

# Guidelines for Managing Hyperglycemia

## (High Glucose Level)

Signs and Symptoms of Hyperglycemia (High Glucose Level)	
Onset	<ul style="list-style-type: none"> <li>Gradual (hours to days)</li> </ul>
Usual Causes	<ul style="list-style-type: none"> <li>Illness, infection, surgery, injury</li> <li>Stress: emotional or physical</li> <li>Too little insulin</li> <li>Increased food</li> <li>Exercise (in type 1) with blood glucose over 14 mmol/L</li> </ul>
Signs and Symptoms	<ul style="list-style-type: none"> <li>Thirst</li> <li>Excessive urination</li> <li>Fatigue</li> <li>Abdominal pain, nausea, vomiting</li> <li>Blurred vision</li> <li>Change in appetite</li> <li>Dry/itchy skin</li> <li>Slow healing cuts</li> <li>Hard to breathe / acetone breath</li> </ul>
Troubleshooting	<p><u>Infusion Set:</u></p> <ul style="list-style-type: none"> <li>Is the tubing primed? Is there air in the tubing?</li> <li>Is the cannula dislodged or kinked? Any leaks, can you smell insulin?</li> <li>Has the set been in longer than 2-3 days?</li> <li>Is the set connected to the cartridge?</li> <li>Is there discomfort, blood or redness at the site?</li> </ul> <p><u>Insulin Pump:</u></p> <ul style="list-style-type: none"> <li>Did you forget to bolus? Check Bolus History</li> <li>Any recent alarms?</li> <li>Is the cartridge empty?</li> <li>Did you forget to stop your temporary basal rate?</li> </ul> <p><u>Insulin</u></p> <ul style="list-style-type: none"> <li>Is the insulin cloudy or clumped?</li> <li>Has the insulin expired?</li> <li>Has the insulin been at room temperature for longer than one month?</li> <li>Did you leave the insulin in a warm place?</li> </ul>
Tips	<ul style="list-style-type: none"> <li>Insulin should always be taken!</li> <li>Drink plenty of extra carbohydrate-free fluids.</li> <li>Check glucose level and ketones before every meal and/or every four hours.</li> </ul>
Basal Adjustment	<ul style="list-style-type: none"> <li>Consider increasing basal rate by 10% for 4 hours using temporary basal.</li> <li>If effective after 4 hours, continue at this temporary basal rate.</li> <li>If not effective, increase your temporary basal rate by 20% and reassess in 4 hours.</li> <li>Be cautious about using an increased temporary basal rate overnight.</li> </ul>
Bolus Adjustment	<ul style="list-style-type: none"> <li>If glucose levels are still elevated with the increased temp basal, please consider taking 1.5x your current <b>calculated correction dose only (not the meal dose)</b>. e.g. If your calculated correction dose is 4 units 1.5x4 units = 6 units Take 6 units correction in addition to your meal insulin (if eating)</li> </ul>

# Flow Chart: Hyperglycemia Protocol for Insulin Pumps

If your glucose level is above 14 mmol/L, follow these steps:

## High Glucose Level No Ketones

Take correction dose with pump.  
Check if site and pump OK.  
Recheck glucose level in 1 hour.

Glucose level is decreasing.

Recheck glucose level before next meal. Take insulin as usual.

No change in glucose level.

Take insulin by syringe. \*

Change infusion set site or active new pod.

Recheck glucose level in 1 hour.

Contact doctor if no improvement in glucose level.

\* Your pump cannot track active insulin given via syringe. If you would like to track active insulin, disconnect pump or remove pod and use pump to calculate correction dose and deliver dose (discard in sink).

## High Glucose Level With Ketones

Use insulin from new vial and take by syringe using correction factor. \*

Change infusion set and site or active new pod. Check pump.

Drink 1 cup of water or sugar free beverages every hour.

Recheck glucose level and ketones every 2 hours.

Continue to take correction dose through the pump.

Contact doctor if no improvement in glucose level and ketones.

Go to the hospital if glucose level is  $>20\text{mmol/L}$  and you are experiencing abdominal pain, nausea, vomiting, or diarrhea.

**For technical problems with your pump, call the 24-hour Helpline**