

## HYPOGLYCEMIA (LOW BLOOD SUGAR)

**HYPOGLYCEMIA** is when the blood sugar is below 4.0 mmol/L. Most children with diabetes have some lows. Treat mild to moderate hypoglycemia right away to stop it from becoming severe.

### CAUSES:

- too much insulin or diabetes medication
- not enough food
- delayed food
- unplanned physical activity
- drinking alcohol

	MILD/MODERATE	SEVERE	
SIGNS & SYMPTOMS	<ul style="list-style-type: none"> <li>• sweaty</li> <li>• shaky</li> <li>• hungry</li> <li>• pale</li> <li>• dizzy</li> <li>• mood changes</li> <li>• tired/sleepy</li> <li>• irritable</li> </ul> <p>• some children may have other signs or symptoms, such as tingling in their lips or nausea</p>	<ul style="list-style-type: none"> <li>• blurry/double vision</li> <li>• difficulty concentrating</li> <li>• confused</li> <li>• poor coordination</li> <li>• difficulty speaking</li> <li>• headache</li> <li>• tired/sleepy</li> <li>• nightmares</li> </ul>	<ul style="list-style-type: none"> <li>• unconscious</li> <li>• convulsions/seizures</li> </ul>
ASSISTANCE NEEDED	Older children can usually recognize low blood sugar and treat themselves. Parents must treat younger children. Help anyone who is confused or unable to treat themselves.	Emergency help is needed.	
TREATMENT	<p>1) <b>Take fast-acting sugar</b>, according to the child's weight:</p> <ul style="list-style-type: none"> <li>• Under 15 kilos (under 33 pounds): <b>5 grams*</b></li> <li>• 15 to 30 kilos (33 to 66 pounds): <b>10 grams</b></li> <li>• More than 30 kilos (more than 66 pounds): <b>15 grams</b></li> </ul> <p>2) Re-check blood sugar in 15 minutes. Re-treat if still less than 4.0 mmol/L.</p> <p>3) If more than 45 minutes to next meal, take 1 starch and 1 protein. This may not be needed for pumpers or those on MDI; discuss with your diabetes team.</p> <p>4) If the child will not cooperate, but can still swallow, give juice, honey or gel. Then follow steps 2 and 3 as above.</p> <p>*Infants may use sugar water: 1½ teaspoons of sugar added to ¼ cup of water = 6 grams of fast-acting sugar. Follow with breast milk or formula when the blood sugar is more than 4.0 mmol/L.</p>	<p>1) Turn child onto side. Do not give anything by mouth. This may cause choking.</p> <p>2) <b>Inject glucagon</b>. If glucagon is not available, call 911.</p> <p>3) When child is conscious, give glucose by mouth.</p> <p>4) When blood sugar is more than 4.0 mmol/L, give food as soon as possible.</p>	

**PREVENTING HYPOGLYCEMIA:**

- Always carry fast-acting sugar and food with you.
- Keep supplies to treat hypoglycemia at school, in car, etc.
- Check blood sugar whenever possible, to confirm hypoglycemia.
- Do not ignore mild symptoms. Do not delay treatment.
- Eat meals and snacks on time. Eat them in appropriate amounts.
- Measure insulin carefully. Supervise children's injections.
- Never give mealtime rapid- or short-acting insulin unless food is available.
- Decrease insulin and/or give extra food for extra physical activity. A general guideline is to add an additional 15 g of carbohydrates for every hour of activity; however, needs vary based on weight, type and timing of activity.
- Teach family and friends how to recognize and treat lows. Teach children to ask for and accept help.
- If low blood sugars continue to happen without an explanation, contact Diabetes Clinic.
- Wear diabetes identification (MedicAlert®) at all times.

**CARBOHYDRATE CONTENT OF FAST-ACTING SUGARS**

PRODUCT	AMOUNT	CARBS (grams)
<b>Solids:</b> glucose or dextrose tablets work fastest.		
Dex4® tablets	4 tablets	16
Dextro Energy® tablets	5 tablets	15
Sugar	4 3.5-g packets or 4 teaspoons	16
Skittles®	20-g fun-size pack (15 candies)	14
<b>Liquids:</b> slower than glucose tablets. Suitable for most mild lows.		
Dex4® glucose liquid	59-mL (2-oz) bottle	15
Orange/apple/fruit juice	125-mL (4-oz) Junior juicebox	12-16
Orange/apple/fruit juice	200-mL (6.4-oz) Juicebox	20-24
Regular soda pop	125 mL (4 oz)	13
<b>Semi-liquids:</b> these must be <b>swallowed</b> to work. They are <b>not</b> absorbed from the lining of the mouth.		
Dex4® gel	38-g (1.34-oz) tube	15
Honey	15 mL (1 tablespoon)	17
Maple or pancake syrup (not diet)	15 mL (1 tablespoon)	13
Jam/jelly	15 mL (1 tablespoon)	13

See also our handouts [Mini-Dose Glucagon to Prevent Serious Hypoglycemia](#) and [Glucagon for Severe Hypoglycemic Reactions](#).