

# Sick Day Management

## Sick Day Management

When a child or adolescent with diabetes is unwell it is important to monitor their blood glucose level (BGL) more regularly. This will enable you to closely monitor the individual's condition as they can run the risk of developing acute complications such as:

- Dehydration
- Hypoglycaemia including severe hypoglycaemia
- Hyperglycaemia
- Ketoacidosis (high levels of sugar and ketones in the blood)

## Nausea/Vomiting

If your child is experiencing an illness with nausea, vomiting or diarrhoea, their BGL's might be low. The BGL's may be low because your child's appetite is often decreased, and the carbohydrate is not being absorbed due to vomiting.

## Viral Illnesses/Infections

High BGL's are more common in viral illnesses with fever (e.g., a bad cold, tonsillitis or ear infection). BGL's rise as stress hormones are released to help the body cope with the illness. Their normal insulin doses may not work as well. BGL's will often still be high even if the child's appetite is poor because the liver continues to release glucose.

## What action should I take if my child is unwell?

- **INSULIN MUST ALWAYS BE GIVEN** but the dose may change. Ensure BGL is above 4mmol/L before administering their dose of insulin.
- Seek medical advice from your GP if there is a risk of infection or viral illness as this can cause BGLs to rise due to the stress response of the body.
- Monitor BGL/sensor glucose (SG) levels 1-2 hourly. Confirm hypos with a BGL check.
- Monitor their blood ketone levels every 2 – 4 hours.
- Keep your child hydrated by giving them a least 1 glass of water per hour (minimum 100ml/hr)
- Make sure you are familiar with signs of ketone development and have glucagon on hand (if required).

# Sick Day Management Plan

BGL	Blood Ketones	Action Plan
<b>3.9 mmol/L and below</b> <b>Hypoglycaemia</b>	<b>Less than 1.0mmol/L</b> <b>(Negative)</b>	<ul style="list-style-type: none"> <li>➤ Treat Hypoglycaemia.</li> <li>➤ Withhold insulin until BGL above 4.0mmol/L.</li> <li>➤ Once BGL above 4.0mmol/L give usual insulin.</li> </ul>
<b>3.9 mmol/L and below</b> <b>Hypoglycaemia</b>	<b>Greater than 1.0mmol/L</b> <b>(Positive)</b>	<ul style="list-style-type: none"> <li>➤ Treat hypoglycaemia.</li> <li>➤ When BGL above 4.0mmol/L give rapid insulin (consider a decreased dose if appetite reduced or vomiting).</li> <li>➤ Recheck BGL in 1 hour and ketones in 2 hours (ketones may clear on their own).</li> <li>➤ If ketones remain greater than 1mmol/L or child has significant vomiting, please present to the Emergency Department (ED) for assessment.</li> <li>➤ If ketones are decreasing and/or less than 1mmol/L- continue to follow this plan for additional insulin doses based on BGL/ketone level.</li> </ul>
<b>Between 4.0mmol/L- 15.0mmol/L</b>	<b>Less than 1.0mmol/L</b> <b>(Negative)</b>	<ul style="list-style-type: none"> <li>➤ No change to insulin doses or consider correctional dose of insulin (flexible dosing) if BGL above target value.</li> <li>➤ Encourage fluids ie water 1-2 glasses per hour.</li> <li>➤ Recheck BGL and ketones in 2 hours.</li> </ul>
<b>Between 4.0mmol/L- 15.0mmol/L</b>	<b>Greater than 1.0mmol/L</b> <b>(Positive)</b>	<ul style="list-style-type: none"> <li>➤ Encourage water 1-2 glasses per hour</li> <li>➤ Consider extra 10% Total Daily Dose (*TDD) of short acting insulin</li> <li>➤ Recheck BGL 1-2 hours and ketones again in 2 hours.</li> <li>➤ If ketones remain greater than 1mmol/L or child has significant vomiting, present to the Emergency Department (ED) for assessment.</li> <li>➤ If ketones are decreasing and/or less than 1mmol/L- continue to follow this plan for additional insulin doses based on BGL/ketone level.</li> </ul>
<b>Greater than 15mmol/L</b>	<b>Less than 1.0mmol/L</b> <b>(Negative)</b>	<ul style="list-style-type: none"> <li>➤ Encourage fluids ie water 1-2 glasses per hour</li> <li>➤ Recheck BGL and ketones in 2 hours</li> <li>➤ Ensure insulin doses given and supervised.</li> <li>➤ Consider correctional dose of insulin (flexible dosing)</li> </ul>
<b>Greater than 15mmol/L</b>	<b>Greater than 1.0mmol/L</b> <b>(Positive)</b>	<ul style="list-style-type: none"> <li>➤ Give extra 10-20% TDD of short acting insulin</li> <li>➤ Encourage fluids 1-2 glasses per hour.</li> <li>➤ Recheck BGL and ketones in 2 hours</li> <li>➤ If ketones remain greater than 1mmol/L or child has significant vomiting, present to the Emergency Department (ED) for assessment.</li> <li>➤ If ketones are decreasing and/or less than 1mmol/L- continue to follow this plan for additional insulin doses based on BGL/ketone level.</li> </ul>

## **\*\*Please Remember\*\***

- Do not inject dose of insulin if previous dose was given <2 hours prior. This can lead to stacking of insulin and cause hypoglycaemia.
- Note to calculate Total Daily Dose (TDD) of insulin, add all insulin doses together over a 24 hour period. Eg. 5 units breakfast + 5 units lunch + 5 units dinner + 10 units long acting insulin = 25 units  
**TDD (10% = 2.5 units)**