Diabetes SOS: Sick Day Self-Management
Flowsheet - Insulin Pump Therapy When Able to Drink

**START:**
If Able to Drink

- **Low: Below 80**
  - Treat with 15 grams of carbohydrate. Do not give insulin for these carbs
  - Decrease basal rate by 10% for 2 hours
  - Blood glucose BELOW 80
  - Recheck blood glucose in 15 minutes
  - If ketones are small to large, give a ketone correction bolus**

- **Normal: 80-150**
  - Test for Ketones
    - NEGATIVE to TRACE KETONES
    - Encourage carbohydrate-containing fluids. Do not give insulin for these carbs
  - Blood glucose ABOVE 80
  - Go back to **START** every 3 hours

- **High: Above 150**
  - Test for Ketones
    - NEGATIVE to TRACE KETONES
    - Give hyperglycemia correction bolus* (plus carb bolus, if eating)
    - Go back to **START** every 3 hours
  - SMALL to LARGE KETONES
    - Use an insulin syringe to give a hyperglycemia correction bolus* PLUS a ketone correction bolus** (plus a carb bolus, if eating)
    - Change infusion set
    - Give 8 ounces of CARBOHYDRATE FREE fluids every 30-60 minutes

*Only if blood glucose is above target and it has been 3 hours since last carb and/or rapid-acting insulin dose, or if using active insulin feature on pump.

**See “SOS” Worksheet to calculate amount of extra insulin for ketone correction

CALL the Diabetes Center (614) 722-4425 (option 3) if any of the following occur:
- You are not sure what to do
- You have treated a LOW blood glucose (hypoglycemia) TWICE in a row with NO improvement.

In an Emergency, call 911

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When your child needs a hospital, everything matters.*
When ketones are present, additional insulin is needed. Use the following steps to calculate the ketone correction bolus to be used in addition to insulin for carbohydrates and insulin for hyperglycemia correction.

The ketone correction bolus is always rapid-acting insulin (Humalog, NovoLog, or Apidra) but it is calculated as a percentage of the basal insulin.

SMALL ketones: give a dose of rapid acting insulin that is 5% or 0.05 of daily basal insulin.

MODERATE or LARGE ketones: give a dose of rapid acting insulin that is 10% or 0.10 of daily basal insulin.

**Calculation:**

\[
\text{Total Usual Daily Basal Dose} \times 0.05 = \text{ketone correction bolus (use Humalog, NovoLog or Apidra)}
\]

**Example:** Moderate ketone in someone using Humalog for boluses and taking 20 units Basal each day

\[20 \text{ units Basal per day} \times 0.10 = 2 \text{ units Humalog}\]

Add the Ketone Correction bolus to the carb bolus (if any) and the hyperglycemia correction bolus (if any) to determine the size of the total bolus.

Ketones can be checked in either urine or in blood. The urine dipsticks indicate Negative, Trace, Small, Moderate, or Large Ketones. Here is how to interpret the blood ketones from the number on the meter:

<table>
<thead>
<tr>
<th>Blood Ketone Measurements</th>
<th>Greater than 3 mmol/L</th>
<th>LARGE 1.6 – 3.0 mmol/L</th>
<th>MODERATE 1.0 – 1.5 mmol/L</th>
<th>SMALL 0.6 – 0.9 mmol/L</th>
<th>NEGATIVE Less than 0.6 mmol/L</th>
</tr>
</thead>
</table>

**Call the Diabetes Center or go to the Emergency Department if Signs and Symptoms of Diabetic KetoAcidosis (DKA) are present at ANYTIME!**

Your child may require treatment in the hospital if one or more of the following are present:

- Rapid deep breaths with a fruity odor
- When you pinch up the skin on the back of their hand and let go, the skin does not immediately flatten out again like the skin on your own hand
- Increased heart rate/pulse
- Dizziness
- Lethargic or unable to arouse
- Prolonged vomiting and/or abdominal pain

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`Diabetes SOS: Sick Day Self-Management`  
`Ketone Correction Bolus Worksheet`

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