Sick Day Guidance

The next few pages outline what to do on days when your child is unwell, referred to as "Sick Days".

Important points:

- Illness may cause high or low blood glucose levels:
- Fever usually causes high blood glucose levels.
- Gastroenteritis (diarrhoea and vomiting) can cause low blood glucose levels.

Treat the illness. Your child's illness must be diagnosed and treated in the same way as a child who doesn't have diabetes. Contact your family doctor (GP) if concerned. State that your child has diabetes and request a same day or urgent appointment.

Vomiting may be caused by a lack of insulin. Make sure you check your child's blood glucose and blood ketones.

What are ketones?

Ketones are released into the blood stream when the body starts to use fat tissue as its energy source.

The body will do this when:

1. It cannot get energy from food e.g. fasting or vomiting – these are called 'starvation ketones'
2. There is not enough insulin to transport the glucose into the cells. If left untreated this will lead to 'diabetic ketoacidosis'.

Ketones should be checked for during any illness using a blood ketone meter.

If left untreated ketones will cause diabetic ketoacidosis.

If any of the following symptoms are present you must seek medical advice urgently:

- Persistent vomiting
- Dry mouth and passing less urine
- Abdominal pain
- Drowsy unresponsive child
- Strong smell of 'pear drops' on the breath
- Deep panting breathing

Your child could become very sick with diabetic ketoacidosis (DKA) if high blood glucose levels are not treated.

What do I need for sick days?

1. **Rapid acting insulin** – for example Novorapid or Humalog. You may need extra doses of rapid acting insulin to get your child's blood glucose down from a high level.
2. **Blood ketone meter** – Make sure you know how to use it and that you always have spare strips.
3. **Hypoglycaemia remedy** – For example, glucogel, glucose tablets, Lucozade.

When your child is unwell, please refer to these six "Sick day rules"

Rule 1: Monitor your child's blood glucose level. Check the blood glucose level more often: every hour, if necessary.

Rule 2: Test for ketones. Check for ketones if the blood glucose is above 14mmol/l (up to every 2 hours). Levels above 0.6mmol/l can mean that the diabetes is getting out of control. If in doubt, **phone us for advice.**

Rule 3: Drink plenty. Encourage your child to drink more fluids. High blood glucose readings lead to dehydration as a result of passing more urine. Extra fluids help clear ketones. Try to get your child to drink 1/2 to one cup of fluid per hour in small amounts (avoid carbonated drinks).

a. If blood glucose is more than 7mmol/l, drink sugar-free drinks or water.

b. If blood glucose is less than 7mmol/l, also drink liquids containing carbohydrates (milk or sugary juice).

Rule 4: Keep taking carbohydrates. Try to make sure your child eats as normal a diet as possible. **Telephone us for advice if you are finding this difficult.**

What if my child has a poor appetite?

Try offering small and frequent snacks of food and drinks containing carbohydrates and keep monitoring your child's blood glucose.

What if my child is refusing to eat?

If your child can drink, give them frequent sips of sugary drinks and keep watching their blood glucose.

What if my child is vomiting?

Remember **this may be a symptom of DKA** so be sure to check your child's ketones if blood glucose is above 14mmol/l. Your child may need extra insulin. If their glucose level is less than 4 and you can't get your child to eat anything **you will need to go to hospital**.

Rule 5: Never stop insulin completely. Usually extra insulin is required. Some insulin is always required to 'switch off' ketones, however, if your child's blood glucose levels are low, less insulin may be needed. If a meal is missed and no carbohydrates are taken, then no fast acting insulin will be required at that point if the blood glucose is in the target range. If in doubt, call us for help.

When should my child get their insulin and how much insulin?

Use the table on the next page. Give your child their insulin at the usual times. Your child may also need to have **extra doses of rapid acting insulin** at other times depending on the blood glucose level. The best way to know how much insulin is needed is to keep records from a previous similar illness and to know what insulin dose worked then. You may need to give your child another rapid insulin dose later, but wait for at least three hours before doing this.

What to do with glucose and ketone results on sick days (Check every 2 hours while unwell)		
Blood Glucose (mmol/l)	Ketones on **blood** test (mmol/l)	What to do
Less than 4mmol/L		Treat as a HYPO. Once blood glucose greater than 4mmol/L, give insulin as above. If unsure, phone for advice.
Between 4 and 7mmol/l (in target range)		Do not give extra insulin. If your child has a vomiting and/or diarrhoeal illness, they may need a reduction in the normal insulin dose to be given. **If unsure, phone for advice.**
Between 7 and 14 mmol/l		Give the usual doses of insulin you are familiar with using on a day to day basis. Remember to give a **correction** dose in the usual way.
More than 14 mmol/l	Below 0.6	Give a **Correction** dose of rapid acting insulin – using your usual correction factor-this should be documented in your diary.
More than 14 mmol/l	Above 0.6 but below 1.5	Give a dose of rapid acting insulin. This should be 10% of your total daily dose (TDD)* **The TDD should be written on the back of your diary.**
	Above 1.5	Give a dose of rapid acting insulin. This should be 20% of your total daily dose (TDD). **The TDD should be written on the back of your diary.** If the ketone level stays above 1.5 you will need to bring your child to hospital (contact the diabetes team or Ward 1A – see contacts section)

*Total Daily Dose (TDD) is calculated by adding together ALL daily insulin doses (rapid acting, e.g.Novorapid and long acting e.g.Levemir/Lantus)

Rule 6: telephone for advice.

Please feel free to call us for advice at any time. In particular, we would expect you to always call for advice, or go directly to hospital if:

- Vomiting persists
- You have given 3 or more correction doses for high ketones
- You are unable to keep blood glucose level above 4mmol/l
- You are unable to get blood glucose below 14mmol/l despite extra insulin
- Your child is becoming more unwell;
- You are worried or exhausted
- Your child is very young
- You are unable to get ketone levels below 1.5 mmol/l
- You don't know what to do next
- Your child has any symptoms of DKA.

Do not leave things too late before calling for help

Food

If your child is ill and the blood glucose level is high do not try to control it by not eating. Even if they do not feel like eating their body still needs the energy from carbohydrates.

Try replacing foods with sugary drinks or plain foods. Giving small amounts frequently may be better especially during vomiting illnesses.

Your child will need extra fluids, especially if they have a high temperature or ketones to prevent dehydration and flush out ketones.

To encourage young children to drink the use of straws and novelty cups may help.

Suggestions for diet and fluids whilst your child is unwell

Instead of eating full meals and snacks try and encourage your child to have small amounts of sugary food every 30-60 minutes. The examples below often work well especially with younger children.

- 100ml of 'flat' sugary cola, fanta, lemonade
- 60ml of 'flat' Lucozade
- 110ml natural fruit juice
- 3 dextrose tablets
- 3 sweets e.g. fruit pastilles
- 1/3 carton Ribena
- Small ice lolly
- Plain biscuit e.g. Digestive, Rich Tea or Hob Nobs
- Toast