Calculate insulin dose to correct a high blood sugar

- If pre-meal blood sugar is high, take the blood sugar reading and subtract target blood sugar.
- Divide what remains by the correction factor.
- The result is the amount of insulin needed to correct high blood sugar.

\[
\text{(blood sugar} - \text{target)} ÷ \text{correction factor} = \text{units of insulin needed}
\]

Calculate insulin dose for food

- Add up all the carbohydrates in your meal.
- Divide the total carbohydrates by the insulin to carbohydrate ratio.
- The result is the amount of insulin units needed.

Total carbs \[\text{_____} \]
÷ \text{insulin to carb ratio} \[\text{_____} \]
= units of insulin needed

Calculate total insulin dose

- Add the number of units needed for food to the number of units needed to correct blood sugar to get your total dose of insulin (Humalog/Novolog/Apidra).

Food insulin \[\text{_____} \]
+ \text{correction insulin} \[\text{_____} \]
= total insulin

Daily plan:

<table>
<thead>
<tr>
<th>Time</th>
<th>Insulin for food</th>
<th>Correction insulin</th>
<th>Total insulin (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meal</strong></td>
<td><strong>Time</strong></td>
<td><strong>Total carbohydrates (g)</strong></td>
<td><strong>Food formula (carb count/ carb ratio)</strong></td>
</tr>
<tr>
<td>Breakfast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning snack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afternoon snack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedtime</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Visit choa.org/diabetes for additional copies.

©2016 Children’s Healthcare of Atlanta Inc. All rights reserved. MED 962811 ln 03/16
1. Wash and dry hands thoroughly.
2. Set lancet by cocking into position.
3. Put test strip into meter.
4. Prick side of finger and apply pressure to draw blood.
5. Wait for finger prompt on meter and then take blood.
6. Touch edge of strip to blood drop.
7. Note blood sugar reading and time.

If the meter shows an error code, that means there has been an error and blood should be taken again using another test strip.

**Injection sites**

Rotate injection sites each time you administer an insulin shot.

**Blood sugar testing**

**Ketone checklist**

<table>
<thead>
<tr>
<th>Ketones</th>
<th>mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEGATIVE</td>
<td>5</td>
</tr>
<tr>
<td>TRACE</td>
<td>15</td>
</tr>
<tr>
<td>SMALL</td>
<td>40</td>
</tr>
<tr>
<td>MODERATE</td>
<td>80</td>
</tr>
<tr>
<td>LARGE</td>
<td>160</td>
</tr>
</tbody>
</table>

**Very large**

Very large amounts indicate you may be at risk of developing diabetic ketoacidosis (DKA). DKA is dangerous and serious.

Contact your healthcare provider immediately or go to the nearest emergency department.

**Large or moderate**

Large or moderate amounts are a danger sign. Never exercise when your urine checks show large or moderate amounts of ketones and your blood sugar is high. These readings could indicate a problem that may require medical attention.

Contact your healthcare provider for instructions.

**Small or trace**

Small or trace amounts may mean that ketone buildup is starting.

You should test again in a few hours.

**Hypoglycemia | Low blood sugar**

Symptoms of hypoglycemia include:

- Shakiness
- Fast heartbeat
- Sweating
- Dizziness
- Anxiety
- Hunger
- Blurry vision
- Weakness or fatigue
- Headache
- Irritability

Hypoglycemia often comes on suddenly and may lead to fainting if not treated.

**Causes**: Too little food; skipped meal; too much insulin; more activity than usual; vomiting

**Take action**:  
- Check your blood sugar. If you can’t check, treat anyway.
- Treat by eating three to four glucose (sugar) tablets or by drinking 4 ounces of fruit juice or half a can of regular soda.
- Check your blood sugar again after 15 minutes. If it is still low, treat again. If symptoms don’t stop, call your healthcare provider.

**Hyperglycemia | High blood sugar**

Symptoms of hyperglycemia include:

- Vomiting
- Extreme thirst
- Need to urinate often
- Dry skin
- Hunger
- Blurry vision
- Drowsiness
- Yeast infection

Hyperglycemia often starts slowly, but it may lead to a medical emergency if not treated.

**Causes**: Too much food; too little insulin; illness or stress

**Take action**:  
- Check your blood sugar regularly.
- Check ketones if blood sugar levels are over 300.
- If your blood sugar levels are higher than 240 three times in one day, call your diabetes provider.

**Sick-day checklist**

- Have the following items available for sick-day use:
  - Phone numbers for your doctor, diabetes educator and dietitian
  - Easy-to-eat foods such as gelatin, applesauce or soup
  - Carbohydrate-containing liquids, such as non-diet soft drinks
- Do not stop taking insulin before consulting your physician.
- Try to eat as you normally do; substitute easy-to-eat foods as necessary.
- Drink plenty of fluids.
- Monitor your blood sugar every 2 to 4 hours.
- Monitor your urine ketone levels every 3 to 4 hours.
  - Refer to urine ketone reading indications.
- Call your doctor or other healthcare professional when you experience:
  - Illness that lasts longer than a day
  - Nausea or vomiting
  - Stomach pain
  - Persistent diarrhea
  - High blood sugar or blood ketone levels
  - Fever over 100°F