

Monitor blood sugar levels more frequently

For children with diabetes, illness can be a very unstable time for blood sugars. Blood sugars may go up, go down, or be in range. When your child with diabetes is vomiting, has a fever, or has diarrhea you must check your child's blood sugar level and urine ketones (even if the blood sugar is ok) frequently during illness. How often depends on the severity of your child's illness but every 2-3 hours is a general goal.

Don't stop taking insulin

Even when ill, your child with diabetes will need their insulin. You just can't be certain how an illness will affect your child's blood glucose—that's why it's important to check their levels more often than you normally would. A general guideline is to check their blood glucose every 2 to 3 hours, but remember—that's a *guideline*. The dosage of the insulin may need to be adjusted if blood sugars are running high, too low, or if your child has moderate or large ketones.

Check urine for ketones

Ketones develop when the body is breaking down fat for energy – this happens when there is not enough insulin in the body or your child has not been able to eat or keep down carbohydrates. If you find moderate or large ketones in the urine, give your child additional fast acting insulin and lots of fluids.

| GLUCOSE | NEGATIVE-SMALL KETONES | MODERATE-LARGE KETONES |
|---------------|---|--|
| Less than 100 | <ul style="list-style-type: none">› Give sugar containing fluids› No insulin | <ul style="list-style-type: none">› Give sugar containing fluids› Normal insulin doses |
| 100-199 | <ul style="list-style-type: none">› Give sugar containing fluids› Normal insulin doses | <ul style="list-style-type: none">› Give sugar containing fluids› Correction insulin dose x 1.5 |
| Above 200 | <ul style="list-style-type: none">› Give sugar-free fluids› Normal insulin doses | <ul style="list-style-type: none">› Give sugar-free fluids› Correction insulin dose x 1.5 |

Encourage fluids!

- › Sips (0.5-1oz) should be taken every 10-15 minutes. Drink caffeine-free fluids to prevent dehydration.
- › When blood sugar is less than 200, sip on sports drinks or other sugar containing drinks (ex. regular Ginger Ale, Sprite, regular Gatorade).
- › When blood sugar is more than 200, sip on fluids that are sugar-free (ex. Diet Ginger Ale, Diet Sprite, chicken broth, G2 Gatorade, Powerade Zero).

If you use the above chart once and are not making progress (your child is still vomiting and/or still has moderate to large ketones), then please contact our office directly for further recommendations. If your child develops severe abdominal pain and/or difficulty breathing with moderate to large ketones, take your child to the emergency room.

Dr. Julia Cartaya: 216.445.2082
Dr. Anzar Haider: 216.636.2107
Dr. Roy Kim: 216.444.4281
Dr. Andrea Mucci: 216.444.7987

Dr. Sumana Narasimhan: 216.445.5158
Cheryl Switzer APRN.CNP, CDCES: 216.444.3584
Faith Poprik APRN.CNP: 216.444.9749

For emergency assistance on weekends, holidays, or weekdays after 5pm, please contact the on-call pediatric endocrinologist at 216-444-2200.

Illness and localized infections are often precursors for diabetic ketoacidosis (DKA). It is important to understand that [basal insulin continues to be required even when your child is not eating](#).

Common causes of pump failure include kinked infusion site, incorrect settings on pump, air bubbles in the line or pump malfunction. This will lead to lack of insulin and hyperglycemia within 2-3 hours. This will then result in ketone formation and risk for diabetic ketoacidosis (DKA).

Sick day management and use of the pump:

1. Check blood glucose levels every 1 to 2 hours.
2. Check urine or blood ketones if blood glucose is 250 mg/dl or above and you are vomiting, nauseous, have stomach pain, or an illness regardless of the blood glucose result.

For Trace/Small ketones –

1. Change infusion site/pod, particularly if it has been in place for more than 2-3 days.
2. Give correction bolus using insulin pump.
3. Encourage water or other sugar free fluids to stay hydrated.
4. Check blood glucose and ketones 1-2 hours after bolus.

For Moderate or large ketones –

1. Give 1.5x usual correction bolus using an insulin pen or syringe.
2. Change infusion site/pod.
3. Encourage water or other sugar free fluids to stay hydrated.
4. Check blood glucose and ketones 1-2 hours after bolus.
5. Call the office if you don't see any improvement after the correction dose. After hours, call the Clinic operator and ask for pediatric endocrinology on call.

IMPORTANT

- * NEVER ignore a high blood sugar!
- * Two unexplained highs in a row may indicate an infusion site/pod or insulin pump problem.

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