

Patient Advice Sheet – Optimising glycaemic control

MAKING CHANGES TO INSULIN DOSES - TEN TOP TIPS

SETTING *Thames Valley Paediatric Diabetes Network
Buckinghamshire Healthcare NHS Trust*

PATIENTS Children with diabetes and their families



GUIDANCE

To keep blood glucose (BG) levels within range while you/your child grows, you will need to change insulin doses between clinic visits. These tips help you to know what to do and when.

1. BG level targets:
 - 4-7 mmol/L first thing in the morning and before meals**
 - 5-9 mmol/L 2 hours post meal**
2. Each week download and review your glucose profile. Compare the glucose readings to the target levels, to help you recognise where changes in insulin doses are needed. (www.diasend.com and/or LibreView and/or <https://clarity.dexcom.eu>)
3. Know you/your child's insulin to carbohydrate ratio (ICR) and insulin sensitivity factor/correction factor. If you don't know, check the insulin settings of your app and/or contact your team.
4. Please consider the following before changing insulin doses:
 - a) Reduce snacks between meals and before bed
 - For under 5yrs – 3 meals and 2 snacks per day
 - For over 5yrs – 3 meals, optional: 1 snack per day
 - b) Always give insulin before meals and snacks
 - c) If you/your child exercises daily, it may be that unstable glucose levels are due to exercise induced hypoglycaemia and/or over correction of hypos
 - d) During illness, insulin requirements may increase
 - e) Avoid lumpy injection/cannula sites
 - f) Consider whether you are suspending the pump or using temporary basal rates to manage high and low glucose levels. *Check with your team how to use temporary basal rates.*
5. Between meals, if checking glucose levels please put them into your app/meter/pump and give a correction if advised.

6. If blood glucose levels are high in the mornings (more than 7.0 for 3 days or more in the week), and these are not because of high levels before bed or snacks before bed, increase Lantus/Tresiba/Levemir or overnight basal rates.
 - a. If you/your child has less than 10 units Lantus/Tresiba/Levemir, increase by $\frac{1}{2}$ unit each time if you have a $\frac{1}{2}$ unit pen, by 1 unit if you don't.
 - b. If you/your child has 10-19 units, increase by 1 unit at a time.
 - c. If you/your child has more than 20 units, increase by 2 units at a time.
 - d. On a pump Basal rates can go up overnight by 0.025 - 0.1 units per hour at the relevant time block. E.g. If the levels are high at 4-5am, increase the basal from 3-4am. Consider basal testing (ask your diabetes team for more information)

7. Look for patterns of 3 or more episodes of high and/or low glucose levels then increase or decrease insulin doses accordingly, as below:
 - a) If you/your child has high blood glucose levels for 3 or more days before a particular meal, first consider any snacks that might be eaten without insulin. If no snacks have been eaten, increase the insulin dose for the meal BEFORE the high levels happened, e.g. if the glucose level is high at lunch time, alter the breakfast ICR so that you/your child receive more insulin.
 - b) If you/your child has low blood glucose levels for 3 or more days before a particular meal, first consider any snacks eaten with insulin before the meal, the ICR might need to be changed for the snack. Then consider whether you/your child were exercising before the meal, if so the insulin may need to be adjusted during the exercise. If not eating snacks or exercising before a meal, try reducing the insulin dose for the meal BEFORE the low levels happened, e.g. if the glucose level is low at lunch time, alter the breakfast ICR so that they receive less insulin.

8. How to change insulin to carbohydrate ratios (ICR)
 - Weakening the ICR reduces the insulin dose with a meal
 - Strengthening the ICR increases the insulin dose with a meal
 - a) If the blood glucose levels have been HIGH before dinner, STRENGTHEN the ICR by 2g for lunch, e.g. If the ratio was 1 unit of insulin for every 10g carbohydrate then change to 1 unit for every 8g carbohydrate.
 - b) If blood glucose levels are LOW before lunch, WEAKEN the ICR by 2g for breakfast, e.g. if the ratio was 1 unit for every 12g carbohydrate, then change to 1 unit for 14g carbohydrate.
 - c) If blood glucose levels are high before bed, increase the evening meal dose in the same way. If blood glucose levels are low before bed, decrease the evening meal dose in the same way.

9. Following changes to insulin doses, review the blood glucose levels after 3-5 days before making further changes.

10. **If you are not sure what to change, or would like to discuss any of the tips, contact your team for support and guidance**

Members of the Buckinghamshire Children's Diabetes Team

Wycombe Hospital Team 01494 426491

Dr Michelle Russell Taylor-Consultant Paediatrician
Kausar Hassan –Paediatric Diabetes Specialist Nurse
Janice Furneaux-Paediatric Diabetes Specialist Nurse
Gemma Rouse- Paediatric Diabetes Specialist Nurse
Andrea Young- Dietician

Stoke Mandeville Hospital Team 01296 316418

Dr Atanu Dutta- Consultant Paediatrician
Michelle Parker-Paediatric Diabetes Specialist Nurse
Flavia Marcus-Paediatric Diabetes Specialist Nurse
Gemma Rouse- Paediatric Diabetes Specialist Nurse
Andrea Young-Dietician

Dr Shelagh Watts-Consultant Clinical Psychologist (Both Sites)

buc-tr.paedsdiabetes@nhs.net Team email to use for non-urgent contact

EMERGENCIES- For advice regarding an unwell child or if recently diagnosed with diabetes

From 7am- 10pm call:-

Wycombe Patients 07876790954

Stoke Mandeville Patients 07876578515

After 10pm call 01296 315145/6 (Stoke Mandeville Hospital -Ward 3 the Children's ward) to explain your concerns and then they will speak to the Paediatric Registrar on call who will call back to advise you.

If unable to contact anyone go to your nearest A&E (Stoke Mandeville Hospital if travelling from home or local area). **There is no A&E at Wycombe Hospital**

How can I help reduce healthcare associated infections?

Infection prevention and control is important to the well-being of our patients and for that reason we have infection prevention and control procedures in place. Keeping your hands clean is an effective way of preventing the spread of infections. We ask that you, and anyone visiting you, use the hand sanitiser available at the entrance to every ward before coming in to and after leaving the ward. In some situations hands may need to be washed at the sink using soap and water rather than using the hand sanitiser as hand sanitisers are not suitable for use when dealing with patients who have symptoms of diarrhoea.

www.buckshealthcare.nhs.uk
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Patient Advice Sheet

If you would like a copy of this information on audiotape, **in large print** or translated, please call the Patient Advice Liaison Service on 01296 316042 or email bht.pals@nhs.net

Legal Notice

Please remember that this leaflet is intended as general information only. We aim to make the information as up to date and accurate as possible, but please note that it is subject to change. Please therefore always check specific advice on any concerns you may have with your doctor.

Approvals:
Paediatric Information and Guidelines Group – 2nd September 2021
Paediatric Clinical Governance – 14th September 2021
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