

# Ketone and Sick Day Guidelines for Injections

## When to Check for Ketones:

- Blood Sugar >240 mg/dL or CGM >240 mg/dL consistently for more than 3 hours
- Vomiting or Nausea - no matter what the blood sugar is
- Any illness or infection (ex. flu, stomach virus)

## Call 911 or go to the ER if moderate/large ketones AND any of the following:

- vomiting that will not stop
- inability to drink or keep fluids down
- labored or fast breathing
- altered mental status (change in how your child is acting)
- signs of dehydration (ex: dark urine, dry mouth/lips, rapid heart rate, decreased diapers, fewer trips to the bathroom)



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## Important Numbers:

Office Daytime: 501-364-1430 Little Rock

Office Daytime: 479-725-6985 ACNW

Kids Care (After Hours): 501-364-1100

**ASK FOR KIDS CARE**

| Ketone Level                                                                                                                                                                                                                                             | Action Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                            |      |                                                        |         |                                                               |      |                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------|------|--------------------------------------------------------|---------|---------------------------------------------------------------|------|--------------------------------------------------------------|
| <b>Negative</b><br><br>Trace or Small Urine Ketones<br><br>Blood Ketones: 0.6 - 0.9  | Follow regular diabetes care. Check ketones again if your child meets above criteria<br><br><b>1. Drink age in ounces</b> of sugar free fluid every hour (example an 8 year old would drink 8 oz of fluid per hour)<br><br><b>2. Check ketones</b> every 2 - 3 hours<br>→ continue checking until ketones are negative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |                                            |      |                                                        |         |                                                               |      |                                                              |
| <b>Moderate or Large Urine Ketones</b><br><br>Blood Ketones: >1<br><br><b>*Contact the Diabetes Team if your child has moderate or large ketones for &gt;12 hours</b> | <b>1. Drink age in ounces</b> of fluid every hour (example an 8 year old would drink 8 oz of fluid per hour)<br><br><table border="1"> <thead> <tr> <th>Blood Glucose range</th><th>Fluid Type (adjusted based on blood sugar)</th></tr> </thead> <tbody> <tr> <td>&lt;100</td><td>Sugary fluids (example: juice, Gatorade, regular soda)</td></tr> <tr> <td>100-180</td><td>½ sugary + ½ sugar free fluids (example: ½ juice and ½ water)</td></tr> <tr> <td>&gt;180</td><td>Sugar free fluids (example: water, diet soda, Gatorade zero)</td></tr> </tbody> </table><br><br><b>2. Give insulin correction dose</b> using your correction formula → <b>repeat correction every 2 hours</b> until ketones reduce to small/trace/negative (continue to follow guidelines overnight/if patient sleeping).<br><br><b>3. Check ketones</b> every 2-3 hours and follow action plan until negative | Blood Glucose range | Fluid Type (adjusted based on blood sugar) | <100 | Sugary fluids (example: juice, Gatorade, regular soda) | 100-180 | ½ sugary + ½ sugar free fluids (example: ½ juice and ½ water) | >180 | Sugar free fluids (example: water, diet soda, Gatorade zero) |
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## How to Calculate an Insulin Correction Dose

Formula: (Blood Sugar - Target BG) ÷ Sensitivity or Correction Factor = Units of Insulin

**Example Only** (NOTE: use your own formula provided by your Diabetes Team)

Blood Sugar = 255

Target = 130

Correction Factor = 20

Calculation: (255 - 130) = 125 ÷ 20 = 6.2 → Round down to 6 units

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for Children**



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# Ketone and Sick Day Guidelines for Pump

## When to Check for Ketones:

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## DON'T FORGET

Change pump site immediately if you suspect a bent cannula, site failure, or bad insulin absorption

**Remember: When in doubt, change it out.**

- Always keep backup insulin pens or syringes available
- Know how to find your current insulin settings (carb ratio, correction factor, long acting insulin dose) Look for these by checking:
  - Your insulin pump profile settings
  - MyChart - AVS insulin instructions
  - Pump data management platform (ex. Glooko, Tandem Source, Carelink, Beta Bionics, Tidepool)

| Ketone Level                                                                                                                                                                                                                                      | Action Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                                            |      |                                                        |         |                                                               |      |                                                              |      |                       |                     |                                                    |                   |                                           |                                          |                                                                                   |
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| Omnipod 5, Medtronic 780, or Manual Pump                                                                                                                                                                                                          | Place pump in manual mode & set temp basal to increase by 20% (120%) for 12 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                     |                                            |      |                                                        |         |                                                               |      |                                                              |      |                       |                     |                                                    |                   |                                           |                                          |                                                                                   |

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