



Blood Sugar

Part 2, Personalized Nutrition

"We have overlooked a singular truth: you can't use drugs to cure a dietary disease."

-Jason Fung, MD
author of *The Obesity Code*

Prior to the 1900's, Americans ate 15 to 20 grams of sugar per day, in the form of raw fruits. After World War II, sugar was farmed on large plantations, making sugar more readily available and at a lower cost. This raised daily consumption to an average of 37 grams per day by 1977¹. Today, the average American consumes a whopping 71.14g of sugar per day. As we have continued to increase our sugar consumption over the years, our rates of disease also continue to increase. So much so, that the health officials have given up finding a cure for diabetes and have declared it a chronic, progressive disease. A disease that can only be controlled or delayed with medications.

Clearly, what we are doing is not working.

If we learn to manage our ingestion of sugar to a level that is optimal for our health, we can reverse or avoid this progressive disease all together. As we continue along our journey of finding a personalized nutrition plan for long term optimal health, we will start to introduce additional tools to help customize your personalized nutrition program.

BLOOD SUGAR DYSREGULATION

What went wrong? Listed below are the stages of dysglycemia. If not addressed, these can lead to diseases such as type 2 diabetes, heart disease, cancer, Alzheimer's and other diseases.

Stage One: Hypoglycemia

Fasting blood glucose below 70 mg/dL. Symptoms of hypoglycemia can be different for each person, but typically include: shakiness, irritability, nervousness, anxiety, impatience, rapid heartbeat, lightheadedness, sleepiness, headaches, lack of coordination, and anger.

Stage Two: Insulin Resistance

Fasting blood glucose levels between 90-150 mg/dL. Insulin resistance is a state in which cells fail to respond to the normal actions of the storage hormone insulin. Symptoms of insulin resistance can be different for each person, but typically include: brain fog, an inability to focus, sleepiness (especially after meals), increased blood triglyceride levels, increased blood pressure, increased hunger and depression.

Stage Three: Hyperglycemia

Fasting blood glucose levels between 150-200mg/dL. Hyperglycemia occurs when the body has too little insulin or when the body cannot use insulin properly. Symptoms may include: blurry vision, difficulty concentrating, frequent urination, headaches, increased fatigue and high levels of sugar in the urine.

Stage Four: Type 2 Diabetes

Fasting blood glucose levels above 200 mg/dL. Type 2 diabetes is a metabolic disorder in which your body does not use insulin properly, therefore producing high level of sugar in the blood. Symptoms may include: excess thirst, frequent urination and constant hunger.

HOW TO REVERSE BLOOD SUGAR DYSREGULATION

Now that you have been testing your fasting blood sugar for 7+ days, what do you do if you fall within a dysfunctional level? How do you fix it?

1. Drastically limit sugar/carbohydrate consumption.
2. Adopt a movement routine that supports burning excess sugar in the blood.

Removing all sugar and processed carbohydrates is the first step. During the 30 day nutrition challenge, you did this! You were also limited to 6-8 ounces of a natural, whole food starch per meal. For some people, this amount of carbohydrate may be dramatically less than a typical meal before starting the Wellness Program. But is it enough to drive your blood sugar into optimal ranges? If not, and you have discovered that your fasting blood sugar is still less than optimal, it is time to take the “diet” one step further. It is time to eliminate the 6-8 ounces of starch from each meal for 4-6 weeks. This will leave you with 2-3 cups of vegetables, 6-8 ounces of protein, and 2 tablespoons of fat per meal. There is no limit to vegetables, so if you need more food, increase your fiber rich vegetables to help provide satiation.

In addition to removing the starch from your meals, it is time to add in a consistent movement routine to help burn off the excess sugars in the blood. The muscles are the largest consumer of sugar in the body and one of two locations where sugar is stored. One of the best ways to reduce blood sugar is to require the muscle to consume what they have stored, leaving those once occupied cells open to store blood sugar away for future use. Adding in an easy walk in the evening before bed is a great way to lower excess blood sugar from the days meals before getting your zzz's.

HOW TO SUSTAIN STABLE BLOOD SUGAR

If after 30 days of nutrient dense whole food eating, and 7+ days of testing your fasting blood sugar, you find that your blood sugar is within the normal ranges, congratulations! It is time to see how well your body tolerates specific carbohydrates. If you have missed your corn tortillas and black beans, there are tools you can use to help you see how well your body can tolerate them.

In Robb Wolf's book, *Wired To Eat*, he details the process for what he calls 'the 7 Day Carb Test.' During this test, you would use a blood sugar meter to test your body's personal tolerance to 50g of effective net carbs to a specific food. The point of completing this type of test is to learn more about how *your* body can properly handle (or not handle) different types of carbohydrates. It might surprise you that some people can tolerate sugary pastries better than a banana, but it is true. This is bio-individuality at its finest. Finding the "right" carbohydrate(s) for your body allows you to dial in your specific carbohydrate tolerance and therefore keep our hormonal profile in a state that is favorable for fat loss while repairing our metabolism².

You can visit Robb Wolf's website at <https://robbwolf.com/wiredtoeat/7daycarbtest/> for some tips as well as several videos answering some frequently asked questions.

REFERENCES

- 1- Jason Fung, *The Diabetes Code*, page 97
- 2- Robb Wolf, *Wired To Eat*, page 164

HOMEWORK

Part 1: Food Journal

Keep a food journal which records the following items:

- Types of foods consumed
- Times of day the food is consumed
- Beverages consumed
- Mood(s)/digestion throughout the day
- Urination/Bowel Movements (and type)
- Supplements and/or medications
- Exercise
- Fasting blood sugar
- Sleep
- Stress Levels

All of these things listed can effect your blood sugar, and therefore hinder your ability to reach your health goals. You can elect to use an online tracker for this homework assignment, or use the food journal provided.

Part 2a: Carb Tolerance Testing

If your blood sugar is in optimal ranges, it is time to test your body's personal carbohydrate tolerance to 3-5 carbohydrate foods of your choice.

Tools you will need to complete the test:

- Blood sugar meter
- 50g properly prepared effective net carbs

INSTRUCTIONS

1. Choose a test carb from the list in Wired To Eat. Alternatively, you can find 50g of effective net carbs by using an online food tracker (like the one found at www.myfitnesspal.com).

TOTAL CARBS - FIBER = NET CARBS

2. The night before you plan to test, prepare your test carb.
3. Upon waking, take your fasting blood glucose using your glucometer. Record your reading.
4. Consume your test carb. DO NOT consume any other foods for 2 hours. DO NOT exercise for 2 hours. Allowable beverages are black coffee and water. If you choose to consume a beverage, during the testing window, make sure to have that same beverage each morning you are testing.
5. Set a timer for 2 hours from the time you finish your last bite of test carb.
6. 2 hour post consumption of your test carb, re-test your blood glucose level using your glucometer. Record your reading and any other symptoms/feelings you noticed during the past 2 hours.
7. Return to the Whole Food Challenge "rules" for 3 days before testing an additional carb. Make any journal entries of additional symptoms you might have experienced over the following 3 days.

How to interpret test results

The most important things to look for (that would indicate that specific carb is not the best carb for your body) are:

- Symptoms such as foggy head, headache, inability to focus, anger, depression, anxiety, shaky, etc.
- A large fluctuation in your blood sugar.

*Ideal blood glucose 2 hours after your first bite of food is ~115 mg/dL.

If your blood sugar goes much above 120 mg/dL at the 2 hour mark of the test, this can be a sign that your blood sugar has “spiked” and this is not an ideal carb for you. It would be expected that your blood sugar would then drop rapidly, causing you to feel poorly. The opposite is also true. If your reading at the 2 hour mark is below your fasting reading, this is just another sign of the wrong carb for your body.

Ideally, you want to find a carb that doesn't make you feel badly, and that brings your blood glucose level up (no higher than ~115 mg/dL), and has a slow decline over the next 2-4 hours.

Part2b: Carbohydrate Restriction

If you have discovered that your blood sugar still requires a little support to get into optimal ranges, it is time to do a deeper carbohydrate restricted diet.

Start by eliminating the 6-8oz of starch at each meal for 4-6 weeks. After 6 weeks of carbohydrate restriction, re-test your fasting blood sugar for 7+ days. If your blood sugar has dropped into optimal ranges, complete the carb tolerance test (page 15). If your blood sugar has lowered, but still has not reached the optimal ranges, continue with a carbohydrate restricted diet for 4-6 additional weeks. Retest. And repeat as many times as needed until your blood sugar is in optimal ranges.

After 4-6 weeks of a carbohydrate restricted diet, if your blood sugar has not changed, please connect with your nutritionist for additional options to lower your blood sugar.