Puzzling over unexplained fluctuations in blood glucose levels?

Do you sometimes find you or your child have elevated blood sugar, but you don’t know why? Unexplained elevations in blood glucose levels can be confusing, and they can fluctuate for a variety of reasons. Increased carbohydrate intake or decreased physical activity raises blood glucose. But what if you’re seeing glucose elevations despite your child maintaining a relatively consistent diet and exercise schedule?

Here are some reasons your child’s glucose level may be fluctuating:

- Your child may be experiencing hormonal fluctuations brought on by illness, injury, surgery, emotional stress, puberty, and menses.
- Physical or emotional stress triggers the release of hormones called catecholamines—a combination of hormones called “stress hormones.” When the body is influenced by these hormones, they often cause hyperglycemia (high blood sugar). While this can happen to anyone, a diabetic person may need more insulin during illness or stress.
- For children, insulin requirements increase with growth, particularly during puberty. This can, in part, be attributed to growth hormone, as well as estrogen and testosterone.
- For girls and women, menstruation and menopause present unique challenges to blood glucose control. Estrogen and progesterone can induce temporary resistance to insulin, which can last up to a few days and then drop off.
- Many women report having higher blood glucose levels a few days before beginning their period. Once menstruation begins, some women continue to have hyperglycemia while others experience a sharp drop in glucose levels.
- Significant hyperglycemia can lead to emergency complications such as diabetic ketoacidosis. Persistent hyperglycemia puts you at increased risk for long-term complications, such as cardiovascular disease, nerve damage, blindness, or kidney failure.

No matter the state of a person’s hormones, frequent testing and recording of blood glucose values will expose patterns and make it easier to control diabetes. Smart phone apps can help track carbs per meal and per day. Paper and pencil work just as well. See if eating more carbs one day affects fasting glucose the next morning. A Certified Diabetes Educator can help you to see patterns of fluctuation in blood glucose and help to determine the cause.

Be proactive, and ask your provider to help you establish a “sick day plan” so you know how to respond in the event of illness or injury. If your child experiences persistent hyperglycemia, be sure to ask your diabetes provider to help adjust their diabetes treatment program.
Test Your Knowledge!
The Pancreas Is:

a. An ancient city in the Mediterranean
b. A recipe featuring fried shrimp, sweet potatoes, and onions
c. An organ that makes insulin

Answer: C.

**The pancreas:**
- produces insulin,
- makes glucagon in response to falling blood glucose levels,
- and releases amylin when food enters the stomach.

If the pancreas stops making insulin, it won’t produce enough amylin, and the fine-tuned system gets out of whack. Over time, a person can develop hypoglycemia and not notice a drop in their blood sugar level in time to take corrective steps.

**Glucagon** is important in preventing hypoglycemia. Once the pancreas makes glucagon, it rushes directly to the liver where it causes the immediate release of glucose into the bloodstream. Along with other hormones, glucagon keeps blood sugar from dropping too low, even under the most extreme conditions.

**Amylin** works together with insulin to keep blood sugar from rising much (if at all) after eating. Think of amylin as insulin’s “sidekick” helping insulin to do its job more effectively, especially after meals. Amylin affects nerves in the stomach, slowing down the rate at which food digests. Amylin also blocks the hunger feeling, and keeps glucagon from being made right after eating. Without amylin, people with diabetes tend to produce extra glucagon when they eat.

People experiencing frequent or severe episodes of hypoglycemia should contact their healthcare team or diabetes educator.
**Berry Yogurt Popsicles**

Just cool, low-carb, and perfect with any summer fruit!

You will need a popsicle mold that can be used with popsicle sticks. (No mold? Try clean, recycled six-ounce yogurt containers on a small tray.)

**Ingredients**

**Purple layer:**
- 1 cup blueberries
- 1/2 cup blackberries
- 6 oz. fat free blueberry yogurt
- 1 cup crushed ice

**White layer:**
- 14 oz. fat free vanilla yogurt
- 2 tbsp. sugar
- 1 cup crushed ice

**Pink layer:**
- 3/4 cup raspberries
- 3/4 cup strawberries
- 6 oz. fat free strawberry yogurt
- 1 cup crushed ice
- 16 or more popsicle sticks

**Directions**

1. Blend each color separately in a blender and set aside in the refrigerator.

2. Pour the first color into the popsicle molds to fill one-third. Freeze for 30 minutes.

3. Remove from the freezer and insert the sticks, then freeze one hour.

4. Add the white mixture into each mold to fill the next third. Freeze an additional hour.

5. Add the purple mixture to fill each mold the rest of the way. Freeze until ready to eat, about one hour.

**Servings:** 16

Size: 1 popsicle, about 1/2 cup
Calories: 51; fat: 0.1 g; protein: 4.0 g; carbs: 8.7 g; fiber: 1.1 g; sugar: 7.0 g; sodium: 14.1 mg

Adapted from Gina Homolka’s website: SkinnyTaste.com.

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**Tip: Timing Is Everything!**

The fast-acting kinds of insulin, such as Humalog, Novolog, and Apidra, are made to work within about 15 minutes after injecting or infusing with a pump, and then peak in about 30 minutes to three hours. When it comes to giving yourself insulin, are you giving it time to work before your food kicks in?

“Pre-bolusing” (giving insulin a little while before eating) is a very effective way to reduce spikes in blood sugar after a meal. It is not always possible when you don’t know exactly what food you may be presented with ahead of mealtime, but doing your best to slow down and eat slower for the first 15 minutes of a meal is a great way to account for those times. It can give you time to talk about your day and activities with your family or friends. It may be hard to do when you are very hungry, but think about the good benefit to your entire body.
Let’s Make a Yummy Sandwich!

Solve these word jumbles to find out what kind of sandwich is for lunch. Find the answers at the bottom of this page.

1. drabe
2. cluteet
3. oomatt
4. drumtas
5. eshece
6. kicselp
7. kryute
8. seyanomisna


Draw a picture of your favorite lunch

Dairy

Fruits

Vegetables

Grains

Protein

Learn about making a balanced meal at: ChooseMyPlate.gov