

Patient Advice Sheet

# SICK DAY RULES FOR CHILDREN AND YOUNG PEOPLE WITH DIABETES



<b>SETTING</b>	<i>Thames Valley Paediatric Diabetes Network &amp; Buckinghamshire Healthcare NHS Trust</i>
<b>PATIENTS</b>	Children with diabetes and their families

Sickness is an unavoidable part of everyday life. When you are ill your body needs more energy to fight the infection. The body's natural response to illness results in higher blood glucose levels due to the release of stress hormones and release of glucose from your body's stores. As a result, blood glucose tends to go up even when not eating. During illness, you will need frequent blood glucose monitoring and often more insulin than usual.

If you do not give enough insulin then your body cannot use the extra glucose so it will start to break down fat for energy. When fat is broken down, this produces ketones.

## **KETONES ARE VERY DANGEROUS.**

Ketones are acids which can make you feel very sick, you might vomit or feel breathless. If you do not get rid of the ketones, you can become dehydrated and eventually become extremely unwell and need urgent hospital treatment if you develop diabetic ketoacidosis (DKA).

**Ketones can still be produced when you are ill even when your blood glucose is low.**

**Therefore:**

**Never stop your insulin even if you are not eating**

**Always check for ketones if you feel unwell regardless of your blood glucose level**

**Inform your DIABETES Team of the Illness**

## **Sick Day Rules**

1. Never stop insulin. Even if you are eating less than normal, your body needs insulin to use glucose and to get rid of ketones.
2. Check your blood glucose more frequently. For example, every 2 hours in the night.
3. Check for blood ketones. Give additional fast acting insulin every 2 hours if blood glucose is above target. (Table 1)
4. Keep well hydrated by drinking plenty of fluids.
  - a. Water, or sugar free fluids are most appropriate in the majority of cases where blood glucose is normal or high
  - b. Drinks containing sugar may be required if blood glucose levels are low and eat carbohydrates where possible
  - c. Avoid carbonated drinks
5. Inform the diabetes team early for advice

## **Using sick day rules for pump patients**

1. The same principles apply for pump patients with regards to glucose testing and fluid intake.
2. In addition, even if unwell and blood glucose are high, standard checks on the pump should be made for occlusions, disconnection and battery failure.
3. Give correction doses through the pump if blood ketone levels are less than 0.6mmol/l. if one correction dose given via the pump has no effect in 1 hour, repeat the correction dose with insulin pen.
4. If blood ketones are higher than 0.6mmol/l, give additional fast acting insulin using an insulin pen.
5. When blood glucose levels are rising in an unwell child needing frequent additional insulin doses, think about using higher temporary basal rates.

**Table 1**

Negative Ketones less than 0.6mmol/l (Blood)	Small to moderate ketones 0.6 – 1.5mmol/l (Blood)	Moderate to large ketones more than 1.5mmol/l (Blood)																																												
<p>Take a correction dose (CD) to correct high blood glucose (BG) in addition to normal bolus for carbohydrates eaten</p>	<p>Give Novorapid with insulin pen (see table below)</p> <table border="1" data-bbox="607 531 1010 1003"> <thead> <tr> <th colspan="2">EXTRA INSULIN</th> </tr> <tr> <th>Weight (Kgs)</th> <th>NovoRapid dose (units)</th> </tr> </thead> <tbody> <tr><td>10</td><td>1</td></tr> <tr><td>20</td><td>2</td></tr> <tr><td>30</td><td>3</td></tr> <tr><td>40</td><td>4</td></tr> <tr><td>50</td><td>5</td></tr> <tr><td>60</td><td>6</td></tr> <tr><td>70</td><td>7</td></tr> <tr><td>80</td><td>7</td></tr> <tr><td>90</td><td>9</td></tr> </tbody> </table>	EXTRA INSULIN		Weight (Kgs)	NovoRapid dose (units)	10	1	20	2	30	3	40	4	50	5	60	6	70	7	80	7	90	9	<p>Give Novorapid with insulin pen (see table below)</p> <table border="1" data-bbox="1062 531 1464 1003"> <thead> <tr> <th colspan="2">EXTRA INSULIN</th> </tr> <tr> <th>Weight (Kgs)</th> <th>NovoRapid dose (units)</th> </tr> </thead> <tbody> <tr><td>10</td><td>2</td></tr> <tr><td>20</td><td>4</td></tr> <tr><td>30</td><td>6</td></tr> <tr><td>40</td><td>8</td></tr> <tr><td>50</td><td>10</td></tr> <tr><td>60</td><td>12</td></tr> <tr><td>70</td><td>14</td></tr> <tr><td>80</td><td>16</td></tr> <tr><td>90</td><td>18</td></tr> </tbody> </table>	EXTRA INSULIN		Weight (Kgs)	NovoRapid dose (units)	10	2	20	4	30	6	40	8	50	10	60	12	70	14	80	16	90	18
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<p>Re -check BG and ketones in two hours</p>	<ul style="list-style-type: none"> <li>- Monitor fluid intake and ensure you are drinking enough fluids to keep well-hydrated</li> <li>- Re-check BG and ketones in two hours (See below)</li> </ul>	<ul style="list-style-type: none"> <li>- Monitor fluid intake and ensure you are drinking enough fluids to keep well-hydrated</li> <li>- Re-check BG &amp; ketones in two hours (see below)</li> </ul>																																												
<p>If your BG is going down that is a good sign but monitor closely throughout the day.</p> <p>If BG is increasing but ketones less than 0.6 mmol/l:</p> <ul style="list-style-type: none"> <li>- Take another correction dose using a pen</li> <li>- If ketones 0.6 – 1.5mmol/l, follow orange column advice</li> <li>- If ketones more than 1.5mmol/l, follow the red column advice</li> </ul>	<p>If ketones negative follow green column advice</p> <p>If BG is increasing but ketones still 0.6 – 1.5mmol/l:</p> <ul style="list-style-type: none"> <li>- Continue to give 0.1 Units/kg as additional fast acting insulin every 2 hours using a pen</li> <li>- Give usual boluses for food</li> <li>- Re-check BG and ketones every 2 hours even through the night</li> <li>- If ketones increase to more than 1.5mmol/l, follow the red column advice</li> </ul>	<p>If ketones negative follow green column advice</p> <p>If BG is increasing but ketones have reduced to 0.6 – 1.5mmol/l, follow orange column advice</p> <p>If ketones are still more than 1.5mmol/l:</p> <ul style="list-style-type: none"> <li>- Give another 20% TDS or 0.2units/kg as additional fast acting insulin every 2 hours using a pen</li> <li>- Give usual boluses for food</li> </ul>																																												

**CONTACT TEAM IF:**

- **Increasingly unwell**
- **Ketones more than 1.5 or persist for more than 6 hours**
- **Vomits more than twice**
- **You have to give a second extra dose of insulin**
- **Unable to maintain Blood Glucose above 4**
- **Worried for any reason**

**For Urgent Issues from 7am-10pm**  
**078 7679 0954 (Wycombe Hospital patients)**  
**078 7657 8515 (Stoke Mandeville Hospital patients)**

**Do not leave text messages on these numbers as the phone is not set up to receive them.**

**After 10pm call 01296 315145 (Ward 3 SMH) and give your details to the nurse in charge - they will need to call you back after speaking to the Paediatric Registrar on call.**

**If you are unable to contact anyone or if your child is very unwell, take your child to the nearest A&E Department.**