

Blood Glucose Diary

Call these numbers to contact your Diabetes Team:

- Non-urgent calls: 0141 201 0331
- Urgent calls: 0141 201 0000 (ask for children's diabetes nurse during office hours or paediatric medical registrar at other times)

*Before coming to clinic please **always remember** the following:*

1. Bring your Blood Glucose **Meter** AND
2. Bring your Blood Glucose **Diary** AND/OR
3. Upload your Blood Glucose or Pump **Data** AND
4. Bring a First morning **Urine Specimen**

childrenwithdiabetes@ggc.scot.nhs.uk

Clinic Results

Clinic Date: _____ Age: _____ yrs _____ mths

Today's HbA1c: _____ mmol/mol **HbA1c Target** = **48** mmol/mol

Last HbA1c: _____ mmol/mol **HbA1c Target Max** = **58** mmol/mol

Meter BG Avg.: _____ mmol/l **BG Avg. Target** = **8** mmol/l

Height: _____ cm BMI: _____ kg/m²

Weight: _____ kg BP: _____ / _____ mm Hg

Ketone Dose (see Page 32): units

If Glucose over 14 mmol/l & Urine ketones mod, large OR Blood ketones
1.0 mmol/l (0.6 mmol/l if using an insulin pump) & above (use only Novorapid or other
fast insulin)

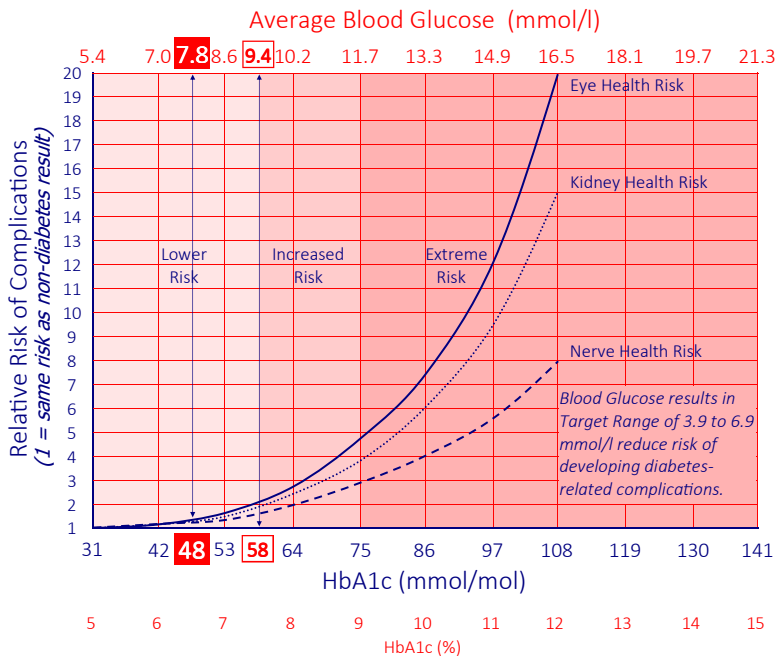
Off-Pump Insulin Dose:

If needing to change from using an insulin pump to giving insulin by injection (e.g. due to pump failure) follow these steps to work out required injected doses of insulin:

1. Count average Insulin "Total Daily Dose" for at least 3 days *before* the day of change.
2. Give 20% Total Daily Dose (TDD) as a Levemir injection twice daily (every 10-12 hrs).
3. Give 20% TDD as a Novorapid (or other Rapid-Acting insulin) Before main meals **OR**
4. Use the Carb Ratios from the insulin pump settings with main meals.

Care Plan until next contact with Diabetes Team

HbA1c, Average Blood Glucose & Risk of Complications



The above chart shows the direct link between Average Blood Glucose, the HbA1c test, and the risk to future health. The information comes from the 1993 “Diabetes Control & Complications Trial”, the first study to prove that normal and near-normal blood glucose results give us all the best chance of preserving long-term good health.

The chart shows “Relative Risk” of problems for those with and without diabetes. A Relative Risk of “1” means someone *with* diabetes has exactly the same risk as a person *without* diabetes, and a Relative Risk of 20 indicates someone with diabetes would be 20 times more likely to develop that particular problem than a person without diabetes.

An **Average Blood Glucose less than 8 mmol/l** results in an **HbA1c of 48 mmol/mol**. Achieving this gives someone with diabetes the best balance between protection from health difficulties and a risk of frequent or severe low blood glucose readings.

BOLUS INSULIN STEP 1: CALCULATE CARBOHYDRATE DOSE

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio (CIR)

B		L		D		S	
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Step 1

CR=	CARBOHYDRATE: INSULIN RATIO (grams per Unit) to keep Blood Glucose steady after meals																							
	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10	12	14	16	18	20	22	24					
5-9	2.5	2	1.5	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-		
10-14	5	4	3	2.5	2	1.5	2	1.5	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
15-19	7.5	6	5	4	3.5	3	2.5	2	1.5	2	1.5	1.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
20-24	10	8	6.5	5.5	5	4	3	2.5	2.5	2	2	1.5	1	1	1	1	1	1	0.5	0.5	0.5	0.5		
25-29	12	10	8	7	6	5.5	5	4	3.5	3	2.5	2.5	2	1.5	1.5	1	1	1	1	1	1	1		
30-34	15	12	10	8.5	7.5	6.5	6	5	4	3.5	3	3	2.5	2	1.5	1.5	1.5	1	1	1	1	1		
35-39	17	14	11	10	8.5	7.5	7	5.5	5	4	3.5	3.5	2.5	2.5	2	1.5	1.5	1.5	1	1	1	1		
40-44	20	16	13	11	10	8.5	8	6.5	5.5	5	4	4	3	2.5	2.5	2	2	1.5	1.5	1.5	1.5	1.5		
45-49	22	18	15	12	11	10	9	7.5	6	5.5	5	4.5	3.5	3	2.5	2.5	2	2	1.5	1.5	1.5	1.5		
50-54	25	20	16	14	12	11	10	8	7	6	5.5	5	4	3.5	3	2.5	2.5	2	2	1.5	1.5	1.5		
55-59	27	22	18	15	13	12	11	9	7.5	6.5	6	5.5	4.5	3.5	3	3	2.5	2.5	2	2	1.5	1.5		
60-69	30	24	20	17	15	13	12	10	8.5	7.5	6.5	6	5	4	3.5	3	3	2.5	2.5	2	1.5	1.5		
70-79	35	28	23	20	17	16	14	11	10	8.5	7.5	7	5.5	5	4	3.5	3.5	3	2.5	2.5	2	1.5		
80-89	40	32	26	22	20	18	16	13	11	10	8.5	8	6.5	5.5	5	4	4	3.5	3	2.5	2.5	2		
90-99	45	36	30	25	22	20	18	15	12	11	10	9	7.5	6	5.5	5	4.5	4	3.5	3	2.5	2.5		
100+	50	40	33	28	25	22	20	16	14	12	11	10	8	7	6	5.5	5	4.5	4	3.5	3	2.5		

CARBOHYDRATE TO BE EATEN (Grams)

CARBOHYDRATE: INSULIN RATIO = Carbohydrate (grams) for each Unit of Insulin to keep after-meal BG steady.

CARBOHYDRATE DOSE = Carbohydrate Eaten (grams) ÷ Carbohydrate: Insulin Ratio (or "Carb Ratio", CR)

= Number where "Carbohydrate Eaten" row meets "Carb.: Insulin Ratio" column.

e.g. If eating 40 grams, and CR = 8 g/Unit, then Carbohydrate Dose = 40 ÷ 8 = 5 Units.

BOLUS INSULIN STEP 2: CALCULATE CORRECTION DOSE

Divide required Fall in Blood Glucose (mmol/l) by Insulin Sensitivity (IS)

Step 2	B		L		D		S									
INSULIN SENSITIVITY (mmol/l fall per Unit) with Target Blood Glucose 6 mmol/l																
TDD =	100 + 80-99	67-79	58-66	50-57	40-49	34-39	29-33	23-28	19-22	16-18	14-15	12-13	10-11	8-9	6-7	4-5
IS =	1	1.2	1.5	1.7	2	2.5	3	3.5	4	5	6	7	8	10	15	20
7-7.9	1	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-	-
8-8.9	2	1.5	1	1	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-	-
9-9.9	3	2.5	2	1.5	1	1	0.5	0.5	0.5	-	-	-	-	-	-	-
10-10.9	4	3	2.5	2	1.5	1	1	0.5	0.5	0.5	0.5	-	-	-	-	-
11-11.9	5	4	3	2.5	2	1.5	1	1	0.5	0.5	0.5	0.5	-	-	-	-
12-12.9	6	5	4	3.5	3	2	1.5	1	1	0.5	0.5	0.5	0.5	-	-	-
13-13.9	7	5.5	4.5	4	3.5	2.5	2	1.5	1	1	1	0.5	0.5	0.5	-	-
14-14.9	8	6.5	5	4.5	4	3	2.5	2	1.5	1	1	1	0.5	0.5	0.5	-
15-15.9	9	7.5	6	5	4.5	3.5	3	2.5	2	1.5	1.5	1	1	0.5	0.5	-
16-16.9	10	8	6.5	5.5	5	4	3	2.5	2	1.5	2	1.5	1	1	0.5	0.5
17-17.9	11	9	7	6	5.5	4	3.5	3	2.5	2	1.5	1.5	1	1	0.5	0.5
18-18.9	12	10	8	7	6	4.5	4	3	2	2	1.5	1.5	1	1	0.5	0.5
19-19.9	13	11	8.5	7.5	6.5	5	4	3.5	3	2.5	2	1.5	1.5	1	0.5	0.5
20+	14	11	9	8	7	5.5	4.5	4	3.5	2.5	2	2	1.5	1	0.5	0.5

CURRENT BLOOD GLUCOSE (mmol/l)

INSULIN SENSITIVITY = Blood Glucose (BG) fall from each Unit of insulin = $100 \div$ Insulin Total Daily Dose (TDD).

CORRECTION DOSE = Insulin dose to lower Current BG to Target BG of 6 mmol/l
TDD = ALL BASAL (Levemir, Lantus) + ALL BOLUS (Novorapid, H'log) Insulin

THEN ADD CARB DOSE = (Current BG - 6) \div Insulin Sensitivity
TO CORRECTION DOSE = Number where "Current Blood Glucose" row meets "Insulin Sensitivity" column.

How to Make Regular Insulin Dose Adjustments

1. Basal Dose of insulin for steady, long-term effect (Lantus, Levemir)

- Adjust Basal dose looking at trend of **before-meal** and **overnight** BG results.
- A correct Basal dose should keep BG steady from midnight to 3 am to 7 am.
- If **BG rises** overnight then Basal Dose too low: \uparrow dose 10% (see *Caution).
- If **BG falls** overnight then Basal Dose too high: \downarrow dose 10%.
 - * Caution: Adolescents often have BG rise after 04:00 due to hormones, so may have to accept higher BG on waking to prevent overnight hypos.
- If **BG on target** overnight until 3 am *but high on waking*, be sure basal insulin dose *not* cause overnight hypos, and use **Bolus Correction Dose** on waking.

2. Bolus Carbohydrate Dose for meal-time carbohydrate (Novorapid)

- An **appropriate Carb Dose** causes before-meal BG to be unchanged 2 hours later.
- Divide Carbs eaten (g) by “appropriate” dose \rightarrow **Carb:Insulin Ratio** (“Carb Ratio”)
- Divide Carbs eaten (g) by Carb Ratio (CR) \rightarrow **Carbohydrate Dose**
- e.g. If eating 50 grams carbohydrate and Carb Ratio = 5 g/Unit[®]
Carbohydrate Dose = $50 \text{ g} \div 5 \text{ g/Unit} = \mathbf{10 \text{ Units}}$
- Meals may need different Carb Ratios (e.g. Breakfast often has a lower CR).

BG 2 hours after meal	Cause	Carb Ratio	Action	By
\uparrow by more than 2 mmol/l	Too much Carb for insulin dose	Too High	\downarrow CR	10%
\downarrow by more than 2 mmol/l	Too little Carb for insulin dose	Too Low	\uparrow CR	10%

3. Bolus Correction Dose for lowering high Blood Glucose (Novorapid)

- The “100 Rule” = $100 \div \text{Insulin Total Daily Dose}$ (TDD = Basal+Bolus insulin)
= expected BG fall for each Unit of insulin given = **Insulin Sensitivity (IS)**.
- Divide BG fall required (mmol/l) by Insulin Sensitivity (IS) \rightarrow **Correction Dose**
= insulin dose to lower high BG to Target BG (of 6 mmol/l).
- e.g. If BG now = 16 mmol/l, Target 6 mmol/l & IS = 2 mmol/l fall per Unit \rightarrow
Correction Dose = $(16 - 6) \div 2 \text{ mmol/l per U} = (10 \text{ mmol/l fall} \div 2) = \mathbf{5 \text{ Units}}$
- Correction Doses may be given every 4 hours, either *added* to a Carbohydrate Dose, or as *separate injection* at other times. May need less insulin overnight.
- Correct the cause if 3 or more Correction Doses needed at same time of day.
- **Ketones** are made when the body has too little insulin. A **Ketone Dose must** be used (not a Correction Dose) if ketones mod, large or over 1 mmol/l (p32).

Daily Blood Glucose Results

Different insulin types recorded

Carb Dose bolus

Correction Dose bolus

Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Carb Dose bolus	Correction Dose bolus	
		Divide Carbs eaten (g) by CIR (g/U) to give Carb dose 0							17/10
B LEV		10	10	10	10	10	10	10	
B NOV	5	8	8 +1.5	8 +3	8 +2	8	8	8	
L NOV	7	7.5	7.5	9	7.5	6	7.5	7.5	
T NOV	5	10	10 +1.5	12	12	10	8	10 +4	
T LEV		12	12	12	14	14	14	14	
S NOV		Using CIRs results in different doses of meal-time Novorapid						+2	

03:00 to 04:00

B	HIGH		12.6	16.2	14.3		Correction Dose given at supper	6.1	
R	3.9 - 6.9	6.9				6.7	5.7	4.8	
E	LOW	3 high results in a row have been corrected, so basal dose must also be increased, taking care patient not hypo overnight							

2 hrs after meal

L	HIGH			8.4				
U	3.9 - 6.9	5.6	6.2		6.2			4.9
N	LOW						3.8	

2 hrs after meal

T	HIGH		13.9					18.7
E	3.9 - 6.9	3.9			5.9	6.4	5.2	
A	LOW	Low & high glucose results are recorded in highlighted rows			3.2			

2 hrs after meal

S	HIGH			12.5			14.6	
U	3.9 - 6.9	6.3	4.9		5.4	6.7		5.8
P	LOW	No correction dose given for this high result as it immediately follows a hypo						Test for ketones if glucose over 14

2 hrs after meal

00:00 to 01:00

			4.7	5.9			6.5	
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3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Daily Blood Glucose Results

W T M	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

08 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W2	Insulin	CIR	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	Type	(g/U)							
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00									
								7d Avg BG	

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 09

Daily Blood Glucose Results

W3	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

10 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 4	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			//	//	//	//	//	//
B			//	//	//	//	//	//	//
L			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
S			//	//	//	//	//	//	//
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 11

Daily Blood Glucose Results

W/S	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

12 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

M	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3-9 - 6-9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3-9 - 6-9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3-9 - 6-9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3-9 - 6-9								
P	LOW								
2 hrs after meal									
00:00 - 01:00									
								7d Avg BG	

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 13

Daily Blood Glucose Results

W7	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

14 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

8 M	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			//	//	//	//	//	//
B			//	//	//	//	//	//	//
L			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
S			//	//	//	//	//	//	//
03:00 - 04:00									
B	HIGH								
R	3-9 - 6-9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3-9 - 6-9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3-9 - 6-9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3-9 - 6-9								
P	LOW								
2 hrs after meal								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 15

Daily Blood Glucose Results

6 M	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00									
								7d Avg BG	

16 **3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!**

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 10	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			//	//	//	//	//	//
B			//	//	//	//	//	//	//
L			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
S			//	//	//	//	//	//	//
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 17

Daily Blood Glucose Results

W T T	Insulin	CIR	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	Type	(g/U)							
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

18 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 12	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 19

Daily Blood Glucose Results

W13

Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B		/	/	/	/	/	/	/
B		/	/	/	/	/	/	/
L		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
S		/	/	/	/	/	/	/

03:00 - 04:00

B	HIGH							
R	3·9 - 6·9							
E	LOW							

2 hrs after meal

L	HIGH							
U	3·9 - 6·9							
N	LOW							

2 hrs after meal

T	HIGH							
E	3·9 - 6·9							
A	LOW							

2 hrs after meal

S	HIGH							
U	3·9 - 6·9							
P	LOW							

2 hrs after meal

00:00 - 01:00

7d Avg BG

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 14	Insulin	CIR	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	Type	(g/U)							
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									7d Avg BG
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 21

Daily Blood Glucose Results

WT 15

Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B		/	/	/	/	/	/	/
B		/	/	/	/	/	/	/
L		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
S		/	/	/	/	/	/	/

03:00 - 04:00

B HIGH
R 3·9 - 6·9
E LOW

2 hrs after meal

L HIGH
U 3·9 - 6·9
N LOW

2 hrs after meal

T HIGH
E 3·9 - 6·9
A LOW

2 hrs after meal

S HIGH
U 3·9 - 6·9
P LOW

2 hrs after meal

00:00 - 01:00

7d Avg BG

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 16	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			//	//	//	//	//	//
B			//	//	//	//	//	//	//
L			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
T			//	//	//	//	//	//	//
S			//	//	//	//	//	//	//
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 23

Daily Blood Glucose Results

W17	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

24 3 LOW or HIGH results at the same time of day means CHANGE IS NEEDED NOW!

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 18	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 25

Daily Blood Glucose Results

W19

Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B		/	/	/	/	/	/	/
B		/	/	/	/	/	/	/
L		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
S		/	/	/	/	/	/	/

03:00 - 04:00

B	HIGH							
R	3·9 - 6·9							
E	LOW							

2 hrs after meal

L	HIGH							
U	3·9 - 6·9							
N	LOW							

2 hrs after meal

T	HIGH							
E	3·9 - 6·9							
A	LOW							

2 hrs after meal

S	HIGH							
U	3·9 - 6·9							
P	LOW							

2 hrs after meal

00:00 - 01:00								
---------------	--	--	--	--	--	--	--	--

7d Avg BG

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 20	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	B			/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
								7d Avg BG	
00:00 - 01:00									

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 27

Daily Blood Glucose Results

W 21	Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00								7d Avg BG	

Divide Carbohydrate eaten (grams) by Carb:Insulin Ratio to give Carbohydrate Dose.

W 22	Insulin	CIR	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	Type	(g/U)							
B			/	/	/	/	/	/	/
B			/	/	/	/	/	/	/
L			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
T			/	/	/	/	/	/	/
S			/	/	/	/	/	/	/
03:00 - 04:00									
B	HIGH								
R	3·9 - 6·9								
E	LOW								
2 hrs after meal									
L	HIGH								
U	3·9 - 6·9								
N	LOW								
2 hrs after meal									
T	HIGH								
E	3·9 - 6·9								
A	LOW								
2 hrs after meal									
S	HIGH								
U	3·9 - 6·9								
P	LOW								
2 hrs after meal									
00:00 - 01:00									
								7d Avg BG	

Each week record meter 7-Day Average Blood Glucose. Target = UNDER 8 mmol/l 29

Daily Blood Glucose Results

W23

Insulin Type	CIR (g/U)	Mon	Tue	Wed	Thu	Fri	Sat	Sun
B		/	/	/	/	/	/	/
B		/	/	/	/	/	/	/
L		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
T		/	/	/	/	/	/	/
S		/	/	/	/	/	/	/

03:00 - 04:00

B	HIGH							
R	3·9 - 6·9							
E	LOW							

2 hrs after meal

L	HIGH							
U	3·9 - 6·9							
N	LOW							

2 hrs after meal

T	HIGH							
E	3·9 - 6·9							
A	LOW							

2 hrs after meal

S	HIGH							
U	3·9 - 6·9							
P	LOW							

2 hrs after meal

00:00 - 01:00

7d Avg BG

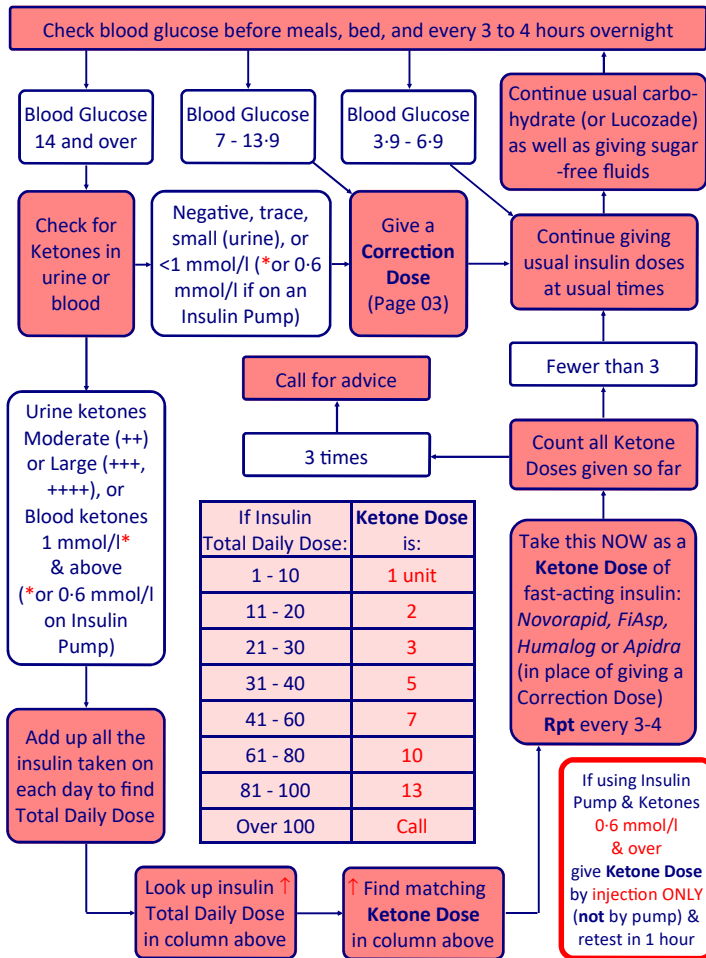
Hypoglycaemia

- means “low blood glucose”, and refers to a blood glucose of 3.8 mmol/l or lower.
- severity is graded by seeing what symptoms occur when the blood glucose falls.
- causes include delayed meals and snacks, taking too much or the wrong type of insulin, or taking a dose at the wrong time. Extra exercise, or vomiting and diarrhoea (with poor carbohydrate absorption) can also cause hypoglycaemia.
- is best treated with glucose (such as in Lucozade® Original or Dextrose tablets), as this is absorbed more quickly than other forms of simple carbohydrate. The fat in chocolate delays sugar absorption, so this is *not* a good hypo treatment.
- should be treated with fast acting glucose at first, and 15 minutes should pass before giving starchy carbohydrate or this will delay the absorption of glucose.
- if severe, may cause drowsiness, or rarely a fit (convulsion or seizure), and is treated with a glucagon injection into the front of the thigh muscle.

Severity	Symptoms	Treatment																				
Mild	<ul style="list-style-type: none"> ● Shaky. ● Dizzy. ● Hungry. ● Feeling Sick. ● Stomach Ache. ● Headache. ● Pallor. ● Mood Swings. ● “Jelly”/Tired Legs. ● Lack of Concentration. <p><i>See other Young People's Diabetes Service materials for more Best Ideas on How to Treat Hypos!</i></p>	<ul style="list-style-type: none"> ● Give 5, 10 or 15 g fast-acting carbohydrate as below: <table border="1"> <thead> <tr> <th>Body Wt (kg)</th> <th>10 - 19.9</th> <th>20 - 34.9</th> <th>35 - 49.9</th> </tr> </thead> <tbody> <tr> <td><i>Lucozade</i></td> <td>60 ml (5g)</td> <td>120 ml (10g)</td> <td>180 ml (15g)</td> </tr> <tr> <td><i>Cola</i></td> <td>50 ml</td> <td>100 ml</td> <td>150 ml</td> </tr> <tr> <td><i>Glucotab</i></td> <td>1 tab</td> <td>3 tabs</td> <td>4 tabs</td> </tr> <tr> <td><i>Glucogel</i></td> <td>½ tube</td> <td>1 tube</td> <td>1½ tubes</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Repeat every 15 mins until BG over 3.9 mmol/l. ● If blood glucose risen to 4 mmol/l or higher give STARCHY CARBOHYDRATE such as: <ul style="list-style-type: none"> ● digestive biscuit. ● small sandwich. ● snack or meal (if due). 	Body Wt (kg)	10 - 19.9	20 - 34.9	35 - 49.9	<i>Lucozade</i>	60 ml (5g)	120 ml (10g)	180 ml (15g)	<i>Cola</i>	50 ml	100 ml	150 ml	<i>Glucotab</i>	1 tab	3 tabs	4 tabs	<i>Glucogel</i>	½ tube	1 tube	1½ tubes
Body Wt (kg)	10 - 19.9	20 - 34.9	35 - 49.9																			
<i>Lucozade</i>	60 ml (5g)	120 ml (10g)	180 ml (15g)																			
<i>Cola</i>	50 ml	100 ml	150 ml																			
<i>Glucotab</i>	1 tab	3 tabs	4 tabs																			
<i>Glucogel</i>	½ tube	1 tube	1½ tubes																			
Moderate	<ul style="list-style-type: none"> ● Same as above, <i>however</i> ● Slightly more confused. ● Dizziness. ● Unable to treat self. ● Too confused to eat/drink. ● Slurred speech. ● Unsteady on feet. 	<ul style="list-style-type: none"> ● Treat as for Mild hypoglycaemia, but consider using Glucogel as fast-acting carbohydrate, instead of Glucose tablets, Lucozade® Original or non-diet drink. ● Do not use Glucogel if person unable to swallow. 																				
Severe	<ul style="list-style-type: none"> ● Not able to eat/drink. ● Sleepy/Unconscious. ● May be fitting. 	<ul style="list-style-type: none"> ● Glucagen glucagon injection into the large, front-facing muscle of the thigh. ● Call 999 if no or slow response to treatment. 																				

Ketone Dose: What to do if unwell or blood glucose over 14

More details on ketones and illness found in "My Health Record", Page 123 of the Information Section



Call for advice if:

1. requiring **3 or more Ketone Doses** in a row.
2. **vomiting persists.**
3. child **looks ill** (sleepy, dry mouth, sunken eyes).

OR YOU ARE WORRIED FOR ANY REASON

* Ketones are *very dangerous* & **must** be dealt with as quickly as possible.