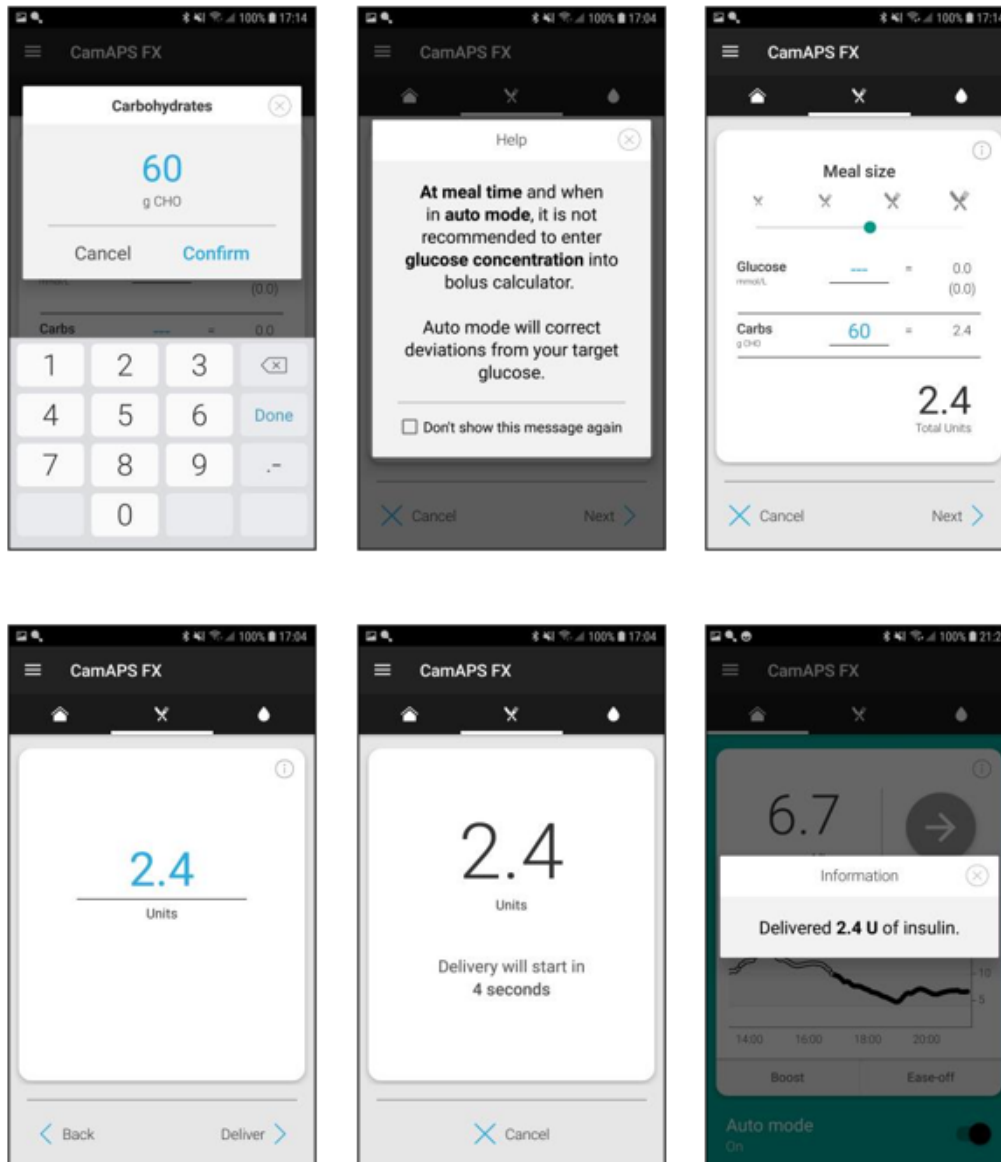
To start a correction bolus:

- Tap on the Bolus Calculator icon at the top of the screen and wait for a connection to the pump to be established; this may take a short while.
- Bolus Calculator set-up screen appears.
- Tap in the 'Glucose' entry field; the current sensor glucose level appears; you can change it by tapping on the value in blue; tap 'Confirm' when ready.
- Bolus amount based on your insulin sensitivity factor appears to the right of the glucose level; below in brackets is the active insulin on board (this amount will be subtracted)
- Total amount of insulin to be delivered as bolus is shown at the bottom; tap 'Next' to start the delivery.
- For a correction bolus, leave the Carbs field empty and tap 'Next' to start the delivery.



To start a meal bolus:

- Tap the 'Carbs' entry field and enter the size of meal in the units shown; alternatively, tap on one of the pre-defined meal size icons along the selection line at the top to select a small, medium, large or a very large meal (these can be personalised via 'Meal size' in 'Settings'); tap 'Confirm' when ready
- Help screen appears advising not to enter glucose level when bolusing for a meal while in Auto mode; if you wish to delete the glucose level just tap in the Glucose entry field again, delete the value and leave the field blank then tap 'Confirm'
- Bolus amount based on your pump insulin-to-carb ratio appears to the right of the 'Carbs' amount; Total amount of insulin to be delivered as bolus is shown at the bottom; tap 'Next' to start the delivery



- Bolus delivery screen appears; tap on 'Deliver' to proceed or tap on the amount in blue to edit and change the amount
- Delivery screen appears and the countdown begins;
- Once the insulin has been delivered a confirmation screen appears

**NOTE:** You can stop the delivery at any time by tapping on the 'Cancel' icon at the bottom of the screen.

**NOTE:** Glucose and carbs can be entered when Auto mode is Off.

**Click here to watch a 1 minute video on “How to set a meal bolus”**

Only use this mode under instruction from parents or Diabetes Team

## **Boost Mode**

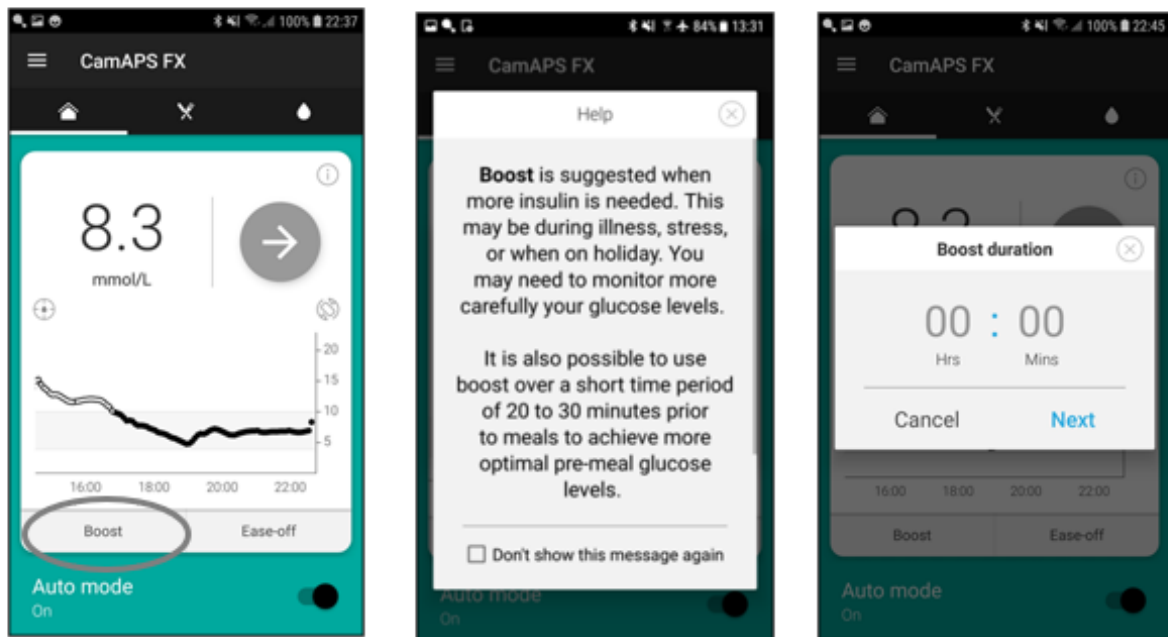
Boost Mode is a way for the user to tell the system to give more insulin than it usually would. **This should only be used in discussion with the family.**

### **Instructions:**

Tap on the 'Boost' tab located on the home screen.

Help screen appears; read and dismiss.

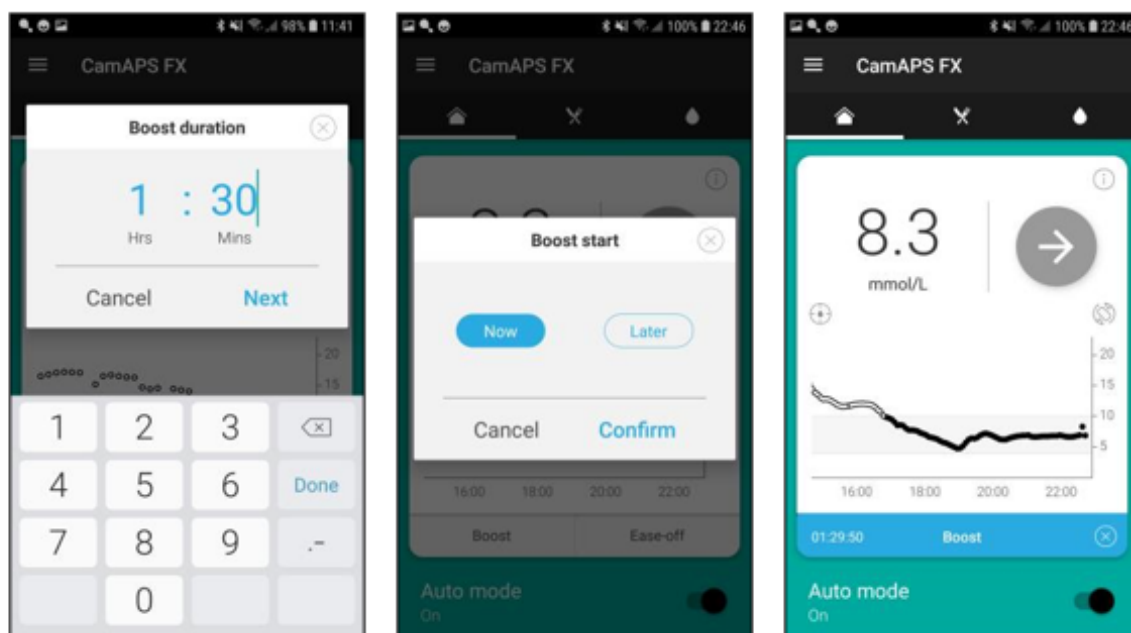
'Boost duration' window appears; tap in the Hrs/Mins entry fields to enter duration.



Tap 'Next'

'Boost start' window appears; tap 'Confirm' if you want Boost to start immediately.

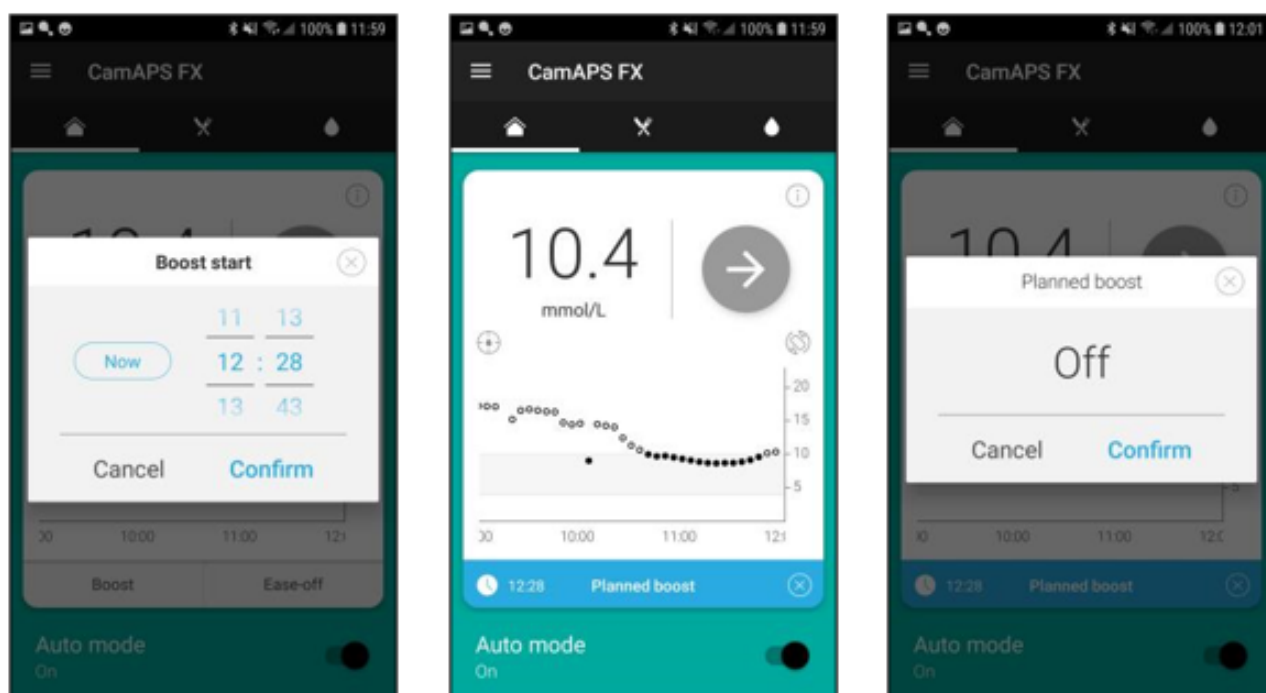
Blue 'Boost' status tab appears below the graph showing that the Boost mode is now active; note the timer on the left of the tab indicating how much time is left before Boost expires.



[Click here to watch a 30 second video on “How to set Boost”](#)

Should you wish ‘Boost’ to start later, select the desired duration as before, then in the ‘Boost start’ window select ‘Later’.

Clock dial appears; select time to start ‘Boost’ then tap ‘Confirm.’



‘Planned Boost’ status tab appears below the graph showing that the Boost mode is due to start at a set time; note the clock symbol and the time on the left of the tab indicating the planned time of ‘Boost.’

**NOTE:** ‘Boost’ and ‘Planned Boost’ can be cancelled at any time by tapping on ‘Cancel’ icon on the right. When cancelled, the ‘Confirmation’ screen appears; tap ‘Confirm’ to proceed.

**NOTE:** It is strongly recommended that the user closely monitors CGM during periods when ‘boost’ is active, as to ensure setting is correct.

See the exercise chart for when to use Ease-off

## **Ease-off Mode**

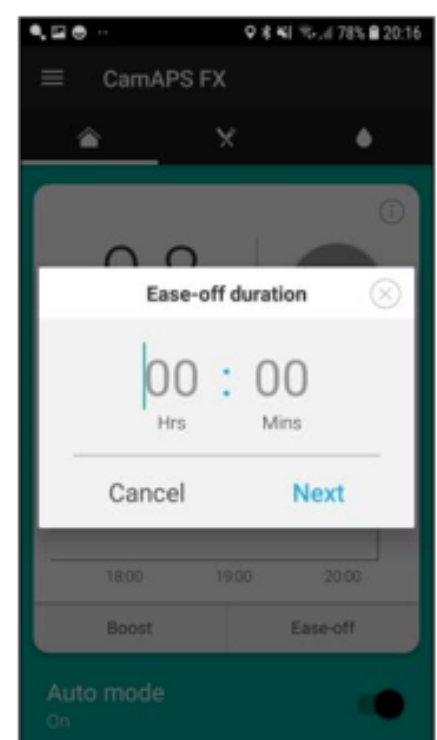
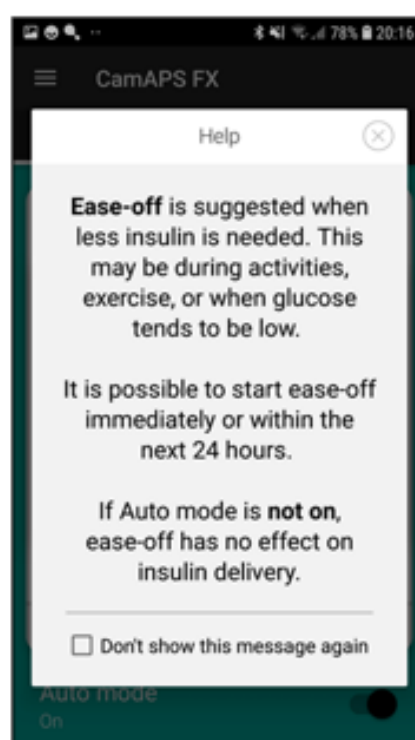
'Ease-off' can be used when less insulin is needed. **This could be during exercise or when glucose tends to be low.** You will be able to set up the duration (from 0 to 24 hours) and the time you want the 'Ease-off' to start. Please see PE/Exercise Advice for specific information on using this.

### **Instructions**

Tap on the 'Ease-off' tab on the home screen.

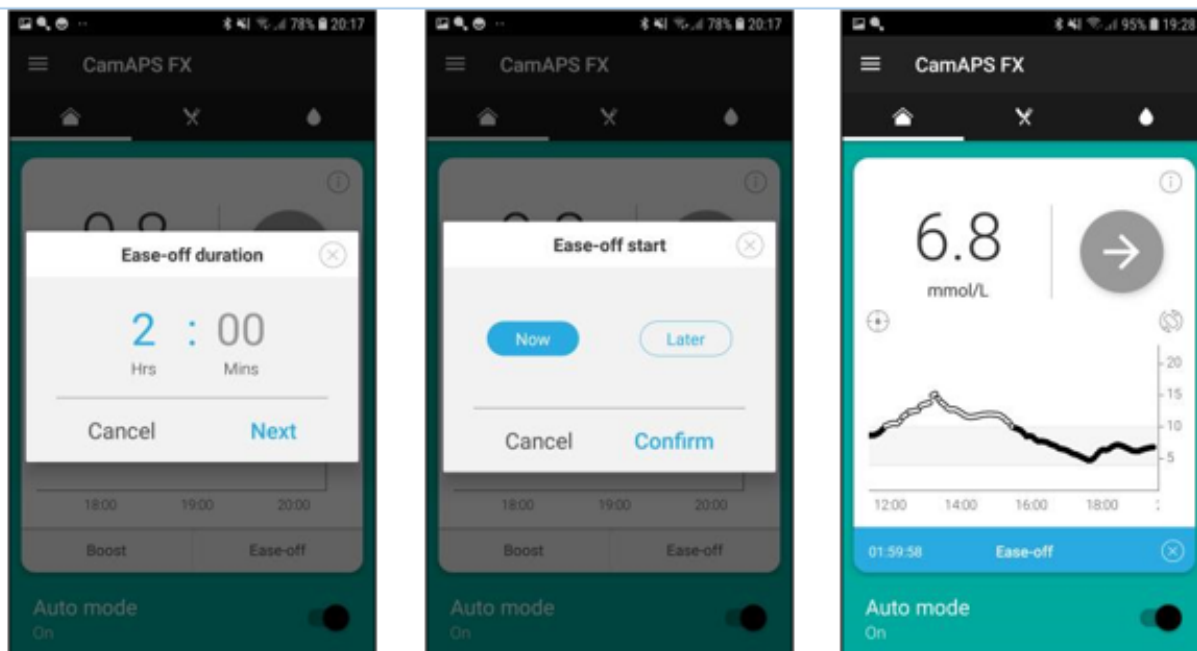
Help screen appears, read then dismiss.

'Ease-off duration' window appears; tap in the Hrs/Mins entry fields to enter duration.



Tap 'Next'

'Ease-off start' window appears; tap 'Confirm' if you want 'Ease-off' to start immediately. Blue 'Ease-off' status tab appears below the graph showing that 'Ease-off' is now active; note the timer on the left of the tab indicating how much time is left before 'Ease-off' expires.

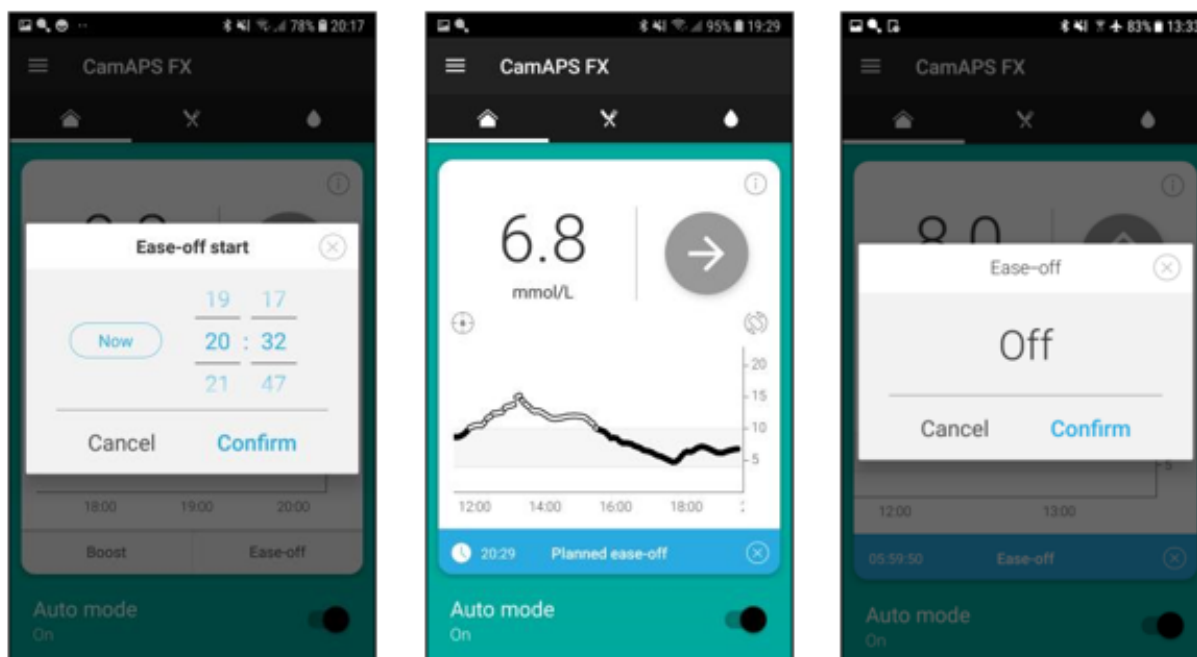


If you wish to start 'Ease-off' at a later time, select the desired duration as before, then in 'Ease-off start' window select 'Later' and tap 'Confirm'

Clock dial appears; select the time to start 'Ease-off' then tap 'Confirm'

Blue 'Planned Ease-off' status tab appears below the graph showing that the 'Ease-off' is due to start at a set time; note the clock symbol and the time on the left of the tab indicating the planned time of start

**NOTE:** 'Ease-off' and 'Planned Ease-off' can be cancelled at any time by tapping on the 'Cancel' icon on the right. When cancelled, the 'Confirmation' screen appears; tap 'Confirm' to proceed.



**NOTE:** It is strongly recommended that the user closely monitors CGM during periods when 'Ease-off' is active, as to ensure setting is correct.

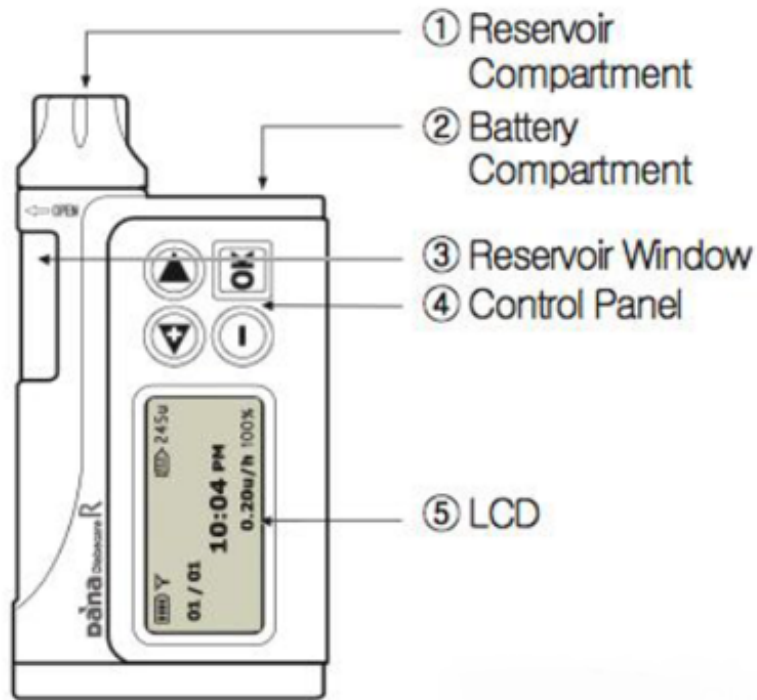
[Click here to watch a 30 second video on "How to set Ease-off"](#)



[Click here to watch a 5 minute video on “Getting to know the Dana RS Insulin Pump”](#)

## **DANA INSULIN PUMP (If CamAPS FX is unavailable)**

Should the phone which hosts CamAPS FX App be unavailable, you are still able to control the pump directly.

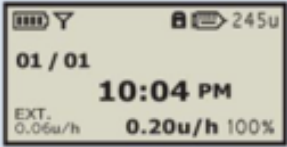






The pump does not use a standard battery. A spare should always be in kept in school.

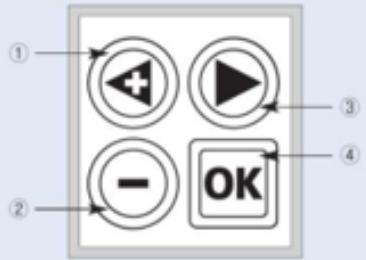








## Home Screen


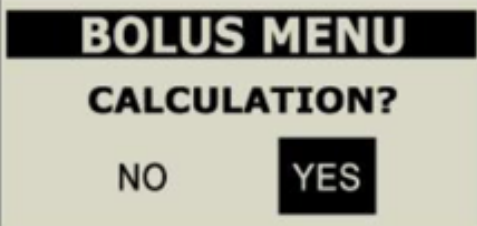
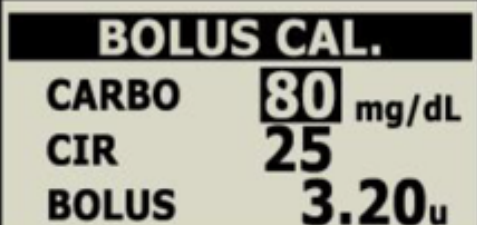
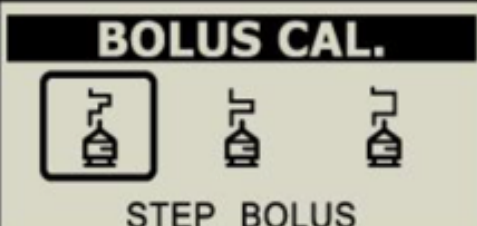
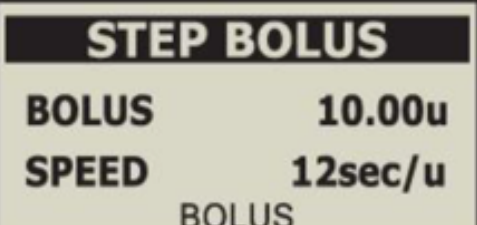
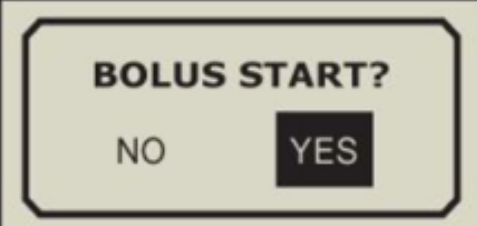

 <p>Initial Display</p>		Displays remaining battery charge as 100%, 75%, 50%, 25%.
		Remote Control connection status (Bluetooth)
		Button lock
	 245u	Displays the amount of insulin remaining in the reservoir in units.
	01/01 10:04 PM	Displays current time and date
	<b>0.20u/h</b> 100%	Basal status (with temporary basal)
	EXT. 0.06u/h	Extended bolus status (Dual bolus status)

## Buttons

 <p>Buttons</p>	① 	button: Press to increase insulin dosages, time and date.
	② 	button: Press to decrease insulin dosages, time and date Return to previous screen
	③ 	button: Press to move to the next choice on the LCD.
	④ 	button: Press to select the function highlighted on the LCD.

Click here to watch a 4 minute video on “Using the Bolus Calculator on a Dana RS Insulin Pump”

## DELIVERING A BOLUS USING THE BOLUS CALCULATOR

		<p>In the MAIN MENU screen press the arrow until bolus icon is highlighted. Press OK.</p>
		<p>Press the arrow to ensure YES is selected. Press OK.</p>
		<p>With the arrow button select CARBO and enter the amount of carbohydrates to be eaten using the + and – buttons. All other options should remain at default. Press the arrow button until the screen changes.</p>
		<p>Select Step Bolus. Press OK.</p>
		<p>Press OK to confirm dose.</p> <p>Change the SPEED to 30sec/u using the + Button. Press OK.</p>
		<p>Using the arrow, highlight YES and press OK to start bolus.</p>
		<p>The delivery screen will remain until bolus is finished. The pump will beep and return to the home screen upon completion.</p>












## Suggested Daily Routine

**Watch me: Daily routine**

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

## Exercise Guide for CAMS APS FX Watch me

1. Enter weight in kilograms into this box
2. Start Ease Off 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. Take pump off for swimming: Suspend insulin on taking off and resume when put 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	<b>No exercise: Treat hypoglycaemia</b>			
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	<b>Check ketones: If less than 0.6mmol/l</b>	<b>Ok to exercise</b>		
	<b>Check ketones: If 0.6mmol/l or above</b>	<b>No exercise until the ketones have been corrected and are less than 0.6mmol/l</b>		

## 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:**

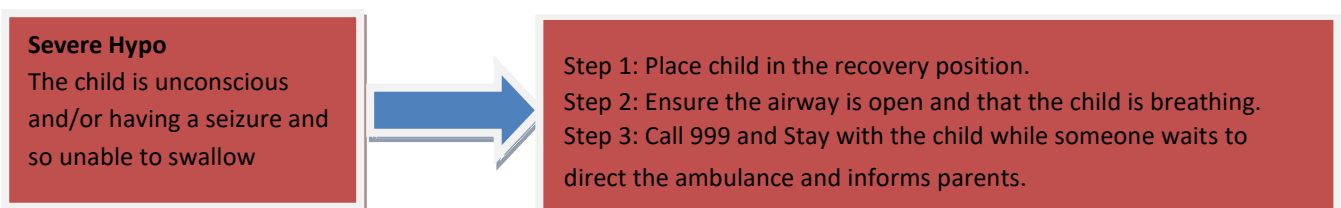
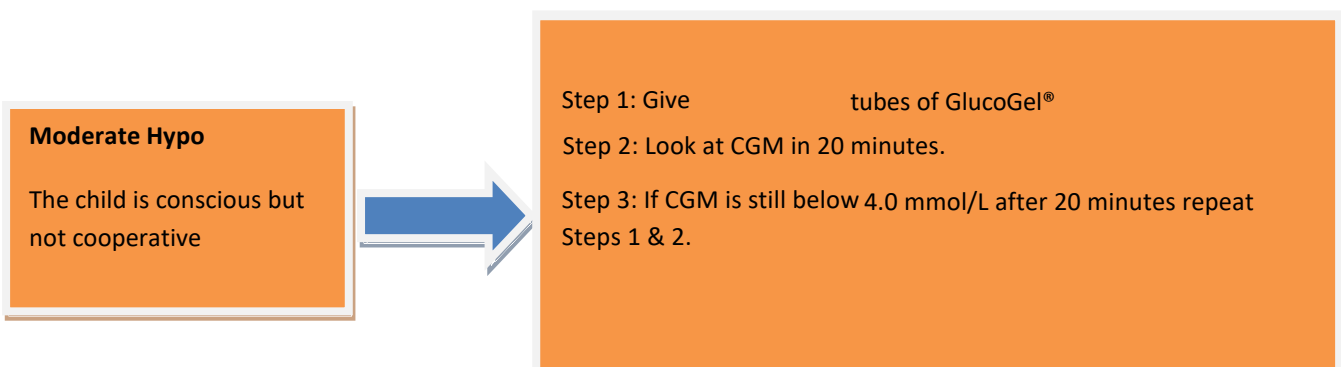
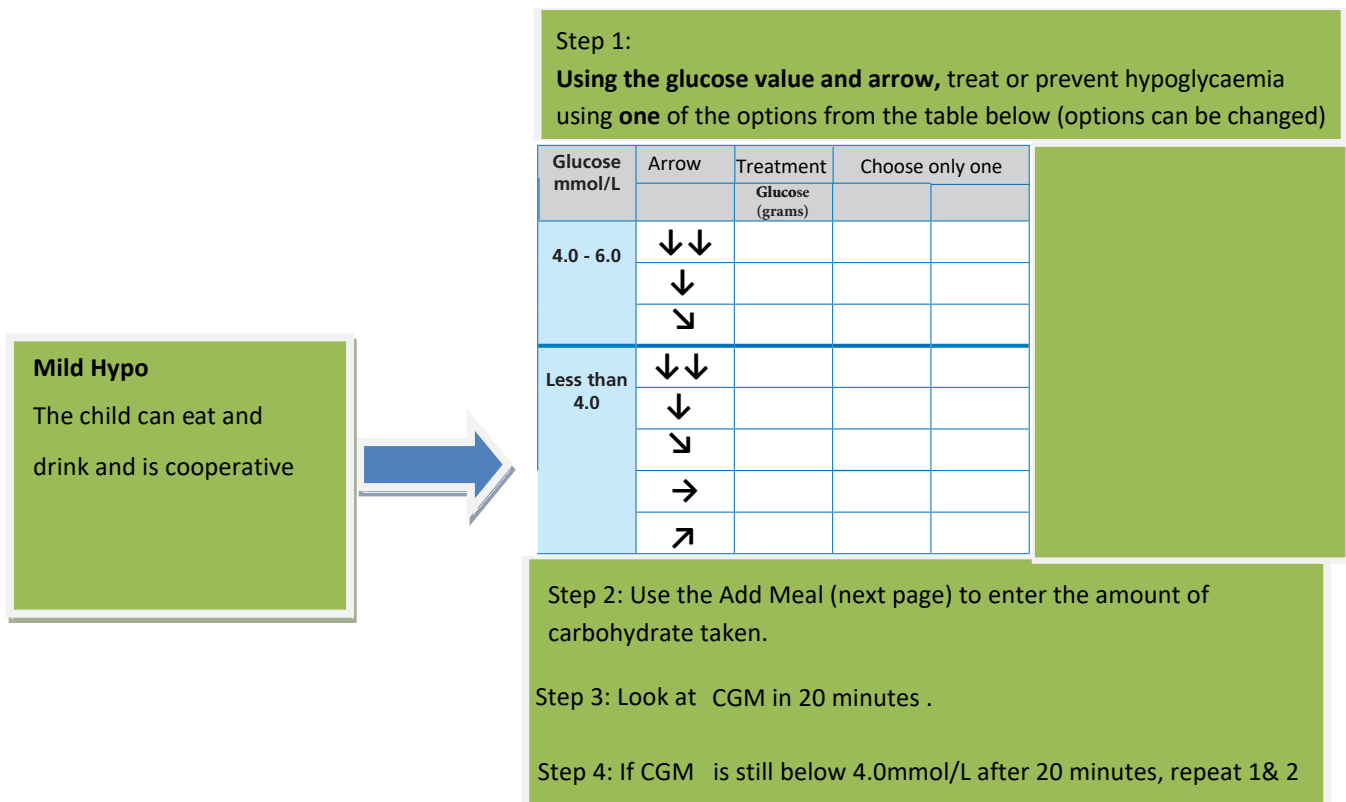
- This is where the young person is unconscious, having a seizure or is unable to take fast acting glucose orally
- This is an **extremely rare occurrence** but we need to make you aware
- How to manage severe hypoglycaemia is on the flow chart on the next page

## 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



# Add meal

Carbohydrate taken to prevent or treat hypoglycaemia must be entered into the APP in the Add Meal function. Follow these steps.

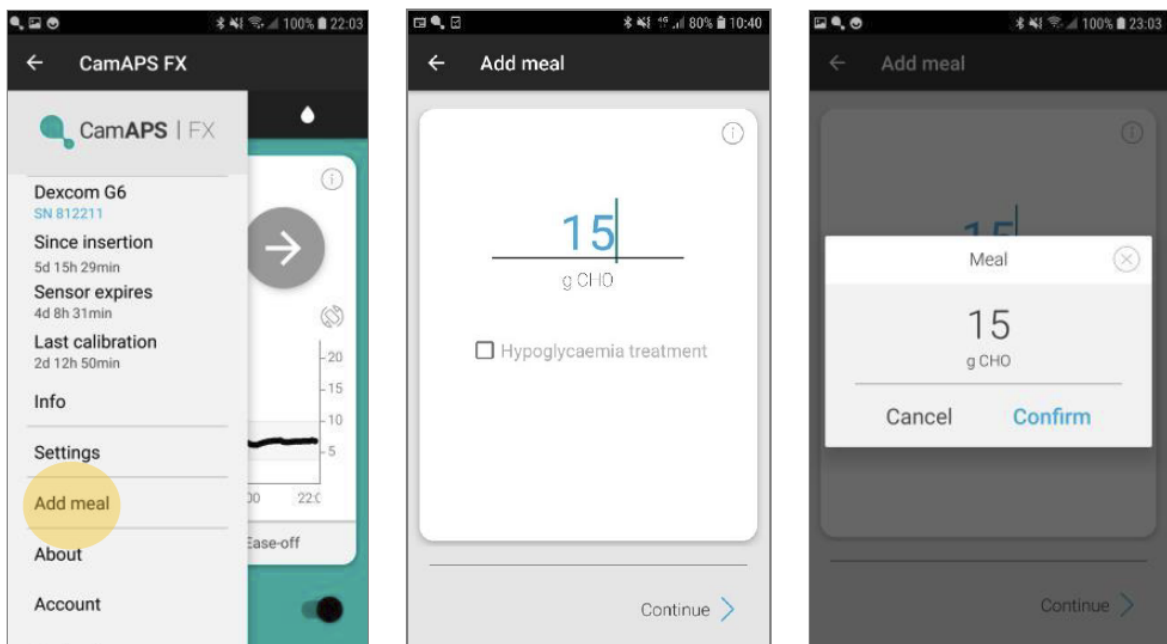
1. Open the APP
2. Open the menu
3. Select "Add meal"
4. Enter the carbohydrate taken
5. Select "Hypoglycaemia treatment"
6. Continue
7. Confirm

## Add a meal

To add a meal/snack outside of the Bolus Calculator, go to main menu:

- Select 'Add meal'
- Tap the 'Amount' field to enter the size of the meal, select whether this is a *hypoglycaemia treatment* and then tap 'Continue'
- 'Meal' confirmation screen appears; confirm the amount to return to the home screen

**Note:** When hypoglycaemia treatment is selected, the meal is shown on the detailed graph. However, the control algorithm is prevented from delivering insulin to cover the meal. This reduces the risk of follow up hypoglycaemia.



## **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 CGM above 14mmol/l by first alarm. Give a correction by the pump

Step 2: Wait 90 minutes

Step 3: Act if alarms after 90 minutes as still above 14.0mmo/l - 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.

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

**Who is responsible in an Emergency?**

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