Name: Test Weight (kg): 40 **Glooko ID:** **Password:**

CamAPS & YpsoPump - How to Survive

CamAPS ID: **Password:**

- **Important things:**
  - Suspend the pump when disconnecting for a bath/shower/sports & ensure you resume after. Check the phone screen to check it is Green indicating you are back in 'Automode'
  - Carry spare AAA batteries, phone charing cable, insulin pump cart, cannula & tubing, Orbit cannula inserter, insulin pens & needles, blood glucose & ketone meter, hypo treatment.

- **Low Glucose levels:**
  - hypo guidance chart.
  - Remember to add the hypo treatment amount into the "Add meal" under "hypoglycaemia treatment" Wait 20 min if retreating No 10g snack after treated

Glucose mmol/L	Arrow	Treatment	Choose only one	
		Glucose (grams)	Dextrose (3g)	Lucozade
4.0 - 6.0	↓↓	12	4	133
	↓	9	3	100
	↘	6	2	67
Less than 4.0	↓↓	15	5	167
	↓	12	4	133
	↘	9	3	100
	→	6	2	67
	↗	3	1	33

Hypoglycaemia management

- **High Glucose Levels:**
  - Follow the high guidance chart
  - If the glucose level stays above 14.0mmol/l for 90 minutes, **even though ketones are less than 0.6 mmol/L,** change the cannula, then give a correction.
  - If ketones are 0.6mmol/L or above, **give correction dose by insulin pen, change reservoir and cannula, and Toggle off Automode for 4 hours**:
    - 10% of total daily dose if ketones are 0.6-1.5 mmol/L.
    - 20% of total daily dose if ketones are above 1.5 mmol/L.

Hyperglycaemia management

Infusion set change

- **Infusion Site Management:**
  - Follow the how to "Change the cartridge" & Changing the infusion set"
  - Orbit Micro 5.5mm is a 0.2 unit cannula fill
  - Pump Carts can be used twice if there is enough insulin to last 4-6 days and the weather temperature is not too hot.
  - Change cannula every 2-3 days before a meal and rotate sites.
  - Pump Cart must be less than 28 days out of the fridge and in date
  - Remind yourself of best practice

Solutions for skin and sticking issues

Inserting Dexcom

- **CGM Management:**
  - Take your time and follow the how to set up video
  - If you feel different to the sensor glucose, check blood glucose and calibrate if more than 20% difference between sensor and blood glucose
  - Remind yourself of best practice

CamAPS & YpsoPump - How to Thrive

- **Ordering supplies:**
    - Order supplies from Ypsomed upon opening the last box - 0344 856 7820
    - Issues with the CamAPS APP call CamDiab - 020 3695 3780
    - Dexcom replacement sensors:
        - If sensors do not last 10 days contact for a replacement
        - www.dexcom.com/UKIETechsupport
        - 0800 0315763

- **Food and insulin:**

Mealtime insulin guide

    - Bolus 15 minutes before eating.
    - Three balanced meals with limited snacking, Mealtime Insulin Guide
    - 5-10 minutes activity (walking, playing, dancing) after eating.
    - For high fat meals (pizza, takeaway, fish and chips, etc)
        - Enter 50% of the carbs as a normal bolus and the other 50% entered into "Add meal" under "Slowly absorbed meal"
            - If go high in the first 3 hours, next time give 75% of carbs eaten as normal bolus and 25% as "Slowly absorbed meal"
    - If you forget to bolus before eating:
        - Less than 30 minutes after eating, then bolus for all carbs.
        - 30-60 minutes, then bolus for half the amount of carbs.
        - More than 60 minutes, give a correction for the current glucose but do not enter carbs
    - For small snacks of around 10 grams use "Add meal" under "meal/snack"

- **Exercise:**

Exercise guide

    - Recap on how to mange with this video.
    - Start Ease Off before (90 mins before) and for the duration of exercise:
    - Meal before exercise:
        - If eating within 2 hours of exercise, enter only 75% of the carbohydrate to be eaten
        - Carbohydrate x 0.75 = amount to enter e.g. 40g x 0.75 = 30g
    - Carbs during: Glucose every 20-30 minutes following your chart (next page).
        - Do not have a large amount of carbs just before exercise as the high glucose level will make the Autommode deliver extra insulin.
    - Request a Dietitian appointment if you exercise is hard to manage.

- **Maximising Time in Range (4.0-10.0 mmol/L)**
    - 10 minutes of fast walking or playing drops the glucose level by 2 mmol/L when above 10.0mmol/L between meals - watch GAME

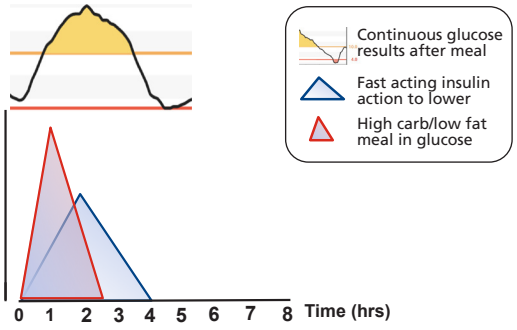
Carbohydrate Guide for activity when using the Cam APS

1. Start Ease Off before exercise (ideally 90 minutes before) and for full activity duration.
2. Check glucose just before and every 20-30 minutes during exercise. Give the carbohydrate required based on the value and trend arrow. Carbohydrate choice can be changed in the drop down box
3. If swimming take the pump off and suspend the pump, resume once the pump is back on.

Sensor glucose Levels	Rate of glocose change trend arrow & action to take	Carbohydrate grams needed for 20 minutes	Dextrose (3g)	Glucotab (4g)
less than 4.0 mmol/l	No exercise: Treat hypoglycaemia	See hypo chart		
4.0 - 6.4 mmol/l	↓↓	13	4	3
	↓	11	4	3
	↘	9	3	2
	→	7	2	2
	↗	5	2	1
	↑	3	1	1
6.5 - 9.9 mmol/l	↓↓	11	4	3
	↓	9	3	2
	↘	7	2	2
	→	5	2	1
	↗	3	1	1
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		
	Chck ketones: If 0.6mmol/l or above	No exercise until the ketones have been corrected and are less than 0.6mmol/l		

Mealtime Insulin Guide

High carbohydrate meal with low fat



Meal is almost all carbohydrate

Breakfasts:
- Cereal with light milk
- Toast and jam or honey
- Fruit bread

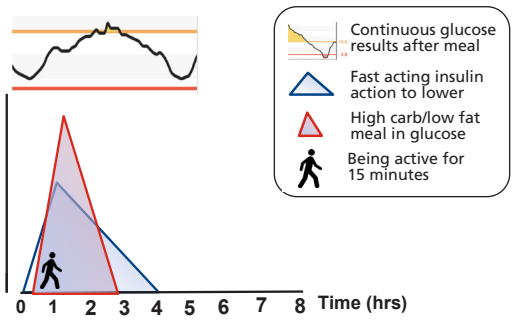
Meals:
- Jacket potato & beans
- Super noodles
- Waffles & hoops

Snacks:
- Cereal bars
- Biscuits
- Rice crackers

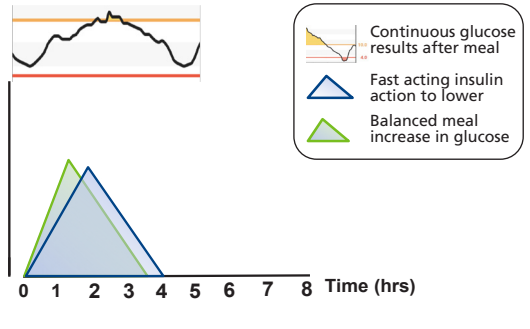
How to keep the glucose in target?

1. Count carbs accurately
2. Choose wholefood carbohydrate
3. Add some vegetables
4. Normal bolus 20 minutes before eating
5. Do 15 minutes activity after eating

High carbohydrate meal with low fat



Balanced meal



Meal is balanced

Breakfasts:
- Porridge with semi or full milk & nuts
- Egg or fish on toast with mushrooms
- Cheese on toast with tomatoes

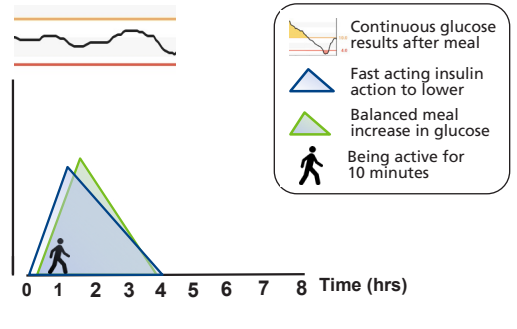
Meals:
- Meat/fish/beans with potatoes & veg
- Jacket potato with cheese & salad
- Rice with curry and salad

Snacks:
- Whole fruit with nuts
- Nut butter on toast
- Whole yoghurt with nuts

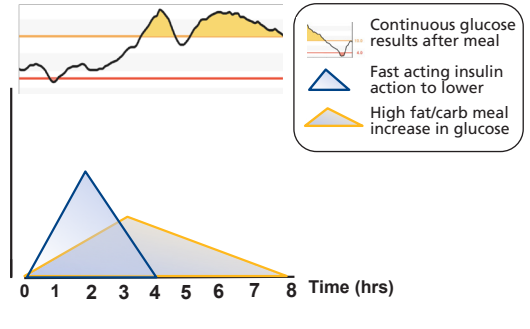
How to keep the glucose in target?

1. Count carbs accurately
2. Choose wholefood carbohydrate
3. Add more vegetables
4. Normal bolus 15 minutes before eating
5. Do 10 minutes activity after eating

Balanced meal



High fat meal with carbohydrate



Meal is very high in fat with carbs

Breakfasts:
- Full English breakfast
- Pancakes with maple syrup
- Thick slices of cheese on toast

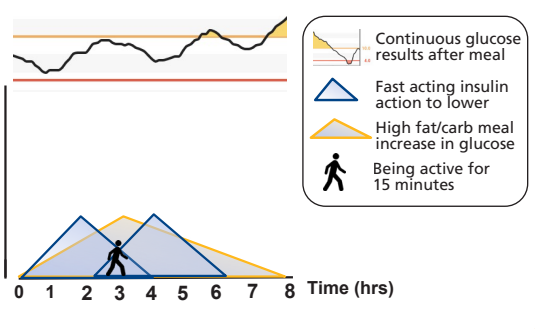
Meals:
- Takeaway fish and chips
- Heavily cheesed pizza
- Pasta with creamy sauce
- Creamy curry with rice & naan bread
- Fast food burger, fries and dessert
- Sunday roast with trimmings
- Lasagna with chips and garlic bread

How to keep the glucose in target?

1. Count carbs accurately
2. Enter 50% of the carbs as a normal bolus and the other
3. 50% entered into "Add meal" under "Slowly absorbed meal"
4. If you go high in the first 3 hours, next time, enter 75% of the carbs eaten as normal bolus and 25% as a "Slowly absorbed meal

e.g. 100g x 0.75 = 75g

High fat meal with carbohydrate



Dynamic Glucose Management

GAME-SET-MATCH

Combine glucose values and trend arrows
with proactive diabetes management

Stop highs
GAME

G = Glucose time in range desired

A = Alert on high set accordingly

Time in range desired? 4.0-10.0mmol/L	Set high alert mmol/L	Predicted HbA1c mmol/mol (%)	Daily energy & future health
50%	No alert	64 (8.0)	☹
60%	14.0	58 (7.5)	😐
70%	12.0	52 (7.0)	☺
75%	11.0	50 (6.8)	☺☺
80%	10.0	48 (6.5)	☺☺☺
85%	9.0	45 (6.2)	☺☺☺☺
90+%	8.0	42 (6.0)	☺☺☺☺☺

M = Mode of exercise that can be done

E = Exercise when high alert sounds

Glucose mmol/L	Trend arrow			How many minutes
	Libre	Dexcom	Medtronic	
8.0 - 9.9	↗		↑	5
	↑		↑↑	10
			↑↑↑	15
10.0 - 14.0	→			15
	↗		↑	20
	↑		↑↑	25
			↑↑↑	30
More than 14.0	↓		↓↓	15
	↘		↓	20
	→			25
	↗		↑	30
	↑		↑↑	40

Stay in target
SET

S = Start insulin before eating

Glucose mmol/L	Trend arrow			Minutes to bolus before meal
	Libre	Dexcom	Medtronic	
4.0 - 5.9			↓↓↓	Prevent hypo
	↓		↓↓	Prevent hypo
	↘		↓	Prevent hypo
	→			15
	↗		↑	20
	↑		↑↑	25
			↑↑↑	30
6.0 - 9.9			↓↓↓	0
	↓		↓↓	10
	↘		↓	15
	→			20
	↗		↑	25
	↑		↑↑	30
			↑↑↑	35
10.0 - 14.0			↓↓↓	15
	↓		↓↓	20
	↘		↓	25
	→			30
	↗		↑	35
	↑		↑↑	40
			↑↑↑	45
More than 14.0	↓		↓↓	25
	↘		↓	30
	→			40
	↗		↑	45
	↑		↑↑	50

E = Eat three balanced meals

T = Ten minutes activity after eating

Prevent lows
MATCH

M = Measure weight to calculate hypo treatment

Weight (kg)	Grams of glucose	Dextrose 3g tablets
10	3	1
20	6	2
30	9	3
40	12	4
50	15	5
60+	18	6

A = Always use glucose only, not sugar

T = Try to prevent lows

C = Change amount according to glucose value & arrow

Glucose mmol/L	Trend arrow			Percent of hypo treatment
	Libre	Dexcom	Medtronic	
4.0 - 6.0	↓		↓↓↓	100%
			↓↓	75%
	↘		↓	50%
Less than 4.0	↓		↓↓↓	125%
			↓↓	100%
	↘		↓	75%
	→			50%
	↗		↑	25%

H = Have patience and wait 20 mins