Low Blood Sugar and Kidney Disease

Low blood sugars happen when your blood sugar level falls below 4.0 mmol/L. When you have kidney disease, this reaction can happen all of a sudden, and more often.

If you are used to having very high blood sugars, you may feel the signs of a low blood sugar at levels higher than 4 mmol/L. You should treat these like a low blood sugar.

**Causes of low blood sugar**

- eating less, skipping or delaying meals and snacks
- drinking alcohol on an empty stomach
- sudden changes in kidney or heart function
- taking too many diabetes pills or too much insulin
- being more active than usual
- recent weight loss

**Signs of low blood sugar**

Signs of low blood sugar are different for everyone. Your signs may change over time. Below are some signs that can mean your blood sugar is low:

- nervous, irritable, anxious
- shak[y, dizzy, lightheaded
- feel sick to your stomach
- sweaty, pale
- your heart beats faster
- confused
- tired, weak, or sleepy
- hungry
- tingling or numbness in your tongue or lips
- trouble speaking
- blurry vision
- headache
- act strangely
- restless sleep

If you have these signs often, talk to your doctor about a prescription for glucagon. Glucagon is a hormone made in the pancreas that increases blood sugars.

**Treating low blood sugar**

1. If you feel the signs of a low blood sugar, check your blood sugar right away to see if it’s low. If you don’t have your meter with you, treat it as a low blood sugar.

2. Take 15 to 20 grams of quick-acting sugar. See the next page for examples.

3. Wait 15 minutes and test again. If your blood sugar is still below 4.0 mmol/L, or you still feel that your blood sugar is low, take 15 grams of quick-acting sugar again.
   - Some people with severe kidney disease may need to test every 5 to 10 minutes. Ask your healthcare provider if you should test more often.

4. If your next meal is more than 1 hour away, eat a snack. The snack should have both a carbohydrate and protein source, such as:
   - 1 slice of bread with 2 Tbsp (15 mL) peanut butter
   - ½ cup (125 mL) cold cereal with ½ cup (125 mL) milk
   - 6 soda crackers with 1 oz (30 grams) hard cheese
If you are not responding

If your blood sugar is very low you may not be able to treat yourself. Make sure a family member or friend knows your signs of a low blood sugar and how to treat it. **When you aren’t responding because your blood sugar is low, a family member, friend, or healthcare provider should:**

1. Give you a glucagon injection. Your doctor or diabetes educator can give you information about glucagon.
2. Test your blood sugar every 5 minutes or more often if needed.
3. Call 911.

Quick-acting sugar

Below are some examples of 15 to 20 grams of quick-acting sugar. Dextrose or glucose products are the best choice to treat low blood sugar because they raise your blood sugar quickly. **Don’t use diet products or sugar substitutes to treat low blood sugar.**

<table>
<thead>
<tr>
<th>15 grams quick-acting sugar (use when blood sugar is less than 4 mmol/L)</th>
<th>20 grams quick-acting sugar (use when blood sugar is less than 2.8 mmol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special products</strong></td>
<td></td>
</tr>
<tr>
<td>Dextrosol</td>
<td>5 tablets</td>
</tr>
<tr>
<td>Dex4® Glucose</td>
<td>4 tablets</td>
</tr>
<tr>
<td>Dex4® Glucose Liquid Blast</td>
<td>1 bottle (60 mL)</td>
</tr>
<tr>
<td><strong>Liquids (Don’t use these if you need to limit your fluid intake)</strong></td>
<td></td>
</tr>
<tr>
<td>Juice</td>
<td>¾ cup (175 mL)</td>
</tr>
<tr>
<td>Pop (soft drinks, soda)</td>
<td>¾ cup (175 mL)</td>
</tr>
<tr>
<td><strong>Sweets</strong></td>
<td></td>
</tr>
<tr>
<td>Table sugar dissolved in water</td>
<td>1 Tbsp (15 mL)</td>
</tr>
<tr>
<td>Honey</td>
<td>1 Tbsp (15 mL)</td>
</tr>
<tr>
<td>Jam</td>
<td>1 Tbsp (15 mL)</td>
</tr>
<tr>
<td>Lifesavers®</td>
<td>6 candies</td>
</tr>
<tr>
<td>Jelly beans</td>
<td>10 candies</td>
</tr>
<tr>
<td>Hard candies</td>
<td>3 candies</td>
</tr>
</tbody>
</table>
If you take Prandase®

If you take Prandase® (acarbose) for your diabetes, you must treat your low blood sugars with dextrose or glucose tablets or honey. Prandase® doesn’t let other forms of sugar absorb fast enough. See the Quick-acting sugar section on page 2.

More tips for people with kidney disease:

- If you need to limit your fluid intake, don’t use liquids to treat low blood sugars.
- Try not to drink cola (high in phosphorus). Use ginger ale, Sprite® or 7-Up® instead.
- Try not to use orange juice (high in potassium). Use apple or cranberry juice instead.
- Watch for low blood sugars during the night and in the early morning. Tell your healthcare provider if this happens.

If you are on hemodialysis:

- For 12 hours after your hemodialysis run, there is a higher chance that you will have low blood sugar.
- To find out if hemodialysis affects your blood sugars, check your blood sugars on dialysis days and non-dialysis days, and then compare your sugars.
- On dialysis days, you may need to change the amount of insulin or diabetes pills you take. Ask your healthcare provider for help.
- You should bring a snack with you to your dialysis run. It is best to eat before or after dialysis, because eating and drinking during dialysis can cause many problems.
- The table below lists some healthy snacks that you can bring to dialysis.

<table>
<thead>
<tr>
<th>The snack examples below are shown as one serving. Each serving contains 1–2 carbohydrate choices.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1 slice bread with 1 Tbsp (15 mL) no salt added peanut butter</td>
</tr>
<tr>
<td>• ½ bagel with 1 Tbsp (15 mL) cream cheese</td>
</tr>
<tr>
<td>• 1 English muffin with 1 tsp (5 mL) non-hydrogenated margarine</td>
</tr>
<tr>
<td>• ½ medium berry muffin (homemade) with 1 tsp (5 mL) non-hydrogenated margarine</td>
</tr>
</tbody>
</table>