

A Patient's Experiences in Using Blood Sugar Levels to Determine when to Test
Cortisol Levels
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During a diagnostic work up for Cushing's Disease, I was challenged, as are many others, in determining when to test for elevated cortisol levels. I used a spreadsheet to capture a variety of symptoms on a daily basis and to help identify patterns that represented a "high".

Certain patterns did emerge, but one of the most striking was blood sugar levels. I discovered this after checking my blood sugar level one day when feeling particularly ill, with symptoms reminiscent of a previous period of hypoglycemia. I found that my non-fasting blood sugar was unusually low (59) mid-morning several hours after breakfast, and I rechecked it again at bedtime as I was feeling even worse. Surprisingly, my blood sugar was instead elevated at 165.

I began to check my blood sugar regularly – fasting levels in the morning, as well as before and 2 hours after meals. I periodically checked after breakfast and lunch, but most consistently checked after dinner.

Around that same time, I had noticed I had occasionally felt a bit sick in the evening, with some nausea as well as sudden and extreme fatigue, but had not given it much thought. Once I started tracking my blood sugar, I came to recognize that these symptoms occurred about 1.5 to 2 hours after eating meals that were high in carbohydrates. It also most frequently happened in the evening. In those situations, my blood sugar spiked considerably – for example, it would be 90 before eating and rise to 198 two hours after eating.

During this time, I also did a number of late night serum cortisol blood draws. The very first time I tested serum cortisol on a night I had experienced high blood sugar, I was surprised when I got my lab results back and they showed that my cortisol level was also elevated! Over the next 6 weeks, I used blood sugar level as one of my indicators to determine if I should do cortisol testing, and discovered that high blood sugar almost always correlated to high serum cortisol.

It seemed that foods that were high in sugar (such as ice cream) did not have much of an impact on my blood sugar, however, those with refined flour would definitely result in elevated levels when my cortisol levels were high. On other nights the same meal would result in a normal blood sugar level.

Initially, I could tell by my physical symptoms (slight nausea, extreme and sudden fatigue) when my blood sugar had spiked, but would confirm it using the

glucometer. However, over time, those physical symptoms diminished and I no longer felt noticeably sick when my blood sugar climbed substantially, and I would be surprised to find a blood sugar level of over 200 when doing routine checking. As a result, it became even more important to use the glucometer regularly to test blood sugar rather than just rely on physical "cues".

I was never diagnosed as a diabetic, although a Glucose Tolerance Test performed during this time showed borderline impaired glucose tolerance.

General guidelines I developed for myself in determining if I should do a cortisol test included:

1. Any day that I experienced an increase of more than 40 points when comparing blood sugar levels before a meal to the level 2 hours afterwards (in most cases, my blood sugar actually spiked 80 – 130 points when comparing before/after meal levels)
2. Any day that my fasting blood sugar in the morning was 105 or higher
3. Any day that my blood sugar level exceeded 140 two hours after a meal (however, my most common elevated readings were 170 or higher)
4. I could not rely on blood sugar levels at 11 PM as an indicator of whether I should test that night. Several times, I checked my blood sugar at the time of the late night blood draw, and found that it had dropped substantially by that point. The most critical and accurate times for me were the levels recorded within 1.5 to 2 hours after eating.