

# 'Sick Day Management'

## Information for Parents & Carers

Young people with well controlled diabetes are at no greater risk of getting sick with infections or illnesses than someone without diabetes. However, when they do get sick, much greater care and attention is necessary to ensure their diabetes does not become unstable.

An illness, even a simple cold or flu, can affect diabetes control. Blood glucose levels rise as stress hormones are released in response to the illness. These hormones also have an 'anti-insulin' effect, so the insulin is less effective (this is called insulin resistance).

If, during an illness, high blood glucose levels remain untreated, ketones will develop in the blood (and can be found in the blood and urine when tested). The presence of ketones increases the risk of developing diabetic ketoacidosis (DKA).

### What is Diabetic Ketoacidosis (DKA)?

Ketoacidosis is a very serious illness that occurs when the blood glucose and blood ketone levels are high. Ketoacidosis always results in a hospital admission and if severe enough, can be life threatening. The good news is that DKA can be prevented by following the steps below:

### If sick with high BGL's & Ketones

To prevent Diabetic Ketoacidosis (DKA):

- Contact the diabetes doctor or educator
- Ensure extra insulin is given. Usually extra doses equal to 10-20% of the total daily insulin dose eg. Total daily dose = 50 units then give 5 to 10 units of rapid or short acting insulin.
- Several extra insulin doses may be needed to lower the BGL's and clear the ketones.

### Sick Day Action Plan

You can find a 'Sick Day Action Plan' on the last page of this Fact Sheet. The principles of a sick day plan are as follows. Your teenager should:

- **Never** stop insulin injections under any circumstances
- If unable to eat a normal diet, then change to the 'emergency' diet (glucose based fluids)
- Drink extra fluids. Drink water if the BGL are high
- Increase BG testing to every 1- 2 hours
- Test blood or urine for ketones (at least every 2 hours)
- If the BGL's are above 15 mmol/L with ketones present in the blood or urine, contact the diabetes doctor or educator as extra insulin is needed immediately
- If extra insulin is needed then rapid or short acting insulin is usually given
- Give less insulin if vomiting but **never** stop the insulin
- Keep in contact with the diabetes team during illness.

- **If on an Insulin Pump**

Insulin pumps allow insulin adjustments to be made quickly and easily. The key to controlling diabetes during illness is to perform frequent blood glucose tests. In addition to the steps above you will need to **consider** the following.

**If BGL's are normal or low**

A temporary basal rate so that less basal insulin than usual is given e.g. setting a temporary basal rate at 50% so that only half of the normal basal insulin is given. Bolus insulin may not be needed unless the BGL goes above 15 mmol/L. If having trouble keeping the BGL above 4 mmol/L, the pump may need to be stopped for a short period of time.

**Never stop the pump for longer than 2 hours.** The BGL's should be tested every hour and contact the diabetes educator or doctor if you can't maintain the BGL above 4 mmol/L.

**Note:** Even if not eating insulin is still needed.

**If the BGL's are above 15 mmol/L**

A correction bolus should be given any time the BGL is above 15 mmol/L. If ketones are present in the blood or urine, an increase in the correction bolus may be necessary. It is not uncommon that several extra correction boluses are needed during illness.

To maintain BGL's under 15 mmol/L an increase in the basal rate may also be needed (basal rates can be increased by as much as 200%). In some circumstances it may be necessary to increase both the correction bolus and the basal rate.

**Checking for ketones if BGL's above 15 mmol/L**

It is recommended that **blood** ketones be tested when using an insulin pump. If you don't have a monitor that checks blood ketones then test the urine for the presence of ketones. You must check for ketones whenever the BGL is above 15 mmol/L. If ketones are present then you should contact the diabetes doctor or educator immediately.

**If BGL's are not coming down**

If the BGL's are not coming down after increasing the insulin via the insulin pump, you need to check that the pump is working properly and delivering insulin. You need to take the following steps:

- Check that the last bolus was given. Give a correction bolus if last bolus was **not** given
- Check that there is insulin in the cartridge
- Check the tubing for leaks or kinks and the insertion site for leaking or redness.

If there is only a minimal change in the BGL or the BGL is going higher, then you can either:

- Change the insulin cartridge and re-site the infusion set. **Don't forget to prime the tubing (0.3 units of insulin).** Reconnect and give a correction bolus, **or**

- Give an injection of insulin with a syringe

Recheck BGL in 1 hour. If there is no improvement contact your doctor or diabetes educator for advice.

## Sick Day Action Plan For Your Young People with Diabetes

Illness	Action
<p><b>Unwell e.g. Infection, Fever, Flu symptoms</b></p>	<ul style="list-style-type: none"> <li>• <b>Insulin must never be stopped</b> (under any circumstances)</li> <li>• If on an insulin pump see additional information above.</li> <li>• Eat normal or 'emergency' diet</li> <li>• Ensure you drink extra fluids. If the BGL is high drink water or other 'sugar free' drinks.</li> <li>• Test your blood glucose levels regularly (testing may need to be increased to every 2 hours)</li> <li>• Test blood (or urine) for ketones (at least every 2 hours)</li> <li>• If the BGLs are above 15 mmol/L and ketones are in the blood (or urine), contact the diabetes team immediately.</li> <li>• You will need extra rapid (or short) acting insulin. Usually 10-20% of the total daily dose. (<b>See additional information above if on an insulin pump</b>)</li> <li>• Several extra injections (or boluses) of insulin may be needed during the illness.</li> <li>• Keep in touch with your diabetes team while you are unwell.</li> </ul>
<p><b>Vomiting &amp; or Diarrhoea</b></p>	<ul style="list-style-type: none"> <li>• <b>Never stop your insulin</b> (may need less if not eating)</li> <li>• If on an insulin pump see additional information above.</li> <li>• Eat normal or 'emergency' diet.</li> <li>• Ensure you drink extra fluids. If BGL's are low give fluid containing glucose.</li> <li>• Test blood glucose levels more frequently (may need to be increased to <b>hourly</b> if not eating)</li> <li>• Test blood (or urine) for ketones (at least every 2 hours)</li> <li>• If BGLs are normal or low and ketones are present in the blood (or urine), contact the diabetes team. If the ketones persist you may need to be admitted to hospital.</li> <li>• If unable to keep your blood glucose levels above 5 mmol/L, or if vomiting or diarrhoea is excessive, you may need to be admitted to hospital.</li> <li>• Keep in touch with the diabetes team while you are unwell</li> </ul>

For more information on Sick Day Management go to the Queensland Government Diabetes Care Website: Modules 6 & 7 : Sick Day Management & Ketoacidosis  
[www.workingwonders.com.au/rchsubsites/diabetes26042005/html/m\\_05..htm](http://www.workingwonders.com.au/rchsubsites/diabetes26042005/html/m_05..htm)

Visit the Sweet Transition website at [www.sweet.org.au](http://www.sweet.org.au)

