

Are Your  
Symptoms  
Caused By  
Blood Sugar  
Dysregulation?

# **How Balancing Your Blood Sugar May Be The Missing Link In Reclaiming Your Health and Vitality!**

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## **Chapter 1: The Ins and Outs of blood sugar regulation**

When I used to think about blood sugar regulation, I thought of someone with diabetes or possibly even someone who is pre-diabetic. The problem of blood sugar dysregulation, however, is much more widespread than this. In fact, anyone eating the Standard American Diet has blood sugar dysregulation and even people who are doing their best to eat “healthy” are most likely in need of balancing their blood sugar as well. Although I tried to eat a “healthy” diet, I was so misinformed that I hardly ever thought about my blood sugar! Unfortunately, you cannot enjoy a health and vitality for long without balanced blood sugar. Blood sugar dysregulation will eventually catch up to you. The form it takes varies from person to person, but one way or another, if you are riding the blood sugar rollercoaster, you are going to crash. I apologize if that sounds sensational, but it is truly not an exaggeration as you will see after reading this book.

This book will cover the common problems that are caused or exacerbated by the blood sugar roller coaster, how to balance your blood sugar, as well as recipes to support healthy blood sugar regulation.

### **What does healthy blood sugar look like?**

Healthy blood sugar regulation means that when you eat, your body uses the energy (glucose) it can at the time for energy and stores the rest via a hormone called insulin.

When you are fasting, your body can release this stored fat and convert it to glucose to constantly maintain stable blood sugar.

If you have **healthy blood sugar**:

- ❖ You have consistent energy throughout the day.
- ❖ You don't have cravings for sweets or carbs
- ❖ Your body is able to metabolize carbohydrates, fats, and protein efficiently
- ❖ Your body is metabolically flexible, meaning your body can use dietary glucose or stored fat for energy

## **What is the Optimal Blood Sugar Range?**

There is actually a very small range that your blood sugar has to be in for you to function properly. This makes blood sugar regulation of utmost importance to your body. Your body wants to keep your blood sugar between 70-90 mg/dl. You can actually pass out, go into a coma, or even die if your blood sugar goes too low or too high. This makes balancing your blood sugar a matter of survival and your body takes your survival very seriously! If your blood glucose levels go above or below the optimal range, your body triggers the release of hormones to bring it back into balance. An interesting point is that for most of humanity's time here on planet Earth, our bodies have been working to raise blood sugar, not lower it. This is a modern problem brought on by processed (and denatured) foods.

Before diving into all of the problems that dis-regulated blood sugar can cause, let's define the major terms we will be working with. First, we have hypoglycemia which is actually *reactive hypoglycemia*. This means that you ate or drank something with refined carbs or sugar and flooded your bloodstream with glucose. Your body went into a state of emergency to lower your blood sugar with a hormone called insulin and by calling in the adrenals to release the hormone cortisol (the stress hormone). In the body's frantic state, it releases too much insulin which causes your blood sugar to drop too low an hour or two afterward. You then experience the symptoms of reactive hypoglycemia.

## **What is hypoglycemia?**

Hypoglycemia occurs when the body doesn't have enough energy available to your cells. This constitutes an emergency as far as your body is concerned! As stated above, in a healthy person with balanced blood sugar, the body is able to release stored glucose from your body (generally from your fat cells). However, in this refined carb-loving culture, we often experience reactive hypoglycemia. An example of this is when you go into your favorite coffee shop and order a sugar-laden drink and a muffin or some other

“snack” to go with it. Your blood sugar rises so quickly that it is a danger to your body. Your body puts so much effort into lowering your blood sugar, that about an hour or two after this snack, your blood sugar is now too low and you end up in a hypoglycemic state.

In a hypoglycemic state, the body has to get your adrenals involved. If you don't know much about your adrenals, they are most well-known for their role in your fight/flight reactions. They pump out the surge of cortisol when you need to jump out of the road when a car is coming your way. This is what gives you that amped up feeling when you are in danger or have just escaped danger.

There is a problem with getting your adrenals involved in managing your blood sugar. When the adrenals get called in multiple times a day, day after day, year after year, the adrenals get tired. You may have heard of the term *adrenal fatigue*. Add a hectic lifestyle (which most of us have these days) and you have the perfect recipe for fatiguing your adrenals. I will go into more of the specifics of adrenal fatigue and the unfortunate symptoms that it can cause in Chapter 3.

### **Symptoms of Hypoglycemia:**

- ❖ craving sweets or carbs between meals
- ❖ blurry vision
- ❖ forgetfulness
- ❖ lightheadedness if meals are delayed or skipped
- ❖ feeling shaky or jittery
- ❖ increased energy after eating
- ❖ eating relieves your fatigue
- ❖ irritable or “hangry” if meals are skipped or delayed
- ❖ dependent on coffee and/or sugar for energy
- ❖ waking in the night, especially between 1-3 am.
- ❖ night sweats
- ❖ difficulty thinking
- ❖ crying out during sleep (pay attention if you child does this!)

### **What is Insulin Resistance?**

The second term we have is Insulin Resistance. Insulin resistance is what commonly occurs after years of eating the Standard American Diet. A person's cells become desensitized to the hormone insulin. Remember that hormones are messengers. Insulin's message is “store this energy for later use”, but the cells are desensitized and don't want to hear the message. So, what does the body do? They send more messengers (insulin) to relay the message! This results in too much insulin in the blood. People with insulin



resistance generally have great success healing it with intermittent fasting. However, people with hypoglycemia should NOT intermittently fast.

### **Symptoms of Insulin Resistance:**

- ❖ feeling tired or sleepy after meals
- ❖ constantly hungry
- ❖ aches and pains that migrate
- ❖ increased blood pressure
- ❖ unable to lose weight
- ❖ premature aging
- ❖ frequent urination
- ❖ increased appetite (often ravenous)
- ❖ increased thirst
- ❖ fatigue in general
- ❖ endocrine imbalances (thyroid, reproductive)
- ❖ craving sweets after meals
- ❖ waist is equal to or larger than hips
- ❖ eating sweets does not relieve the craving for them
- ❖ low wound healing
- ❖ increased cholesterol
- ❖ mood disorders such as depression and anxiety

### **Can I have both Hypoglycemia and Insulin Resistance?**

Often, a person will swing from hypoglycemic to insulin resistant and back again even in the same day. Therefore, as you can imagine, it is quite possible for someone to also experience the symptoms of both hypoglycemia and insulin resistance. If you have both, do not try intermittent fasting until you address the hypoglycemia. This article, “[Is Intermittent Fasting Good For you?](#)” from Chris Kresser goes in depth into who should and who should attempt intermittent fasting. Incidentally, he is an amazing source for accurate information when it comes to health and nutrition!

### **Consequences of Not Addressing Hypoglycemia and/or Insulin Resistance**

If hypoglycemia and/or insulin resistance are not addressed they can progress to even more serious conditions. These conditions are beyond the scope of this book, but I will list the common symptoms here.

Metabolic Syndrome is when someone has too much insulin and too much glucose in their bloodstream. It can lead to Type 2 Diabetes.

**Symptoms of Metabolic Syndrome:**

- ❖ systemic inflammation
- ❖ high HDL (“bad” cholesterol)
- ❖ high blood pressure
- ❖ obesity, especially of the abdomen
- ❖ high blood glucose (above 100 mg/dl)

**Symptoms of Type 2 Diabetes:**

- ❖ frequent infections
- ❖ increased thirst
- ❖ increased urination
- ❖ hunger even after eating
- ❖ blood glucose above 200 mg/dl
- ❖ tingling in hands or feet

## **Chapter 2: Daily Diets Causing Blood Sugar Dysregulation**

Woke up feeling tired. Feel better after having your coffee with vanilla creamer. Rush around getting ready and then have a bowl of cereal with low-fat milk on top.

Get to work. Already dragging again. Visit the office kitchen or the neighborhood coffee shop for another cup of coffee with sugar. While in the kitchen, help yourself to one of the donuts a coworker ‘thoughtfully’ brought in for everyone or order a blueberry muffin at the coffee shop.

Slight headache before lunch. Feeling pretty irritable. Coworker asks you to go have lunch and you accept. The neighborhood Italian restaurant is delicious! You two don't have much time so you order pasta because you know it will be quick. You have penne with marinara and chicken breast and a sweetened ice tea. You feel much better.

3 pm: You are having a hard time keeping your eyes open at your computer. Back to the office kitchen or coffee shop for another coffee with sugar or over to the vending machines for a soda or energy drink.

Leave work, sit in traffic for too long. Get home. Didn't have time to make dinner. Order Chinese takeout and pour a glass of wine so that you can relax.



Finally head to bed. You wake at 2 am and can't get back to sleep for the next hour. All your worries are amplified during that time.

### **What's wrong with this diet?**

This diet is lacking healthy fats, fiber, and adequate protein and has too many refined carbs. Also too much caffeine. This type of diet sets someone up for a vicious cycle of blood sugar dysregulation, adrenal issues, and then any number of the problems and diseases that are listed in Chapter 3.

### **Example of a Child Riding the Blood Sugar Rollercoaster:**

Wake up. Dad pours him a bowl of sugary cereal with low-fat milk and a glass of orange juice.

He gets ready for school and on the way he is already hungry so mom gives him a packet of fruit snacks to hold him over.

Snack time before first recess. Mom packed him a bag of goldfish crackers.

Lunch: Hot lunch today and he picks the bagel lunch. Inside is a white flour bagel, cream cheese, apple sauce cup, sliced apples, and a juice box. He eats the bagel dry (because he doesn't eat cream cheese) and washes it down with the juice box. He sucks down the sugar-laden applesauce, and eats one slice of apple before he sees his friends going out to play and throws the rest away.

Back from recess. He finishes a level on his online learning platform so he get to pick a treat from the treat box. There are stickers, small toys, and candy. He chooses candy, of course. He gets in trouble for not listening during clean up time.

3:30: Mom picks him up from school. He is grumpy! She has snacks in tow though so after some bunny graham crackers, his mood picks up.

Mom makes dinner for her and dad, but since her son is picky, she just makes him a

grilled cheese sandwich and gives him a couple of baby carrots. He has a juice box with dinner. He eats his whole grilled cheese and ate a baby carrot, so he gets two homemade cookies as a reward.

About an hour and a half after dinner, he is cranky and hungry again. Dad gets him a blueberry Gogurt before bed.

**\*\*Unfortunately, most parents don't realize how detrimental this diet is to their child's health. Not only is this diet lacking in healthy fats, fiber, and nutrients, it is also extremely high in refined carbs and sugar which feed the pathogenic bacteria in his gut. How can we expect this child to thrive mentally and physically on this diet? He needs fat for his brain and protein to grow. He needs fiber to feed his microbiome (which will keep his immune system healthy) and to help with elimination. This child will not only have blood sugar issues (which generally manifest as behavior and learning issues in children (also nightmares), but he will also become deficient in a whole host of nutrients (if he isn't already).**

## **Chapter 3: Common Problems Caused by Blood Sugar Dysregulation**

### **Hormonal issues**

Many of the hormonal problems that we have come to accept as “normal” are really just blood sugar regulation problems. How can this be? It happens through a process called the “pregnenolone steal.” You see pregnenolone is the substance that the body uses to make all of your hormones. If you are constantly stressing your body with high and low blood sugar, you are getting your adrenals involved in the regulation of your blood sugar. In order for your adrenals to pump out cortisol, pregnenolone has to be used to create the cortisol. This means that the pregnenolone is “stolen” from your reproductive hormones. The consequence of using your pregnenolone for stress hormones instead of reproductive hormones is that your reproductive hormones get out of balance. Out of balance hormones lead to all sorts of issues depending upon what is too low or too high.

Problems of *hormonal imbalance* include:

- ❖ PMS
- ❖ Polycystic Ovarian Syndrome (PCOS)
- ❖ Menopausal symptoms such as hot flashes, mood swings, etc.
- ❖ Weight gain around hips

- ❖ Andropause in men
- ❖ Erectile dysfunction
- ❖ Enlarged prostates

## Adrenal fatigue

As stated above, the adrenals get tired after getting called in for emergency after emergency to balance your blood sugar. They may first become overactive, then dis-regulated and finally exhausted. A person might get to experience all three if they don't intervene in time. The symptoms for each phase are slightly different.

- ❖ **Hyperadrenia:** Someone in this stage has adrenals that are chronically over-active. This is the person who is always “keyed up”. Generally this stage cannot be maintained and leads to either adrenal dis-regulation or hypoadrenia.
- ❖ **Adrenal dysregulation:** Someone in this stage has energy that fluctuates in opposition to the rhythms of the day. They are over-tired in the morning and find it difficult to get out of bed. They are probably reaching for the caffeine just to function in the morning. Once bedtime rolls around though, they are too wired to sleep.
- ❖ **Hypoadrenia:** Someone in this stage has been chronically stressed for quite a while. They most likely were first hyperadrenic or had adrenal dysregulation before they reached this stage. Their adrenals are “fatigued” from overuse. This person probably has to get through the day with coffee and/or refined carbs just to keep going.

## Compromised Digestion

Another area of your body function that suffers as a result of blood sugar dysregulation is your digestion. When the adrenals are called in for that fight/flight response, your digestion takes a back seat. Remember that your body can't distinguish between a modern stressor (or chronic stress) and the stress of having to run for your life from a large predator such as our ancestors needed to do from time to time. Since digesting your food isn't as important as running for your life, your body uses it's precious resources for your arms and legs. This leaves food sitting in your stomach for longer than it should. What happens when food sits in your stomach too long? Well the proteins putrefy, the fats rancidify, and the carbs ferment. When this happens over and over it can

cause the intestinal lining to become permeable (aka Leaky Gut).

Once your gut is leaky, a whole host of problems can occur. First, you won't be absorbing as many nutrients due to the compromised gut lining. Nutrient deficiencies cause their own problems depending on what becomes deficient. Also, undigested food particles can get through the intestinal barrier. Unfortunately, this can cause food sensitivities. It can even trigger autoimmunity!! This is stressful to the body and that gets the adrenals involved, which can exacerbate adrenal fatigue and blood sugar issues.

## **Microbiome and Immunity**

If you are feeding your microbiome refined carbohydrates and sugar, you are feeding the pathogenic bugs and helping to kill off the beneficial bacteria. This isn't something that can be fixed by popping a probiotic. You have probably heard by now that about 80% of your immune system is found in your gut! After reading the section above on digestion, you can probably see how having a compromised gut lining will lead to immune problems. One of the most common overgrowths is a fungus called Candida. Candida overgrowth shows itself in obvious ways like yeast infections, thrush, and UTI's, but it also can cause food cravings for those foods that feed it! H. Pylori is another pathogenic organism that is known to cause stomach ulcers. Sinus allergies, food allergies, and skin disorders such as eczema and psoriasis are also a symptom of gut dysbiosis. So is catching frequent cold or flus, and never getting sick (a sign of a depressed immune system).

### **Your microbiome:**

- ❖ moderates the immune system (this keeps you from always being sick and also prevents mistaking your own tissues for invaders as in an autoimmune disorder)
- ❖ assimilates vitamins and minerals
- ❖ breaks down complex carbohydrates
- ❖ makes short-chain fatty acids to feed the beneficial bacteria in your colon
- ❖ removes toxins
- ❖ regulates your metabolism
- ❖ controls energy assimilation
- ❖ keeps your bowels moving
- ❖ lowers inflammation
- ❖ maintains your intestines' mucosal lining (this is the barrier that keeps good things in and bad things out. Important!)

## Problems caused by gut dysbiosis:

- ❖ weight gain
- ❖ allergies
- ❖ high blood pressure
- ❖ mood disorders
- ❖ asthma
- ❖ Autism
- ❖ diabetes
- ❖ sugar cravings
- ❖ bowel disorders/diseases
- ❖ acne
- ❖ eczema
- ❖ joint pain and arthritis
- ❖ hardening of the arteries
- ❖ PMS
- ❖ frequent colds/flu
- ❖ memory and concentration problems
- ❖ insomnia
- ❖ parasite infections

## Brain Issues

This is an area that is shocking in my opinion. Did you know that many health care providers are now referring to Alzheimer's as Diabetes 3?? Yes, the consequences of not balancing your blood sugar are very real. If you want to live into your 60s and 70s and hopefully even 80s and remember who your loved ones are, you need to balance your blood sugar!

This isn't just a problem to worry about for another day, however. Blood sugar dis-regulation affects our mood, memory, and brain function right now. Brain fog? Depression? Anxiety? Poor short-term memory? Blood sugar is likely to blame or at least be contributing to your brain and mood issues.



## **Common brain symptoms that can be caused or exacerbated by blood sugar dysregulation:**

- ❖ anxiety
- ❖ depression
- ❖ brain-fog
- ❖ loss of short term memory
- ❖ inability to convert short-term memory to long-term
- ❖ lack of motivation
- ❖ dementia
- ❖ Alzheimer's
- ❖ irritability
- ❖ mood swings
- ❖ obsessive-compulsive disorder
- ❖ ADHD

## **Fatigue**

This is one of the biggest complaints of Americans these days. It is such a vague complaint and yet it can truly affect one's quality of life. Riding the blood sugar roller coaster of high blood sugar, alternating with reactive hypoglycemia, and possibly insulin resistance makes you tired for a few reasons. First, causes an erratic output of energy as your body juggles all these different stages. Second, all that cortisol it is stressful for the body. Having it pumping through your blood multiple times a day takes it out of you just as if you had run from that bear. Third, so many nutrients are used up from your stores in trying to keep your blood sugar at just the perfect level that most people are running around with multiple nutrient deficiencies. Your body also has to compensate for this and that just plain makes your tired as well.

## **Nutrient deficiencies**

All those empty foods containing refined white flour and/or refined sugar actually steal nutrients from your body so that they can be processed. Specifically, nutrients such as magnesium, chromium, calcium, vitamin C and even vitamin D have to be used for your body to process the sugar and refined carbs that you eat. Each nutrient deficiency comes with it's own set of possible symptoms too numerous to go into here, but know that most Americans are running around with at least 10 or more nutrient deficiencies that are

robbing them of feeling well.

## **Weight gain**

When there is insulin in the bloodstream, we cannot access our stored triglycerides. What does this mean? The fat that was stored after the last glucose spike cannot be used for fuel and just stays there. No weight loss and probably more weight gain. We end up losing what is called our “Metabolic Flexibility”. This is our ability to move from burning dietary glucose to burning our own stored energy (fat).

## **Lost sleep**

One of the most frustrating symptoms of dis-regulated blood sugar is actually sleep loss! If you wake in the middle of the night with worries that seem immediately pressing, or you wake and can't get back to sleep for an hour or two, or you wake with your heart racing, blood sugar is almost certainly the culprit. What has happened is your blood sugar dipped too low in the night (remember reactive hypoglycemia?) and then your adrenals had to be called in to get your blood sugar up asap. When the adrenals get called in, your friend cortisol starts pumping through your blood. This wakes you up! It also makes it hard for you to get back to sleep. See chapter 4 for how to prevent this extremely frustrating occurrence.

## **Heart Disease**

Although saturated fats were wrongly blamed, now we know that the more likely culprit in heart disease is sugar and refined carbohydrates. Heart disease is an inflammatory condition leading to the development of plaques in the arteries. Blood sugar dysregulation causes inflammation whereas healthy fats help keep blood sugar balanced and dampen inflammation. Although heart disease is a multifaceted issue, replacing your refined sugars and carbohydrates with healthy fats will get you well on your way to avoiding heart disease.

## **Chapter 4: The Keys to Balancing Your Blood Sugar**

## **Eat a Nutrient-dense, Whole-foods diet**

In order to keep your blood sugar stable, you need to eat a balanced combination of macronutrients. To keep your “fire” burning, you need long-burning fuel like healthy fats (think grass-fed ghee or butter, lard, tallow, olive oil, avocado oil, and fat containing foods like pastured eggs, grass-fed milk, and pastured meats.) Your goal is to eat enough at each meal to make it to the next meal without having to snack.

## **Food Timing: When to Eat**

When you eat is almost as important as what you eat where blood sugar is concerned. Ideally, you should be able to go 3-5 hours between meals (and at least 12 at night) comfortably without eating. Unfortunately, that is not the majority of Americans. Most of us snack all day. We also provide snacks to our children all day and then wonder why they won't eat their dinner. (Did you know that [French Kids Eat Everything](#) and they don't snack?) Contrary to popular belief, snacking is actually detrimental to your health because you always have either elevated blood glucose or insulin in your blood. Your system never gets a break. Also, when insulin is in your bloodstream, you cannot access your stored fats. This means none of that fat around your middle or your thighs is going anywhere.

With all that said, however, initially you will probably need to snack to make it to meal times (or even right before bed) without becoming hypoglycemic. The key is to choose snacks that are high in fat to get you through until meal time. There are plenty of recipes out there for fat bombs and butter mints. The recipes section in Chapter 7 has links to quite a few easy ones to make at home. You could also choose some high quality protein/fat combo like properly prepared nuts. Your focus, however, will be on eating enough fat, protein, and fiber at your meal times that eventually you will be able to make it to the next meal without even thinking about food.

## **Sleep**

Loss of sleep is actually a big contributor to developing insulin resistance for those who don't already have it. Sleep is also crucial to maintaining balanced blood sugar and adrenal health. Bottom line is burning the candle at both ends or “sleeping when your dead” just won't work. To optimize your sleep here are some good habits to practice:

- ❖ Set a bedtime and keep it. About 10 seems to be best, but everyone will be slightly

different.

- ❖ Make sure you are asleep before your second wind, usually around 11.
- ❖ Stop watching television or using electronic devices at least an hour before (even my favorite electronic device, my [Kindle](#), emits blue light, so wear [blue blocking glasses](#) if reading one before bed.
- ❖ Don't eat sweets before bed!
- ❖ If you have a problem waking from 1-3 (which as we covered above is almost certainly due to your blood sugar dropping low enough to trigger a release of cortisol) eat a snack right before bed. Make sure that it contains fat and or protein and very little carbohydrates. You will eventually be able to stop this practice once your blood sugar is healthy again.
- ❖ If you are still waking up, keep a small snack next to your bed. Eventually you will be able to stop this practice once your blood sugar is healthy again.
- ❖ Consider using an [essential oil diffuser](#) with a [sleep blend](#).
- ❖ If you are sensitive to noise, try some white noise in the background like a fan or a noise maker.
- ❖ Make sure your wifi is off and your phone is on airplane mode.
- ❖ Spray your body (fatty areas only) with [magnesium oil](#). Magnesium is very important for relaxation and sleep. It is especially helpful if done about a half an hour before you want to be asleep. Warning: It may sting or itch at first. If so, this means you are very deficient in magnesium. Don't give up! It is such a crucial mineral to your health. See my post "[Are you Magnesium Deficient?](#)" for more in-depth information on magnesium deficiency symptoms and the myriad of health concerns, problems, diseases and disorders that magnesium deficiencies cause or contribute to. I've been spraying magnesium oil on before bed for about two years and it has changed my sleep, which has changed my life!
- ❖ Warm baths or showers can help relax you, especially when taken about a half an hour before bed. I always add [magnesium salts](#) to my kids' baths to help them sleep and to mine when I am lucky enough to get one.
- ❖ Consider a [homeopathic](#) or herbal sleep remedy.
- ❖ If you are sensitive to light, get yourself some [black-out blinds](#) or a [sleep mask](#).
- ❖ Avoid alcohol for a few hours before bed. Alcohol can raise blood sugar. As we have seen before, when the body responds to high blood sugar, reactive hypoglycemia can occur. This can lead to night waking as well. Also, alcohol may help you get to sleep faster, but it reduces the REM stages of sleep. Lack of REM sleep can create problems with learning and mood.

## Stress-management

Remember that a stress response is a blood sugar response! Another way of putting this is that anytime your adrenals get called in, whether from acute stress or more commonly from chronic stress, it will affect your blood sugar regulation. The two are like a married couple: if one is out of whack, the other one will find no peace! How can I reduce my stress you ask? Well, the reality is that we will always have life stressors. Some you can minimize like getting up a bit earlier so that you don't have to rush around in a frenzy or asking to work from home once a week, but there are so many that are out of our control. Most often, it is not the actual stress that we can reduce but our *response* to our stressors. Our response to the stress is all that our body actually cares about anyway. Here is where stress-management techniques like tapping, mediation, and yoga come into play. However, think about the stress-management techniques that interest you.

My personal favorite stress-busters are:

- ❖ [yoga](#)
- ❖ [meditation](#)
- ❖ [tapping](#)
- ❖ hiking
- ❖ gardening
- ❖ [Proprioceptive Writing](#)
- ❖ regular visits with friends
- ❖ [pranayama breathing](#)
- ❖ essential oils

Choose something **you** love to do for managing your stress. You are much more likely to stick with it if you enjoy doing it.

## Clean Up Your Home

Besides the metabolic stress that we create when we overload our body with simple carbs, consuming foods we are sensitive too, overconsumption of alcohol, or over the counter (OTC) meds, etc., there are also daily environmental stressors such as chemicals, pesticides, emfs, etc., our body also has to deal with.

- ❖ switch out your personal care products for either [homemade versions](#) or versions that are free of chemicals. Everything you put on your skin gets absorbed into your body! You would be amazed how easy it is to make your own [face cream](#), [face serum](#), [masks](#), and body lotions! Even toothpastes and deodorants come together in a snap!



- ❖ antibiotic hand sanitizer is a big disrupter of your microbiome. Consider making [homemade hand sanitizer](#) with a few simple ingredients, or buying an essential oil based hand sanitizer instead.
- ❖ reduce toxins in your home by replacing toxic cleaning products with [homemade cleaners](#), replace toxic candles with [homemade air fresheners](#) or buy [eco-friendly versions](#). You can try an [eco living challenge](#) if you want more guidance.
- ❖ Replace plastic bottles and food storage containers with glass. Plastics have xenoestrogens that disrupt your body's hormonal balance.
- ❖ From there you can move to replacing clothing with natural fibers. Did you know that much of the inexpensive clothing out there is made with plastic!! Again, plastics have xenoestrogens that disrupt your body's hormonal balance.
- ❖ Set a [timer](#) on your wifi to go off around 9 or 10 pm (depending on your bedtime) and turn on in the morning.
- ❖ Consider EMF blocking covers for your [phone](#) and/or [tablet](#).

## Chapter 5: Therapeutic Foods for Blood Sugar Regulation

- ❖ Pastured organ meats, pastured eggs, bone broth, cod liver oil, full fat dairy, butter, salmon, oysters, lamb, and poultry
- ❖ Avocados, olive oil
- ❖ Nuts: Almonds, pecans, macadamia nuts, pistachios, pumpkin seeds, sesame seeds, sunflower seeds, hazelnuts, flaxseeds. When buying nuts and seeds, be sure to buy them raw and soak them before consuming them. They can then be made into crispy nuts, nut butters, nut milks, etc.
- ❖ Most vegetables but especially the orange vegetables (carrots, sweet potatoes, butternut squash) and the brassica family (cauliflower, broccoli, Brussels Sprouts, kale. Brassica vegetables are best consumed cooked because of their high goitrogen content. Goitrogens impede thyroid function when consumed in large amounts. Also don't forget to include healthy fat with all your veggies. The fat helps your body absorb the vitamins and minerals!
- ❖ Alliums (garlic, onions, etc)

### Important Vitamins for Blood Sugar Regulation

All the B vitamins. You may want to supplement with a high quality B-complex for a month or two to correct any B-vitamin deficiencies you may have incurred due to the blood sugar roller coaster which depletes B-vitamins rapidly. The Standard American diet is deficient in the B-vitamins.

Vitamin A (and beta carotene)

This is a fat soluble vitamin that is very deficient in the Standard American Diet. It plays a key role in hormone function, especially adrenal hormones. Vitamin A is only found in animal foods. Its precursor, beta-carotene, is found in plant foods, but is not easily converted to vitamin A (retinol).

### **Important minerals for Blood Sugar Regulation**

- ❖ Chromium
- ❖ Vanadium
- ❖ Manganese
- ❖ Potassium
- ❖ Zinc: important for digestion, hormonal balance, and is generally deficient in those who are insulin resistant

### **Important Amino Acids For Blood Sugar Regulation**

- ❖ Arginine
- ❖ L-carnitine

Other nutrients for **hypoglycemia**:

- ❖ bovine liver
- ❖ bovine adrenal gland
- ❖ bovine pancreas
- ❖ vanadium
- ❖ inositol
- ❖ Rubidium
- ❖ CoQ10

Other nutrients for **Insulin Resistance**:

- ❖ Gymnema sylvestre
- ❖ Banaba leaf
- ❖ maitake mushroom
- ❖ pectin
- ❖ bitter melon

**Herbal Blood Sugar Balancing Support:**

- ❖ dandelion root
- ❖ cinnamon
- ❖ seaweed
- ❖ parsley
- ❖ Milk Thistle

## **Chapter 6: A Step-by-Step Guide to Balancing Your Blood Sugar and Reclaiming Your Health!**

- ❖ Breakfast is the most important meal when trying to balance your blood sugar. Eat a breakfast containing healthy fats, proteins and fiber. You could also add some complex carbohydrates like sweet potato or regular potatoes with skins. See the recipes in Chapter 7 for ideas.
- ❖ Always eat fat, protein, or fiber with your carbohydrates. Choose complex carbohydrates like root vegetables and avoid refined carbohydrates like flour and sugar. See some substitution options in Chapter 7.
- ❖ Identify any food sensitivities or intolerances. The body cannot heal if it is continually being aggravated. If you are constantly consuming foods that are irritating your body, your body is in a constant state of stress (back to the adrenals again!) The most common food sensitivities are gluten, dairy, eggs, soy, corn, peanuts, nightshades (tomatoes, peppers, etc.), tree nuts and sesame seeds. The easiest way to do this is an elimination diet. Take all of these foods out of your diet for 3-4 weeks. Introduce each food one by one taking a few days for each food and record your symptoms. If you notice a reaction to a particular food or foods, remove it from your diet for a few months before attempting to reintroduce again. Note that some foods have delayed symptoms (especially gluten).

- ❖ Limit caffeine. Ideally you should have only 1-2 cups of caffeinated coffee or tea and it is best before 9 am. (This is important for your adrenal health which is closely aligned with your blood sugar as seen in Chapter 3.) You might consider taking a week off of caffeine to give you a jump start on managing your blood sugar and reduce your dependence on caffeine. Taking one or two days off from caffeine regularly is also a good strategy if you can do it.
- ❖ Avoid refined white flour (this goes for many gluten-free flour blends as well.) If you determine that you are not sensitive to gluten, eat [long-fermented sourdough](#) products. Sourdough is absorbed more slowly, so it has less of an impact on your blood sugar. Also, the phytates have been neutralized by the fermentation process, so this means more nutrients in their bio-available form (ready for your body to absorb). If the wheat was freshly ground before fermentation, you can look forward to all sorts of B-vitamins and vitamin E in every delicious (and hopefully grass-fed-butter-topped) bite. This is the [grain mill](#) I have for grinding flour effortlessly at home. I make a sourdough version of all of our old favorites (waffles, crepes, tortillas, popovers, biscuits, etc) to consume *sparingly*.
- ❖ Avoid sugar. Once you have stabilized your blood sugar, an occasional treat with natural sweeteners such as raw honey or maple syrup can be enjoyed. In the mean time, most people find it easier to go “cold turkey” on the sugar to kick the habit. There will be the odd person that is fine tailoring down, but usually having one cookie leads to having two and then...you get the picture.
- ❖ Make sure all meals are well-balanced. Everyone has different needs when it comes to macros (macronutrients are carbohydrates, protein, and fat). What works for cousin Susie may or may not work for you. Find what makes you feel best.
- ❖ If you want to jump start your healing with a short stint on a low-carb or ketogenic diet, that is fine unless you have hypothyroidism or adrenal fatigue. These conditions are usually worsened by extremely low-carb or ketogenic diets. Also, unless you supplement with resistant starch, there is evidence that your microbiome will be negatively altered while on this diet. Remember that just because cousin Johnnie feels great on Keto, doesn't mean you will.
- ❖ Don't eat sweets before bed. This could lead to you waking up sometime between 1 and 3 am and experiencing anxiety, restlessness, and even heart palpitations.
- ❖ If despite not eating sweets after dinner you still are waking during the night, have a small snack right before bed. This should be a fat and protein filled snack, nothing sugary of course! You might have a couple of slices of cheese, a handful

of properly prepared nuts or a fat bomb.

- ❖ Limit alcohol. If you are going to have alcohol, just have a glass of wine or a beer with dinner and then stop. Not only does alcohol have to be processed through the liver, but it also disturbs sleep. The liver is crucial in the efforts of your body to keep your blood sugar stable. Sleep is also crucial in maintaining healthy blood sugar.
- ❖ This one might seem obvious, but don't drink soda! It doesn't matter if it is made with artificial sugar, high-fructose corn syrup, or real sugar. True that all of these things affect the body differently, but also true that you need to eliminate them all to balance your blood sugar.
- ❖ Do not consume juice. Contrary to popular belief, juice is not healthy for you. Store-bought juice has been pasteurized and it stripped of its fiber which slows down the absorption of the fructose (fruit sugar) into your bloodstream. The result is a rush of fructose to your bloodstream and your body goes into emergency mode to get your blood sugar down. This results in very low blood sugar an hour or two after drinking the juice (aka reactive hypoglycemia). An exception would be an occasional freshly squeezed juice at home that contains mostly vegetables. I have this [masticating juicer](#) which does a great job of not wasting your organic veggies and fruits!
- ❖ No energy drinks! There are various reasons why you should not be drinking these, ever. Depending upon the drink, there will be caffeine, food coloring, additives, tons of sugar or sugar
- ❖ substitutes, and even stimulating herbs. If the reason you consume this is you are experiencing afternoon slumps, this is an indication that you really need to pay attention to managing your blood sugar. Consuming energy drinks (or coffee or tea) in the afternoon will only exacerbate your blood sugar issues and their subsequent symptoms.
- ❖ If you need to, you can use a glucometer to check your fasting blood sugar. It should be between 80-100.
- ❖ Get adequate sleep. Losing even a couple of hours a night of sleep can affect your blood sugar! Set a regular bed time. Try to be asleep by 11 at the latest. 10 is better. See Chapter 6 for suggestions on getting a good night's sleep.
- ❖ Get your body moving, but avoid over-training. Gentle movement such as brisk



walking or yoga is best while your body is healing. Over-training will release too much cortisol.

- ❖ Despite the marketing campaigns labeling cereal as “healthy”, know that cold cereal for breakfast is a sure-fire way to bring on blood sugar dysregulation and inflammation. Why? As you know by now, refined carbs start the blood sugar rollercoaster. Even if you choose an unsweetened cereal and you use raw grass-fed whole milk (which is the only type of milk you should be drinking) on top of your cereal, the grains have been so heated so high and are so processed that they are rancid. If you only take one thing away from this ebook, I hope it is this: Your breakfast should contain healthy fats, protein, and fiber. It should not be cold cereal. This takes planning if you have to rush out the door in the morning like most of us, but you can find time in the evening to make a batch of egg bites, mini quiches, or some other healthy option to warm up in the morning. See Chapter 7 for recipes.

## Chapter 7: Recipes for Balancing Blood Sugar

Here are some of the best recipes around the blogosphere containing healthy fats, protein, and fiber to balance your blood sugar. I have focused on breakfast, snacks, and replacements for high/refined carb items. Just click the links to get the full recipes.

### Beverages:

Consider adding some fat to your morning beverage. Some great choices are Bulletproof coffee with added butter and/or coconut oil or Golden milk with turmeric to fight inflammation. I personally add [MCT oil](#) and [Organixx collagen](#) (this has vitamin C in it so that your body can utilize the collagen. If you don't use this brand, take a [high quality vitamin C](#) when you take your [collagen](#)) to my morning tea blend. I use my [stick blender](#) to mix froth it like a latte. On the other hand, if you choose a detoxifying beverage instead, it can assist in insulin resistance.



Chai Butter Latte



Morning Detox Drink



Nourishing Gingerbread Latte



Fat-Burning Chai Tea



Spiced Raw Eggnog



[Lemonade Water Kefir](#)



[Kombucha](#)



[Orangeade Natural "Soda"](#)

## **Breakfast**

Starting your day with a satiating breakfast containing healthy fats and protein is vital to maintaining balanced blood sugar throughout the day! If you can sneak in some vegetables, it is even better! Try changing your mindset from sweet breakfasts like pancakes (although there are some better versions included here) to savory items. Even leftover dinner is great as long as it you weren't planning to have it for your lunch.



[Dehydrated Hash Browns](#)



[Mini Quiche Breakfast Bombs](#)



[Quick 12 Egg Quiche](#)



[Broccoli and Cheese Mini Quiches](#)



[Homemade Maple Yogurt Cheese](#)



[Homemade Yogurt](#)



[Homemade Milk Kefir](#)



[Pastured Pork Sausage](#)



[Instant Pot Perfect Hard-Boiled Eggs](#)



## Smoothies:

Smoothies can be an easy and quick breakfast or a great snack. In just a few minutes you can get protein, fat and even vegetables blended into a tasty drink. Be sure to sit and enjoy your smoothie slowly, however. Your body still has to digest it!



[Anti-inflammatory Smoothie](#)



[Energizing Matcha Smoothie](#)



[Chocolate Dandelion Milkshake](#)



[Superfood Filled Breakfast Smoothie](#)



Delicious Protein  
*Mocha Smoothie*  
With Collagen



### [Protein Mocha Smoothie](#)

**Pancakes:** Here are a few higher protein options. Be careful to choose toppings with minimal sugar and be sure to eat with plenty of healthy fat like maybe some pastured sausage or eggs.



### [High Protein Yogurt Pancakes](#)



### [Buckwheat Sourdough Waffles and Pancakes](#)



[Cottage Cheese Oatmeal Protein Pancakes](#)



[Gluten-free Pancakes with a Green Twist](#)

## Noodle and Rice Substitutes:



[Garlic Butter Cabbage Noodles](#)



[Paleo Zucchini Pasta with Garlic and Olio](#)



[Spinach Tomato Zoodle Pasta Rice](#)



[Buddha Bowl on Cauliflower Rice](#)

## Condiments:

So many store-bought condiments are made with sugar, corn syrup, or artificial sweeteners! Most of them take only minutes to make at home without all that gunk.



[Homemade Mayo](#)



[Homemade Tartar Sauce](#)



[Chimichurri Sauce](#)



[Homemade Bone Broth](#)

## Desserts/Treats

While it is best to avoid desserts and treats altogether while getting your blood sugar under control, once your blood sugar is consistently stable, it is okay once in a while to add an occasional dessert that contains either protein, fat, or fiber (or all 3!) to slow the absorption of glucose by the bloodstream. Be careful though! It can be a slippery slope for some!



[Homemade Lemon Curd \(no refined sugar\)](#)



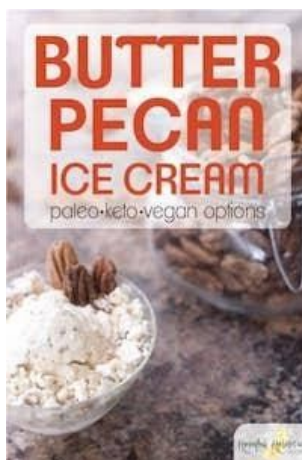
[Strawberry Banana Energy Bars](#)





### [Lemon Coconut Butter Fudge](#)

She has many other amazing flavor variations as well.



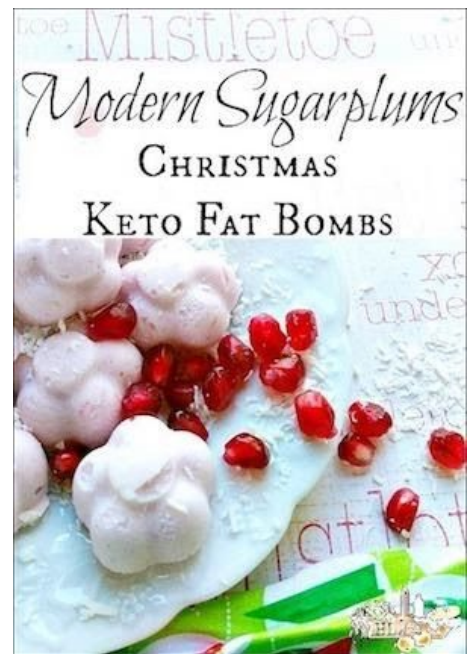
### [Butter Pecan Ice Cream](#)



### [Vanilla Chia Pudding \(Vegan\)](#)



[Homemade Healthy Chocolate](#)



[Keto Fat Bomb](#)



[Paleo Pizelle Cookies](#)



[Quinoa Chocolate Chip Cookies](#)



# References and Recommended Reading

## **Adrenal Fatigue:**

[Adrenal Fatigue: The 21<sup>st</sup> Century Stress Syndrome](#) by J. Wilson

[The Adrenal Reset Diet](#) by Dr. Christiansen

## **Brain Health:**

[Why Isn't My Brain Working?](#) By Dr. Datis Kharrazian

## **Heart Disease:**

[Put Your Heart In Your Mouth](#) by Dr. Natasha Campbell-McBride

Blood Sugar and Hormonal Health:

[The Hormone Cure](#) by Dr. Sara Gottfried

## **Digestion/Microbiome:**

[Mechanisms Linking the Gut Microbiome and Glucose Metabolism](#) The Journal of Clinical Endocrinology and Metabolism

[Protect Your Microbiome](#) Reclaiming Vitality

[8 Evidence-based benefits of Kombucha Tea](#) Healthline.com

Science-backed-bone-broth-benefits

<https://happymammoth.co/science-backed-bone-broth-benefits/> Happymammoth.com

## **Intermittent Fasting:**

[The Complete Guide to Fasting: Heal Your Body Through Intermittent, Alternate-Day, and Extended Fasting](#) by Dr. Jason Fung

## **Healthy Fats:**

[The Big Fat Surprise](#) by Nina Teicholz

## **Paleo:**

[Paleo Principles](#) by Sarah Ballantyne, PhD

## **Autoimmune Protocol:**

[The Autoimmune Solution: Prevent and Reverse the Full Spectrum of Inflammatory Symptoms and Diseases](#) by Dr. Amy Myers

[The Autoimmune Paleo Cookbook](#) by Mickey Trescott