SUPPLEMENTS TO SUBDUE THYROID SYMPTOMS

FEEL BETTER WHILE YOU HEAL

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INTRODUCTION

Introduction

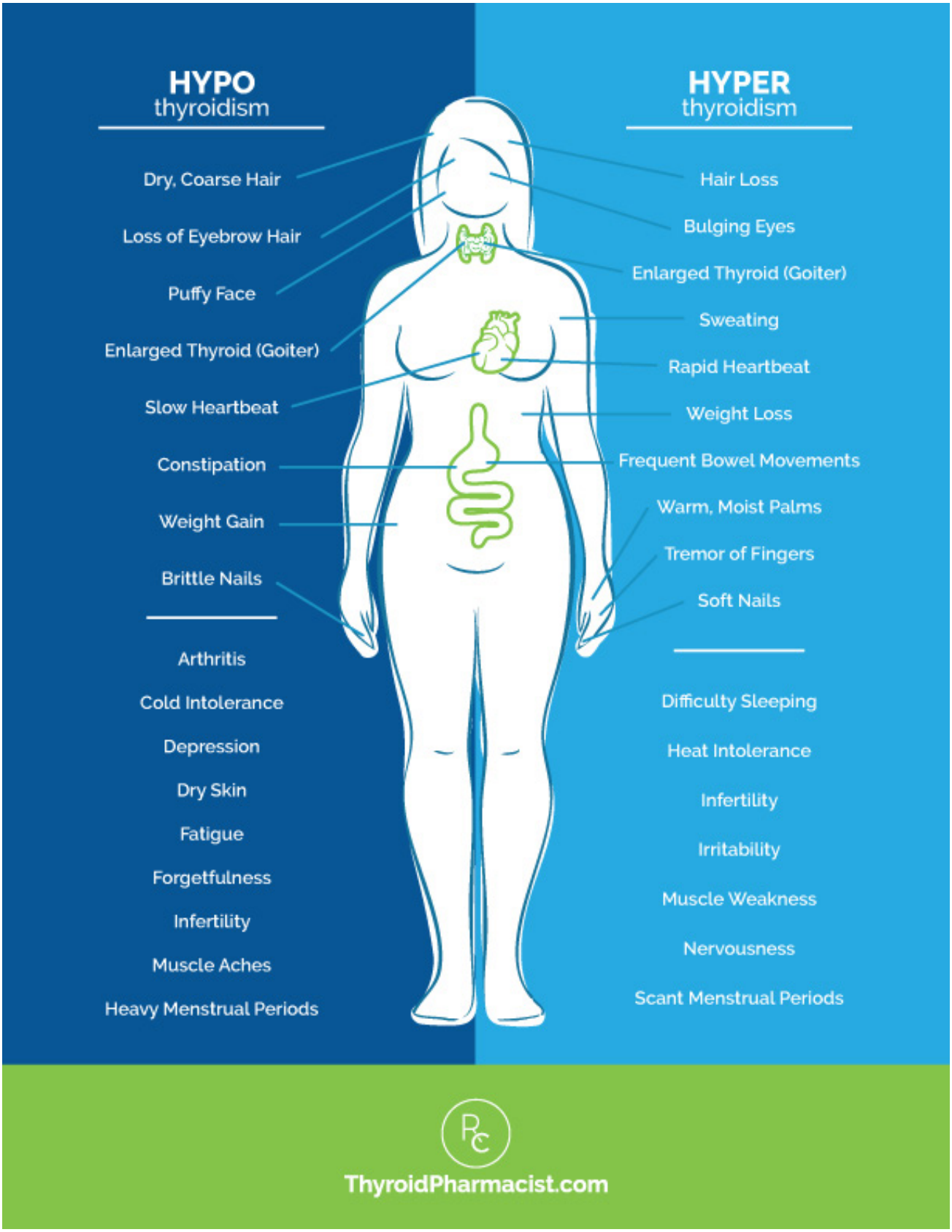
When I was first diagnosed with Hashimoto's, I thought back to a specific moment in pharmacy school. We had this picture of a woman split in half. On one side of the picture, the woman had palpitations, tremors, and was anxious and thin. She was hyperthyroid. On the other side of the picture, she was slow and sluggish, cold intolerant and gaining a lot of weight.

I thought to myself, "If I was going to check a box, I look more like the lady on the right side that's having anxiety and palpitations, feels like she's going crazy, and is losing weight and hair."

Ironically, in the early stages of Hashimoto's, people can have symptoms of both hypothyroidism as well as hyperthyroidism.

This occurs when the immune system attacks the thyroid gland and packets of thyroid hormone are released into the bloodstream. You get these surges that cause a transient hyperthyroidism, and when the hormone gets excreted, you experience a low thyroid hormone level. It feels like a roller coaster when you're going through it, and I think we can all attest that it's quite miserable.

I thought I was going crazy because I was hot, sweaty and having this terrible anxiety one moment, and the next moment I was exhausted and wearing a sweatshirt when my husband was running around the house in shorts.


HYPO
thyroidism
Dry, Coarse Hair
Loss of Eyebrow Hair
Puffy Face
Enlarged Thyroid (Goiter)
Slow Heartbeat
Constipation
Weight Gain
Brittle Nails
Arthritis
Cold Intolerance
Depression
Dry Skin
Fatigue
Forgetfulness
Infertility
Muscle Aches
Heavy Menstrual Periods
HYPER
thyroidism
Hair Loss
Bulging Eyes
Enlarged Thyroid (Goiter)
Sweating
Rapid Heartbeat
Weight Loss
Frequent Bowel Movements
Warm, Moist Palms
Tremor of Fingers
Soft Nails
Difficulty Sleeping
Heat Intolerance
Infertility
Irritability
Muscle Weakness
Nervousness
Scant Menstrual Periods
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While conventional medicine focuses on the important task of balancing thyroid hormones, thyroid hormones do not address most of the symptoms of autoimmune thyroid disease and do not address the immune imbalance and the destruction of the thyroid gland. Interventions that are targeted at addressing the root cause of autoimmune thyroid disease lead to symptom resolution and can actually reverse thyroid disease. I was able to reverse all of my symptoms and my condition once I started using root cause interventions.

It blows my mind how many people are going through the same things that I went through. It amazes me how many others struggle with this and how many are misdiagnosed, undertreated, and not getting the care they deserve.

Join me in discovering the interventions that are right for you. I'm going to share helpful supplements to subdue thyroid symptoms. Some of these supplements may also help with rebalancing the immune system, but I generally do recommend a comprehensive approach that combine nutrition, microbial balance, stress reduction, toxin reduction, and hormone balancing. My hope is that this will encourage and educate you on your journey towards remission. This process can feel daunting and overwhelming at times. I want to invite you to join me in taking the right steps towards remission.

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ABOUT ME AND MY JOURNEY

About Me and My Journey

In full disclosure, I was never ever interested in the thyroid during pharmacy school, but in 2009, that all changed. Suddenly it all became quite interesting to me when I got diagnosed with Hashimoto's! For years, I'd had many different thyroid symptoms. I had cold hands all the time, and I was sleeping under three blankets in Southern California. I had terrible fatigue to the point where I was sleeping for twelve hours a night. I had severe bowel problems, acid reflux, anxiety, and awful hair loss. By the time I was diagnosed, I had been a pharmacist for three years and was acutely aware of the medication options for the condition.

But here's the thing: I wanted to know what more I could do as a patient to address the autoimmune aspect. I'm a firm believer in cause and effect and telling me that I developed this autoimmune condition out of nowhere didn't make sense to me. I had been actively trying to be healthy through exercise and eating all the right foods. I planned all my meals around the Food Pyramid, yet my doctor said there was wasn't much I could do for my Hashimoto's.

They said I'd have to wait around until my thyroid burned out and then I could begin the medications. I didn't like that answer, so I used my background as a pharmacist to do research into my condition. At the time, I was working as a consultant pharmacist and doing a lot of research into medical literature for really complicated patient cases with rare disorders. I got on the PubMed medical literature database and started looking into things that I could do to slow down the progression of my condition. Eventually, I was able to figure out how to put it into remission—and it changed my life.

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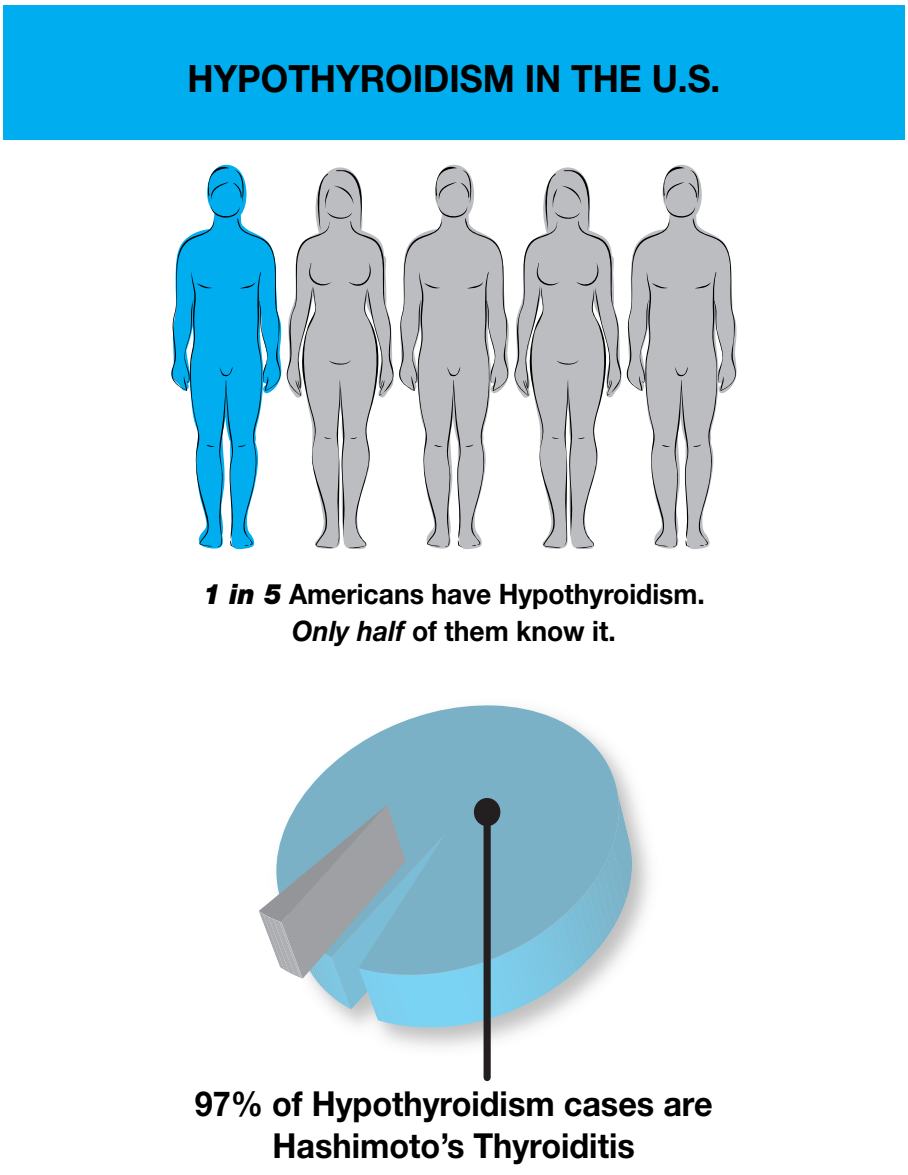
DO YOU HAVE HYPOTHYROIDISM OR HASHIMOTO'S OR BOTH?

Do You Have Hypothyroidism or Hashimoto's or Both?

Did You Know 97% of Hypothyroid Patients also have Hashimoto's?

I often get messages from readers who say that they have hypothyroidism but not Hashimoto's. But often times they have BOTH.



What is the difference between hypothyroidism and Hashimoto's?

Hypothyroidism, by definition, is a clinical state. It is a state of low levels of thyroid hormone in the body.

The low levels of thyroid hormone can occur as a result of a variety of different reasons, such as iodine deficiency, surgical removal of the thyroid, excess use of thyroid suppressing medications, pituitary suppression, or damage to the thyroid (physical or disease induced).

Most cases of hypothyroidism in the United States, Canada, Europe, and in most countries that add iodine to their salt supply are caused by Hashimoto's, an autoimmune condition. Depending on the source, estimates are that between 90-97% of those with hypothyroidism in the United States actually have Hashimoto's.

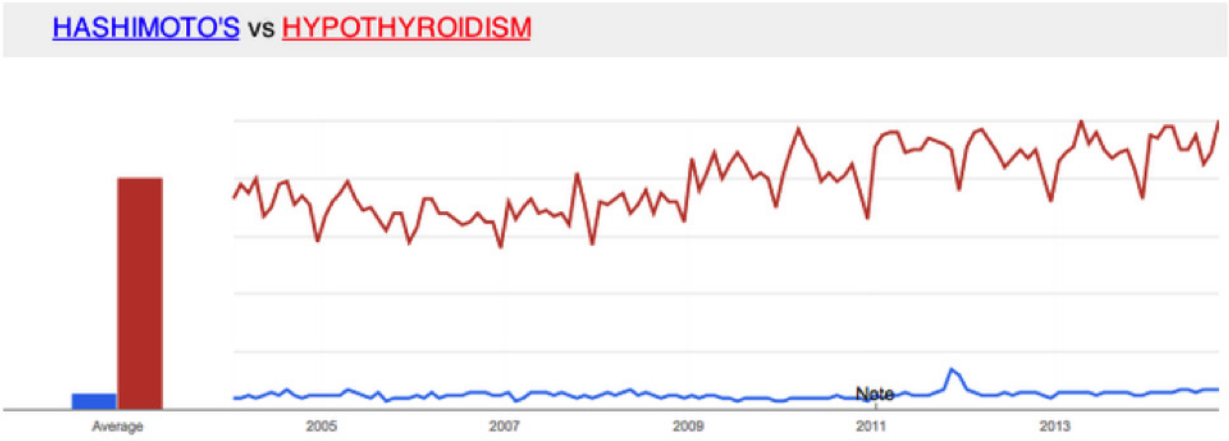
Unfortunately, many people think that if they had Hashimoto's their doctors would have certainly told them.

But that's not usually the case.

Many doctors simply don't test their patients for Hashimoto's. That's because the conventional medical model treats autoimmune thyroid disorders in the same way as they would treat someone with a nutrient deficiency induced thyroid disorder, congenital defect of the thyroid gland, someone who was born without a thyroid, or someone who had their thyroid removed or treated with radioactive iodine… with synthetic thyroid hormones.

I recently found a useful tool called Google Trends that allows you to looks at the search trends in Google searches for various topics.

Below you will find a chart showing searches in RED for HYPOTHYROIDISM and searches in BLUE for HASHIMOTO'S. As you can see, the number of searches for HYPOTHYROIDISM clearly surpasses those for HASHIMOTO'S.



Google searches for Hashimoto's vs Hypothyroidism over the last decade

These trends lead me to wonder if the people searching for hypothyroidism have ever been tested for Hashimoto's...

After being diagnosed with hypothyroidism, many people are told that their "thyroid is sluggish," and that these things happen with age and often hear, "Just take this pill, you'll be fine."

But they're not told that they have an autoimmune condition.

Thus, they never think to ask the question, "Why is my immune system attacking my thyroid?" therefore, they never know to address the immune system imbalance and never get an opportunity to prevent or reverse the progression of the disease.

If you've been diagnosed with hypothyroidism, you should also be tested for Hashimoto's.

Oftentimes, a person will be diagnosed with Hashimoto's after already being diagnosed with hypothyroidism. When that occurs, she will have both Hashimoto's and hypothyroidism.

But it's also possible to have Hashimoto's and not yet have hypothyroidism.

Other times I'll get messages from readers with lots of Hashimoto's related symptoms who say they've been repeatedly tested for thyroid issues, but all of their tests have come out "fine." That's because they never have the specific tests for Hashimoto's.

Studies have found that thyroid antibodies indicative of Hashimoto's can be present for as long as a decade before the person develops impaired thyroid function. I suspect that they can be elevated for much longer, and it may take a person many decades to learn that he/she has hypothyroidism due to inadequate use of the TSH screening test.

Elevated thyroid antibodies have been connected with feelings of distress, anxiety, and depression in those with Hashimoto's.

Also, the higher the antibodies, the more likely you are to experience symptoms of hyperthyroidism (when the thyroid cells are broken down and stored hormone is dumped into the bloodstream) as well as hypothyroidism (when we don't have enough thyroid hormone). But your TSH screening tests may still fall into the "normal range." So, in the early stages of Hashimoto's, the person may still be able to make enough thyroid hormone and, therefore, will have "normal" thyroid function.

The higher the thyroid antibodies the higher your likelihood of developing overt hypothyroidism and possibly additional autoimmune conditions.

Make sure to read here if you swing back and forth from hypothyroidism to hypothyroidism.

You can read more about the TSH test in my post: What to do when your TSH is normal and you are anything but.

The autoimmune attack on the thyroid develops decades before a person becomes hypothyroid; catching the condition early allows us to prevent progression and needless suffering. The person may suffer with symptoms of Hashimoto's for years before they are finally diagnosed with hypothyroidism and placed on medications.

Recently, two women in my family were diagnosed with Hashimoto's. I love and admire them very much. Both are in their sixties and struggled with symptoms like anxiety, fatigue, cold intolerance, weight fluctuations, and brain fog for many decades.

They are both very highly educated women (one has a doctorate degree; the other has a master's degree) and have been very health conscious as far back as I can remember—going to fitness classes, eating organic foods, and lecturing me on my liberal use of sugar in my younger days.

Both of them have also been tested for thyroid problems by their doctors—repeatedly—and were told that their thyroid function was "normal." This is because their doctors did not run the correct tests, just an outdated "screening test."

Both women requested the correct tests at my insistence, and sure enough, they both have Hashimoto's. I'm glad that we finally have an answer to their mysterious symptoms, and we can now get them on the right path to healing so that we can prevent the progression of their conditions.

I am a proponent of not just using medications for hypothyroidism caused by Hashimoto's, but also of rebalancing the immune system to prevent further attack on the thyroid. You can read more in my post on various opportunities for intervention for Hashimoto's and hypothyroidism.

Ideally, a person would get diagnosed with Hashimoto's before she is diagnosed with hypothyroidism. That way she would know that she is at risk for hypothyroidism and would have an opportunity to identify the underlying reasons for her immune system's attack on the thyroid.

So How Do You Diagnose Hashimoto's?

Thyroid ultrasounds, as well as blood tests, are used to diagnose Hashimoto's. In most cases of Hashimoto's thyroiditis, blood tests will reveal one or two types of anti-thyroid antibodies.

Thyroid peroxidase antibody (TPOAb) is the most common antibody present (in up to 95% of those with Hashimoto's), and often thyroglobulin antibodies (TGAb) are found as well (around 80%).

These antibodies may appear decades before a change in TSH is detected, thus allowing people to make an intervention before the thyroid gland gets damaged to a point where it will no longer be able to make enough thyroid hormone. While it's possible to regenerate thyroid tissue and some people can even come off medications (some do it faster than others, and I'm currently studying ways to accelerate thyroid tissue regeneration), it's much more easier to prevent the destruction of thyroid tissue than to regenerate it. An ounce of prevention is worth a pound of cure.

That's why thyroid antibody screening is always crucial in suspected thyroid disease.

At risk populations: Hashimoto's runs in families and is 5-8 times more common in women. Therefore, I would urge all of you with Hashimoto's and/or hypothyroidism to encourage your daughters, sisters, mothers, aunts, and grandmothers to get tested, especially if they are in the age range of puberty, pregnancy, and perimenopause—the three most common times for thyroid hormone abnormalities to surface. Also, just because the condition is more common in women does not mean that men are not affected. I would urge you to have your male family members tested as well.

Top 6 Thyroid Tests

Here is a comprehensive list of the top 6 thyroid tests you can request from your doctor to help diagnose Hashimoto's and hypothyroidism. Be sure to ask for a copy of your thyroid labs so that you can see them yourself and ensure that they are interpreted correctly.

1. **TSH (Thyroid Stimulating Hormone)**
2. **Thyroid peroxidase antibodies (TPO Antibodies)**
3. **Thyroglobulin Antibodies (TG Antibodies)**
4. **Thyroid Ultrasound**
5. **Free T3**
6. **Free T4**

Glossary

TSH – This is a pituitary hormone that responds to low/high amounts of circulating thyroid hormone. In advanced cases of Hashimoto's and primary hypothyroidism, this lab test will be elevated (read post about interpreting the TSH test). In the case of Graves' disease, the TSH will be low. People with Hashimoto's and central hypothyroidism may have a normal reading on this test.

Thyroid peroxidase antibodies (TPO Antibodies) and Thyroglobulin Antibodies (TG Antibodies) – Most people with Hashimoto's will have an elevation of one, or both, of these antibodies. These antibodies are often elevated for decades before a change in TSH is seen. People with Graves' disease and thyroid cancer may also have an elevation in thyroid antibodies including TPO & TG, as well as TSH receptor antibodies.

Thyroid Ultrasound – A small percentage of people may have Hashimoto's but may not have thyroid antibodies detectable in the blood. Doing a thyroid ultrasound will help your physician determine a diagnosis.

Free T3 & Free T4 – These tests measure the levels of active thyroid hormone circulating in the body. When these levels are low, but your TSH tests in the normal range, this may lead your physician to suspect a rare type of hypothyroidism known as central hypothyroidism.

If your doctor will not order these tests for you, you can pay out of pocket and order them yourself through a company like Ulta Lab Tests. Make sure to take a look at this list of recommended thyroid labs.

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TO MEDICATE OR NOT TO MEDICATE?

To Medicate or Not to Medicate?

Not a lot of people may know this, but taking thyroid hormone will partially reduce the autoimmune attack on the thyroid. The TSH should be between 0.5 and 2.0 for most people to feel at their optimal level. Taking thyroid hormone helps take the burden off the thyroid because, in Hashimoto's, people will say: "Oh, I have a sluggish thyroid." Well, your thyroid is not sluggish. It's working overtime. It's turning over a lot of nutrients to try to produce more and more hormone as it is continuously under attack. If you take medication, it lets things slow down and results in lower inflammation and your thyroid doesn't go through as many nutrients.

Interestingly, thyroid hormones can help symptoms and antibodies as well as slow down progression of the condition in a person who is thyroid antibody positive, even when they have "normal" levels of thyroid hormones on the TSH test.

Levothyroxine (generic for Synthroid) which contains the T4 hormone, is the most commonly-prescribed medication. Believe it or not, it was the number one drug in the United States in 2013 and 2014.

Some people do well on Levothyroxine but, unfortunately, other people do not and may also need the T3-thyroid hormone, which can really help with weight, brain fog, energy, and hair.

Most people who find me are the people that aren't doing very well on just T4 alone.

The options are trying a T4/T3 combination medication or taking a standalone T3 medication in addition to the T4. T4/T3 combination medication could be naturally derived medications (like Armour or Nature-Throid) or compounded medications made by a compounding pharmacist. There's also a medication called Cytomel (generic name is liothyronine) that contains just T3.

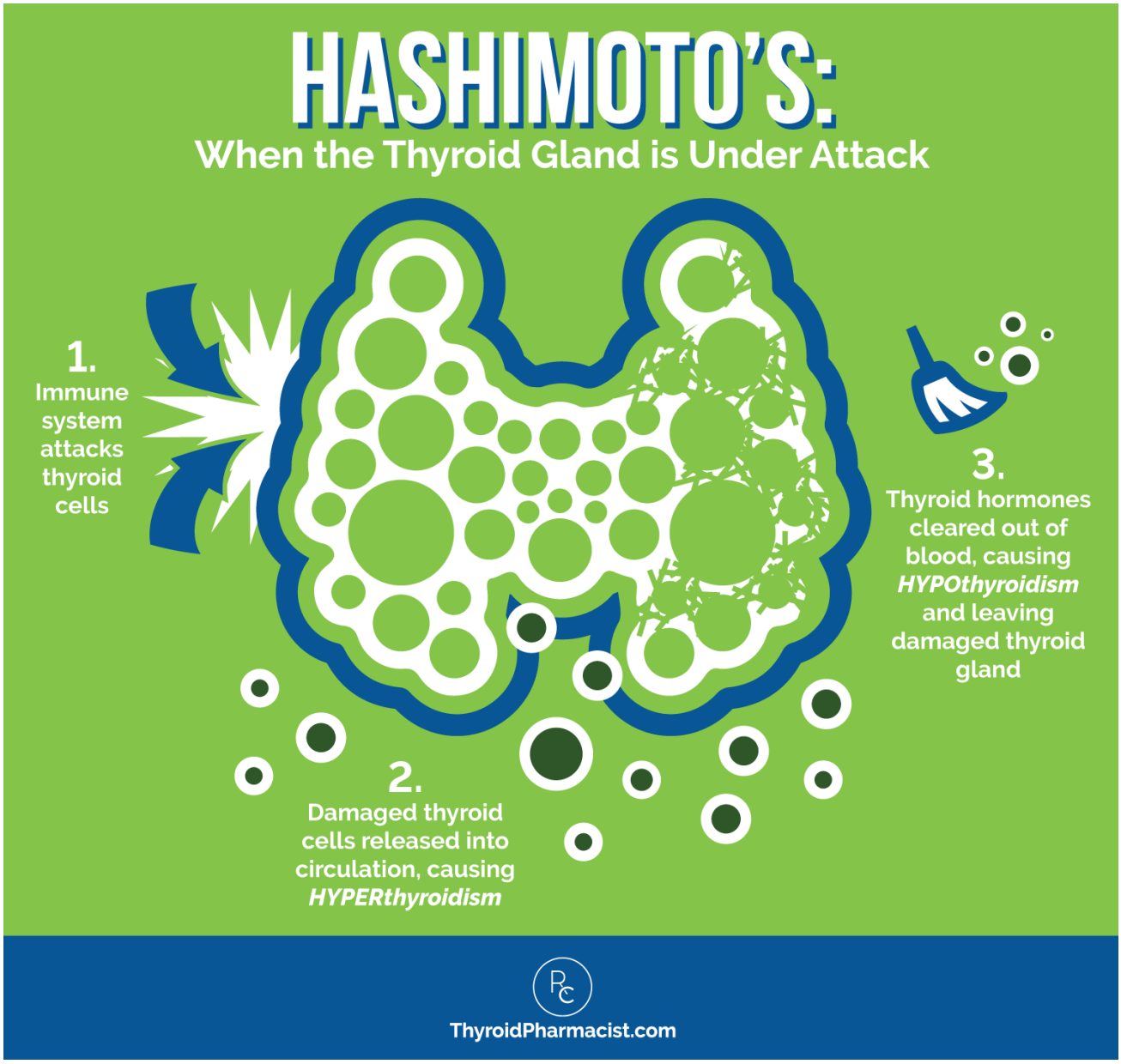
There are a lot of different options out there. I recommend working with a doctor that is familiar with all of the types of thyroid hormones and who tends to prescribe them. This usually means getting some names from your local compounding pharmacist.

5

THE ROOT CAUSE OF HASHIMOTO'S

The Root Cause of Hashimoto's

Hashimoto's is an autoimmune condition where the immune system begins to attack the thyroid gland, in a case of mistaken identity, as though the thyroid gland was a foreign invader. When we think about Hashimoto's, we know that there are triggers, or root causes, that lead to the immune system attacking the thyroid. This results in a destruction of the thyroid gland as it can no longer produce the thyroid hormone. Root causes include food sensitivities, nutrient depletions, infections, toxins, and an impaired stress response.



Part of my training as a pharmacist included scientific literature evaluation, and I have access to most medical journals and references as an alumni of my university. Being a pharmacist means I've been trained to be extremely skeptical. I'll be honest, I was quite skeptical when I began my research into Hashimoto's and the impact that lifestyle changes could have on autoimmunity.

As I began doing my own testing, I came across the work of Dr. Alessio Fasano. He is a renowned gastroenterologist, Celiac and autoimmunity expert, and his research confirmed a theory I'd been considering for some time. I'd seen how changing to a gluten free diet had drastically changed my symptoms, and there were a lot of studies on PubMed that supported that hypothesis. I also knew that I wasn't completely well. So I began researching and testing because I knew that if removing one thing from my diet could make such a difference, then there had to be more to implementing lifestyle changes than I originally thought. I knew if I could identify the triggers, I could go into remission.

This is where Dr. Fasano's work comes in. He has a three-legged approach of what makes up an autoimmune disease. They are intestinal permeability, the right genes, and triggers. We've found that we can't reverse autoimmunity through genes (though maybe one day), but we can do it through removing intestinal permeability and triggers. However, this often takes some time to figure out our individual triggers and what is causing our leaky gut. I wrote an entire book called *Hashimoto's Protocol* that can help you identify and address your triggers. I also have a self-management course on my website that can help you address your triggers.

However, we can start feeling better right away when we address the consequences of intestinal permeability and the triggers within our bodies as well as through modulating our immune system. Over the next few pages, we're going to take an in-depth look at various supplements you can use to help heal your gut (aka intestinal permeability), addressing your deficiencies, and balancing your immune system. In some cases, I've seen a complete remission in Hashimoto's with the following interventions. In complicated cases, a more comprehensive protocol may be required. That said, most people feel significantly better with the use of supplements.

Common Nutrient Deficiencies

Vitamins and minerals are some of the most important supplements you can take on your thyroid journey, as they can often lead to a rapid resolution of many thyroid symptoms. Most people with hypothyroidism, intestinal permeability, toxins, and adrenal stress have numerous nutrient depletions. It's a bit of a chicken and egg/vicious cycle thing; for example, toxins may displace certain nutrients from the body and are also more likely to lodge in the body when nutrients are depleted. Oftentimes, one of the first steps to feeling better and overcoming thyroid disease is to become properly nourished with nutrients.

In many cases, nutrients can be obtained from diet. I prefer nutrient dense, organic food-based diets like Paleo or autoimmune Paleo diet for most people with Hashimoto's. These diets can be a step in the right direction for addressing nutrient deficiencies but, in many cases, supplements may be needed. This could be because some nutrients may be difficult to obtain from foods due to digestive issues, intestinal permeability, or low presence in foods. The following nutrients are often going to be deficient even with a nutrient dense diet: selenium, vitamin D, the B vitamins (especially thiamine and B12), ferritin, zinc, and magnesium.

Food As Medicine

One of my heroes is Dr. Alessio Fasano. He found that there are three predispositions that are needed for an autoimmune condition to develop. They're going to be the right genes, triggers, and intestinal permeability (aka leaky gut). Once you remove the intestinal permeability or one of the triggers, you can put the condition into remission.

One major root cause of intestinal permeability are food sensitivities, and the most common food sensitivity that I've found is gluten sensitivity. In some cases, people with Hashimoto's can recover their health just by removing gluten from their diet.

Dr. Fasano uses the example of Celiac disease to explain autoimmune reversal. If you're familiar with Celiac disease, you know it's an autoimmune condition where gluten acts as both a trigger and the cause of intestinal permeability. We know that after the removal of gluten, the body heals and regenerates. It's quite amazing.

Sometimes this results in a complete remission.

People have been able to get completely rid of their thyroid antibodies. Their anemia is *corrected*. They feel great. Their skin disorder has improved. They can get off medication. That's just from getting off of gluten.

Unfortunately, gluten is not the only thing. It was one of the things I found out about, and I thought to myself: "Okay, great. This is what I'm going to do, and it's going to be the end of it." But it's not that simple for everybody. Other people might have multiple food sensitivities. Gluten, dairy, and soy are some of the big ones. Additionally, people might be sensitive to grains or nightshades. People might be sensitive to nuts and seeds. It varies per person. You have to work at figuring out what your individual food sensitivities are.

Intestinal permeability

I had classic symptoms of intestinal permeability like bloating, stomach pains, irritable bowel syndrome (IBS), and acid reflux. Unfortunately, not everyone with intestinal permeability exhibits these symptoms. In fact, some people don't have gut symptoms at all. As miserable as it was to have IBS for nearly a decade and acid reflux for three years,

I'm grateful. These symptoms signaled which parts of my body weren't functioning correctly. I was able to identify and address them accordingly.

Sometimes we can't remove all the triggers. The Epstein-Barr virus is a great example of that, but there is an option to fix or heal intestinal permeability. Leaky gut is one leg of the "three-legged stool" that Dr. Fasano discovered, and when we remove it, the autoimmunity can no longer stand. This will often result in remission.

Our intestines are kind of like a shield between our waste system and the insides of our body. In some cases, the intestinal lining may have holes in it that allow particles of food and bacteria to get into our circulation. This confuses the immune system and causes it to start attacking things that are in our circulation that shouldn't be there. That's the quick and dirty explanation of intestinal permeability. It's also known as leaky gut, but scientists like to call it intestinal permeability.

I love the explanation that Sean Croxton, from the *Second Opinion Series*, shared with me once about leaky gut. He said: *"I have people think of a window screen. I say, it's a hot day. You open up the windows. The good air comes through to cool the place off. It feels nice and good, but it keeps all the bugs, the flies, the gnats and the mosquitos out of the house. That's how the gut works. It's very selective about what it allows through into the bloodstream or wherever. But if some kid came over to your house and started poking big holes in your window screen, then what happens is you open up the window. And gnats might come in. Flies might come in, so what do you do? You start grabbing magazines and start whacking away. That's what your immune system does. It says, 'Wait. This isn't supposed to be here. So let's start whacking away.' And now we've got a problem. We've got an overactive immune system."*

I love this visual because it helps me paint a picture of what's happening internally. Permeable intestines enable triggers to activate our faulty autoimmune genes. Healing comes through diet and supplementation which we will discuss in coming chapters. (9-10)

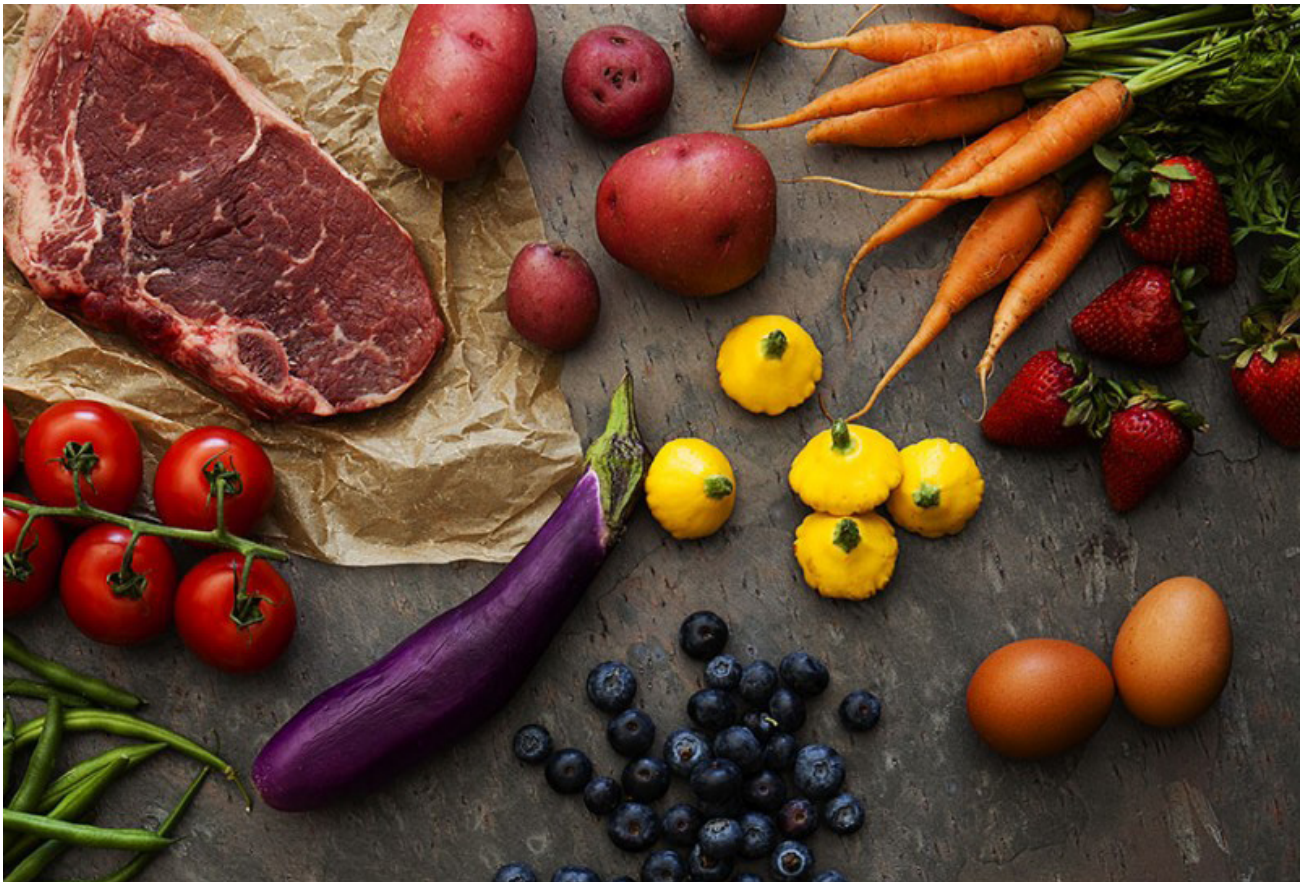
How do you discover your food sensitivities?

You can do an elimination diet, where you eat a really clean diet for three weeks and reintroduce one food every four days. Then you watch out for any reactions. The responses you're looking for are going to be things like itchiness, bowel distress, joint pain, fatigue, potential breakouts, and stuff like that. Everybody's a little bit different.

The other way is to get blood tests done for food sensitivities that will look at whether or not you are reacting to some foods. People often say, "My doctor tested me for food allergies, and I'm not allergic to any foods." But food sensitivities are different.

Have you ever seen the film My Girl where the boy gets stung by a bee? It's a very beautiful movie, and it's very sad. Food allergies can cause you to go into anaphylactic shock

where you can't breathe and may get hives- this is known as an immediate reaction and governed by the IgE part of the immune system. These reactions can be life-threatening and are for the most part very obvious to people that have them.



Food sensitivities are triggered by a different part of the immune system. It's not the IgE immune system; it's the IgG or the IgA and sometimes IgM branch. Interestingly, this same part of the immune system is responsible for autoimmune disease, and the reactions are often slow to manifest and you may not even know that you're sensitive to a food until you cut it out for three weeks and then reintroduce it. This is known as an elimination diet and will reveal hidden food sensitivities though various reactions within your body, such as headaches, stomachaches, fatigue, bloating, IBS, acid reflux, skin breakouts , pain oru mood changes. This is known as an eliminations and reintroduction diet and can be tremendously helpful for figuring out the foods that trigger your condition.

6

THE MOST HELPFUL SUPPLEMENTS

The Most Helpful Supplements

#1: NALTREXONE

Low Dose Naltrexone or LDN —The medication you might not expect to see.

To start the list off, we'll begin with Naltrexone. The interesting thing about Naltrexone is that it's not a supplement. In fact, it's a medication, but it has an off-label use known to treat autoimmune diseases.

During my journey to remission, the pharmacist in me was looking for the magic immune system pill. I started using LDN for a few days, but it made me feel irritable, so I gave up on it and moved to something else. Unfortunately, I began using LDN before I started working on my diet. In hindsight, LDN works best in combination with a leaky gut diet and when the dose is titrated for improved tolerability. I made the mistake of getting full strength naltrexone and compounding it myself rather than working with a compounding pharmacist. Since I did a lot of research and testing on myself, it took me over three years to get into remission. I hope with the information I share, you'll be able to get into remission much faster.

What is it?

Low Dose Naltrexone (LDN) balances the immune system by increasing the amount of T-regulatory cytokines and modulating TGF-B. This leads to a reduction of Th17 which is awesome because Th17 is a big promoter of autoimmunity. Basically, LDN is like a switch that turns off the cells that cause autoimmunity! LDN was one of the first interventions I tried during my thyroid journey in 2009. While LDN is not a cure, it is an immune modulator that can be used to prevent further damage to the thyroid while you're looking for your root cause. It's also been known to rebalance the immune system if a root cause cannot be found.

You may be familiar with Naltrexone being used to combat drug addiction. When used in low doses, however, it has been found to reduce the autoimmune attack on the thyroid.

LDN helps reduce antibodies and stabilize immunity. I recommend it for people I've consulted with because of its proven track record in helping reduce autoimmune attacks.

How do you use it?

Since this is a drug, Naltrexone is something that you'll need to get from a compounding pharmacist. LDN is not a commonly prescribed medication, and it's not always possible to convince your doctor to prescribe it. On my quest to try LDN, I talked to my local compounding pharmacist to find out which doctors in my area were knowledgeable about prescribing LDN.

It doesn't work as an immune modulator in the standard dose, so the amount you receive will be titrated. This is why you must work with a compounding pharmacist. It has to be a low dose, and you want it to be consistent each time that you take it. I recommend working with a pharmacy that uses PCCA because they standardize all of their starter materials for thyroid hormones. Thyroid hormones are dosed in micrograms, and that's one one-thousandth of a milligram so even tiny amounts can really throw things off for us.

There have been concerns about compounding medications not being accurate throughout, so I always make sure people use pharmacies that have PCCA starting materials. They dilute the ingredients which makes it much harder to mess up the dose. The key is to start out low and adjust according to what your body needs. Doses of 1.5–4.5 mg per day are usually recommended. This has been reported to enhance immune function by increasing our endogenous endorphin production, reducing inflammation, promoting DNA synthesis, and slowing down motility in the GI tract to facilitate healing. Another encouraging aspect is that it's affordable! It has a generic brand that typically costs between $15-40 per month.

What success have people had from taking it?

I've seen women with thyroid antibodies in the thousands range who have been able to reduce their antibodies to the range of about one hundred. A lot of times people have been able to eliminate their symptoms and reduce their dosages of medications. Some people have even been able to get completely off their medications. When I interviewed Dr. Mark Mandel, PharmD, compounding pharmacist, LDN expert, and fellow Midwestern University Chicago College of Pharmacy Grad, on the effects of LDN in people with Hashimoto's and autoimmunity, he shared that: *"The theory is that LDN increases endorphin activity two to three fold. Additionally, it may increase the numbers of endorphin receptors and/or the sensitivity of the receptors. The increased endorphin activity results in better modulation of the immune system."* Dr. Mandel also shared that as you continue on LDN, you'll have improved labs like TSH, T4, T3, and TPO levels.

This is a medication you'll want to discuss with your doctor. Each patient is unique and has individual needs that need to be addressed. What works for one person might not have the same benefit for another. The medication can be taken a number of ways, so talk to your doctor about what's best for you. Try not to get discouraged when some-

thing doesn't pan out; instead, think of it as a puzzle. You fit the pieces together to complete the puzzle. Sometimes something might look like a fit, but it's not quite the right one. It's a process and a journey, but it's definitely worth it!

#2: PROBIOTICS

Probiotics – The good guys for the win!

I recommend that people with Hashimoto's use probiotics. We know that intestinal permeability is a big factor in autoimmunity, and one of the things that can cause intestinal permeability is an imbalance of good and bad bacteria. Taking probiotics can really help with that. A lot of people with anxiety and gut problems (which are very common in Hashimoto's) will be able to improve their symptoms tremendously by taking probiotics. I also found that there are various reasons why a person may have intestinal permeability.

Gluten has been known to cause leaky gut, and many have found freedom by a following a gluten free diet. In fact, some people have even seen a complete remission in their autoimmune condition by simply removing gluten from their diet.

Guts can also become permeable when dysbiosis is at play. This basically means that there isn't enough good (probiotic) to beat the bad (opportunistic gut bacteria). It's common for people with autoimmunity to have lower probiotic bacteria like Lactobacillus and Bifidus and higher amounts of E. coli and Proteus bacteria. These bad guys are known as "opportunistic pathogens" because they only become pathogens when the opportunity is ripe.

Let's say you've had an ear infection and had to be on an antibiotic to cure it. The antibiotic will eliminate the bad bacteria and heal the infection but, unfortunately, it takes everything out including the good bacteria we need in our gut to aid in digestion. Probiotics are a natural way to put those good guys back in your body and are essential for people who have Hashimoto's. If there are more probiotic bacteria than opportunistic bacteria, then the bad guys behave. However, if the bad outnumber the good, then they start damaging the gut walls which leads to leaky gut.

There's a test called Gastrointestinal Function Comprehensive Profile - Genova Kit that quantifies microbial flora. (You can have your functional medicine doctor order this test for you, or you can self-order the Genova Kit.) Initially, I was shocked to see that I had zero growth of Lactobacillus bacteria even though I was eating yogurt daily. Unfortunately, most commercial probiotics and yogurts don't have enough beneficial bacteria to make a difference. When I realized this, I began eating fermented foods and adding high doses of probiotics and immediately started feeling so much better. I'd already been gluten and dairy free, and this addition helped me hurdle over a "healing wall." I retested myself with the same kit when all of my Hashimoto's symptoms were gone and

found that my probiotic bacteria were in the optimal range, and the E. coli and Proteus species were no longer predominating my gut flora.

How do I take probiotics?
I always want to make sure that you're getting enough of them. A lot of times the stores will sell probiotics as ten billion colony-forming units—which sounds like a lot! Your gut has a hundred trillion unit colonies of bacteria, and we want to make sure that each person is getting enough. You want to start off with a low dose and keep going. You may have to test it and see what is best for you. It would also be helpful to consult your practitioner or holistic doctor. You can ingest them a variety of ways, but I recommend them in supplement form. I also love eating fermented coconut yogurt, fermented coconut water, and fermented cabbage as a complement to my supplement intake.

My favorite probiotics include MegaSporeBiotic (use shopcode: rootcause), VSL#3, Pure Encapsulations Probiotic 50B, Klaire Labs Ther-biotic and the yeast-based probiotic, Saccharomyces boulardii.

Saccharomyces boulardii from Rootcology has beneficial yeast that helps eliminate pathogenic bacteria, Candida, other parasites, (including Blastocystis hominis), H. pylori, and infections that have been implicated in ulcers and linked to Hashimoto's. S. boulardii does not colonize the gut wall but instead causes an increase of Secretory IgA, which supports your own body's natural defense against infections and opportunistic gut bacteria.

I really like Probiotic 50B because it provides 50 billion CFU of the beneficial bacteria Lactobacillus acidophilus, Lactobacillus rhamnosus, Lactobacillus plantarum, Bifidobacterium longum, and Bifidobacterium lactis. It's offered in acid-resistant capsules with pH targeted release to deliver maximal viable organisms to the digestive tract. These five researched strains promote healthy intestinal ecology to support gastrointestinal and immune health. New research is showing that probiotic diversity helps health and improves gut function. Thus, I recommend taking higher doses of multi-strain probiotics. I built up to higher doses taking four capsules three times per day.

The next probiotic that I have used with great success and which has the most research behind it is known as VSL#3 and contains 450 billion CFU's per dose. The clinical study for this probiotic labeled it as a "medical food" for ulcerative colitis and IBS. Please note that this is a very expensive probiotic, but you can get it covered by your insurance if you have the right diagnosis. I recently learned about a less expensive—and equally effective—brand of high dose, multi-strain probiotics from my brilliant nutritionist friend, Tom Malterre, called Klaire Ther-Biotic. I encourage you to assess which is best for you. The recommendations I provide are here to educate and empower you in your decision-making process.

Please note, Probiotic 50B, VSL#3, and Klaire Ther-Biotic all require refrigeration and are only viable at room temperature for 2 weeks.

What success stories have people had using probiotics?

Probiotics aid in digestion and extraction of nutrients from the food we eat and even help balance the immune system. They're known to help with a variety of gut symptoms such as treating Small Intestinal Bacterial Overgrowth (SIBO) which is present in greater than 50% of Hashimoto's patients (plus this overgrowth can be responsible for the leaky gut!). Probiotics have helped me with digesting my food and abating symptoms of anxiety. I highly recommend adding probiotics as a supplement. I've noticed they are best taken on an empty stomach so that they easily absorb into the bloodstream. Otherwise, they mix in with your food and are not as effective.

#3: SELENIUM

Selenium – The ultimate leader of the pack.

Selenium is a natural antioxidant that delays the oxidation of polyunsaturated fatty acids and preserves the elasticity of tissue. The body requires selenium for the production of certain prostaglandins, which promote healthy blood flow. In synergy with vitamin E, selenium promotes healthy growth and fertility and improves the function of certain energy producing cells. Selenium also provides support for the immune system. It protects normal cell function by supporting the body's natural defenses and scavenging harmful free radicals.

In fact, selenium deficiency has been recognized as a trigger for developing Hashimoto's. Hashimoto's paired with a selenium deficiency is not an uncommon discovery. The National Institute of Health notes that most cases of selenium deficiency relate to people with severe gastrointestinal problems such as Crohn's disease or surgical removal of the stomach. Selenium deficiency also occurs in celiac disease and other inflammatory bowel disorders due to the malabsorption from damage to the small intestine.

One of the theories is that every time the thyroid hormone is produced, hydrogen peroxide is produced as a byproduct. When there is a depletion of selenium in the body, we are not able to neutralize the hydrogen peroxide. Thus, it begins damaging us internally. This can cause damage to the surrounding tissue and may cause an influx of immune cells that tend to get confused and start attacking the immune system. The selenium forms selenoproteins to protect against hydrogen peroxide damage and acts as a catalyst for converting inactive T4 into biologically active T3.

How much should I take?

Dosages of about 200 micrograms have been helpful in reducing thyroid antibodies by about 50% in three to six months. I recommend selenium for people that I've consulted

with, and we've seen positive improvements. I also recommend taking selenium with vitamin E on an empty stomach to aid in absorption.

The Recommended Daily Allowance (aka RDA) for selenium in the United States is 55 mcg with an upper limit of 400 mcg. There have been various studies done where levels of toxicity manifest. For instance, a study in South Dakota took levels as high as 724 mcg without detecting any levels of toxicity. Tests in China showed signs of toxicity with an intake of 900 mcg per day. It's important to note that most cases of selenium toxicity have been because of manufacturing or equipment accidents. If you feel like you're experiencing selenium toxicity, here are some signs to look for: GI disturbances, hair loss, changes in hair and nails, peripheral neuropathy, fatigue, irritability, garlic-smelling breath, and a jaundice-like yellow tint to the skin.

When it comes to food, the amount of selenium content varies widely depending on where it grows. The Dakotas have selenium-rich soils, whereas Russia and China have deficient levels of selenium. Importation of foods further complicate these issues. For example, the amounts of selenium in a single Brazil nut has been reported to range widely depending on where the nut grows. There could potentially be 55 mcg to 550 mcg of selenium per ounce of nuts. It's also important to note that the full benefit of ingesting selenium could also be inhibited depending on a person's ability to absorb food.

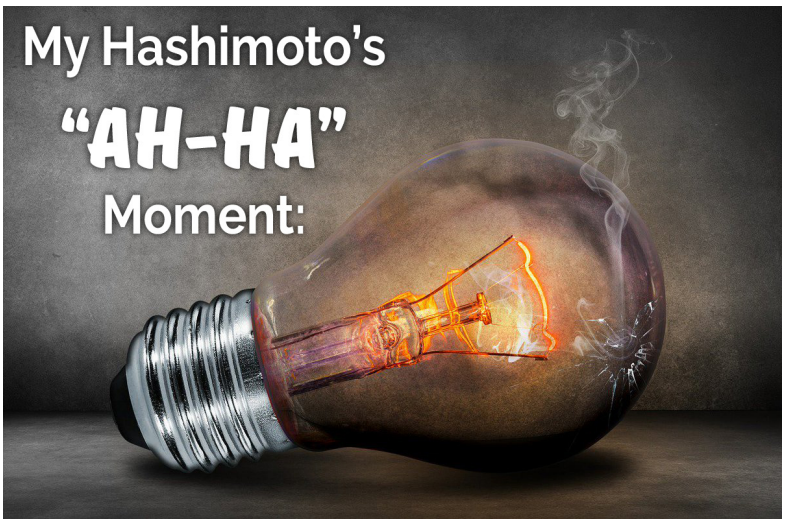
It may be a bit of trial and error to discover the right dosage for every individual. Studies have found that 200 mcg daily is sufficient, but you probably won't find this amount in your daily multi-vitamin. Minerals are rather delicate and can be easily compromised by outside forces. Just remember, as you try this, you may have to adjust the dosage for your individual situation. I recommend consulting with your primary or holistic doctor to determine what is best for you. I want you to thrive, and I hope you have excellent outcomes using the various interventions discussed.

What results have people experienced?

Taking selenium has been shown to reduce tissue damage, and people have been able to reduce their symptoms. Those who have taken selenium have been able to improve their thyroid conversion, and it's helped to reduce anxiety, as elevated thyroid antibodies lead to a destruction of thyroid tissues which leads to anxiety. All of us who have walked through Hashimoto's know what the anxiety attached to it feels like, so I hope you're able to experience a breakthrough in this area as well.

#4: BETAINE WITH PEPSIN

Betaine with Pepsin - This supplement supports stomach acid and can make a huge difference for thyroid disorders. It was my "ah-ha" moment and helped me to overcome almost 10 years of debilitating fatigue!



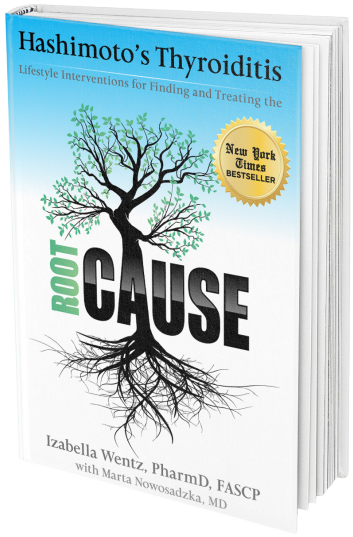
Betaine with Pepsin was one of the most helpful supplements I came across during my health journey. I often tell the story about how this supplement changed my life. Excessive fatigue was my most challenging symptom.

I was chronically exhausted and needed to sleep for 11 to 12 hours to feel human. Things didn't get much better, despite starting thyroid medications in 2010 and even going gluten free/dairy free in 2011 (though the former reduced my cold intolerance, need for sleep by about one hour, and anxiety, while the latter helped to eliminate my acid reflux, irritable bowel syndrome, joint pain and reduced my thyroid antibodies).

I didn't think the fatigue would ever leave. Quite honestly, I accepted it as part of who I was. But then I started taking Betaine with Pepsin on Friday, February 10, 2012 (one capsule with each meal containing protein). I was surprised to wake up the following morning at 8 am without an alarm. I had been dragging myself out of bed after 10 most mornings when I did not have to work. Strangely, I continued to feel energetic all day. I even stayed awake when my usually much more energetic husband took a nap. Things became easier and, suddenly, I felt that I had a surplus of time. I felt more at ease going to bed and even had time to meditate, something that I had been wanting to do for years!

As the week went on, I felt myself having more and more energy and actually became more outgoing and talkative. Additionally, the mental fog was completely lifted, and I could come up with all sorts of clever words quickly! My co-workers commented on my good mood at work. My husband noticed that my sense of humor and memory even improved. I felt like my old, pre-Hashimoto's self again—the self that I had not seen for almost ten years. I continued to increase the dose of Betaine with Pepsin, until one day, I woke up at 5:17 a.m. and decided to start writing the book: Hashimoto's: The Root Cause.

Hashimoto's: The Root Cause



I had always loved writing, and dreamed about writing a book that would help others. I even took a writing workshop in 2007; the instructor suggested that working people have the best chance of writing a book by waking up two hours prior to their usual rising time to write. With a full-time job and my sleep demands, I thought becoming an author would be impossible, and I gave up that dream. But now, here I was … doing the impossible, waking up a few hours before work and writing! Certainly, I thought, if I could wake up energized after only six hours of sleep after feeling chronically exhausted for ten years, I could easily overcome Hashimoto's and write a book about it to help everyone else figure it out! That was a huge breakthrough.

I figured out that I had been suffering from low stomach acid!

Hashimoto's and low stomach acid

We've already chatted about how most people with Hashimoto's will have low levels of stomach acid. The breakdown and digestion of protein requires stomach acid. If you don't digest your proteins correctly, then you're going to have more food sensitivities, and you'll have symptoms of acid reflux. It will be like a snowball effect because the food sensitivities are going to cause more problems for the immune system. All of these things are intricately connected, which is why it's so important to discover the root cause of what's triggering your Hashimoto's. Think of it like the domino effect. If one part is knocked over, it triggers a multitude of other things toppling over.

Studies have found that people with Hashimoto's and hypothyroidism often have hypochlorhydria (low stomach acid) or achlorhydria (lack of stomach acid).

When we have low stomach acid, this puts us at greater risk for many undesirable health consequences:

- Contracting parasites from our food – stomach acid helps us sterilize our food, killing off potential infecting pathogens
- Food sensitivities – proteins that are not properly broken down are more likely to induce an antigenic response from our immune system leading to food sensitivities, especially to gluten and dairy

- **Small intestinal bacterial overgrowth (SIBO)** – without stomach acid which keeps them at bay, bacteria in the small intestine may grow and thrive and poorly digested proteins. 54% of people with hypothyroidism were found to have SIBO in one small study!
- **Nutrient depletions** – especially in iron, calcium, ferritin, and B12
- **If prolonged can lead to hypergastrinemia**, (excess secretion of gastrin, another digestive enzyme, as a compensatory mechanism due to low stomach acid), which can lead to tumors/cancerous growth in the gastrointestinal tract

Symptoms of achlorhydria or hypochlorhydria

There aren't too many tell-tale signs of low stomach acid other than perhaps feeling full and tired after meals, as well as experiencing acid reflux like symptoms. Nonetheless, low stomach acid is very common in Hashimoto's. Signs and symptoms that would leave me to believe that a person with Hashimoto's had low stomach acid include: acid reflux symptom (this "condition" that is conventionally treated with acid suppressants can actually be caused by low stomach acid); low B12, ferritin, or iron levels; fatigue despite thyroid medications; and constipation/diarrhea.

What is Betaine HCl and Pepsin?

Betaine HCl and Pepsin are naturally occurring components of gastric-juice that make nutrients and amino acids from our protein containing foods more bioavailable by breaking down protein bonds. They are especially important for proper absorption of protein, calcium, B12, and iron.

Betaine, also known as trimethylglycine, is a naturally occurring amino acid derivative that is isolated from beets, and the acidic HCl version of it promotes gastric lumen acidity. Betaine HCl used to be available as an over-the-counter (OTC) drug, marketed as a "stomach acidifier and digestive aid", but it was removed from OTC use in 1993 due to "insufficient evidence of it working" and was banished to being a "dietary supplement" by the FDA. (Dietary supplement companies cannot make claims of the effectiveness of their products, while drug companies can make specific claims.) However, studies done in 2014, did indeed find that Betaine HCl can re-acidify gastric pH.

In other forms, trimethylglycine is also used to reduce fat tissue and increase lean muscle mass in pigs (though there are no studies to support it can do the same for humans), can be helpful for breaking down homocysteine (especially in those with the MTHFR gene mutation), and can be a helpful adjunct in depression through increasing endogenous amount of SAMe (a naturally occurring substance with mood boosting and pain relieving properties), that is also available as a supplement in the US and drug in other countries.

Pepsin is a naturally occurring digestive enzyme that breaks apart proteins into smaller pieces so they can be properly absorbed by the small intestine. In supplements, pepsin is usually derived from porcine sources.

How Betaine with Pepsin Can Help with Hashimoto's

In May 2015, I conducted a survey of 2232 people with Hashimoto's. Out of 627 people who took Betaine HCl and Pepsin, 59% of people said that it made them feel better; 33% said that it made them feel worse; while 7% saw no difference in symptoms. Based on the improvement rates, this leads me to believe that 50-70% of people with Hashimoto's are likely deficient in stomach acid. Those that felt worse were likely not deficient. (Taking the supplement can make a person with adequate stomach amounts feel worse for a short time by causing burning in the throat and stomach upset.) Those that did not see improvement may not have been dosed adequately, as Betaine with Pepsin dosage needs to be individualized.

Betaine HCL with Pepsin

The biggest improvements seen after taking this supplement were improved energy levels (58% of those who found it helpful reported this); reduced pain (40% reported this, to my surprise); and improved mood (35%). One fourth of people felt that this supplement also helped them with losing weight.

Betaine HCl and Pepsin, which supports stomach acid production, can make a tremendous difference in a person's symptoms because once we begin to digest our proteins correctly, a few great things can happen:

1. The body does not need to expend as much energy on digestion, and since digestion is one of our body's biggest energy expenditures, we often have a surplus of energy
2. The amino acids found in proteins become bioavailable helping with creating neurotransmitters and fuel for our bodies
3. We are less likely to react to our foods, as the food particles get broken down into individual amino acids before they get further down into our gut
4. We generally feel lighter after we eat and do not have cravings for food when full

But some people should NOT take Betaine with Pepsin…

For example, people who have a history of peptic ulcers or gastritis or take NSAIDs, steroids, or other medications that can cause an ulcer, should not take Betaine with Pepsin.

Signs and symptoms of an ulcer are: a dull pain in your stomach; weight loss; nausea/vomiting; acid reflux; bloating/burping; and the pain improves when you eat, drink or take antacids.

Signs and symptoms of gastritis are: gnawing/burning in your upper abdomen; nausea/vomiting; fullness after eating; and the symptoms can improve or get worse after eating.

Using this supplement in excess can lead to stomach irritation, and I always recommend a slow dose titration to determine your optimal dose.

A person using proton pump inhibitor medications would not likely want to take Betaine with Pepsin, as they have opposing effects.

Additionally, while having hypothyroidism/Hashimoto's in itself can cause low stomach acid, as can ageing and genetics, there are other root causes of low stomach acid that need to be considered. Addressing these root causes should always be done in conjunction with Betaine HCl with Pepsin supplementation:

- H. pylori infection (which can also trigger Hashimoto), treatment of infection is indicated to address the root cause
- B12 deficiency which may be associated with a vegan diet or with antiparietal cell antibodies [Thyroid and B12 article]
- Adrenal dysfunction which can deplete nutrients required for stomach acid [Adrenals and Thyroid article]
- MTHFR mutation is associated with a buildup of homocysteine due to impaired methylation. There are two main pathways of breaking down homocysteine. One of them involves the use of trimethylglycine (Betaine), and this gene mutation could theoretically make someone trimethylglycine deficient. [Hashimoto's and MTHFR Mutation Article]
- Other nutrient deficiencies, especially in thiamine [Thiamine and Thyroid Fatigue Article]

Proper Dosing

Betaine HCl and Pepsin should be taken after a protein-rich meal, starting with one capsule per meal. The dose should be increased by one more capsule at each meal until symptoms of too much acid are felt (burping, burning, warming in the stomach region,

etc.). At that point, you will know that your dose is one capsule less than what resulted in symptoms.

Drinking a mixture of one teaspoon of baking soda in a glass of water can reduce these temporary symptoms of too much acid.

Dosing Example

- Meal No. 1: Took one capsule, didn't feel symptoms
- Meal No. 2: Took one capsule, didn't feel symptoms
- Meal No. 3: Took three capsules, didn't feel symptoms
- Meal No. 4: Took four capsules, felt symptoms
- Target dose is: three capsules

Recommended Supplement Brand

I developed Rootcology Betaine with Pepsin, which provides 750 mg betaine hydrochloride along with pepsin, and is free of fillers and common reactive ingredients like gluten, dairy, soy and pesticides. I also like the Pure Encapsulations brand, which contains Vitamin C derived from non-GMO corn dextrose, in addition to betaine and pepsin. The dextrose, a corn sugar, is consumed in the creation of the Vitamin C and does not contain corn proteins, which are the reactive component of corn for most people with Hashimoto's who are corn sensitive. The supplement itself is hypoallergenic.

Alternate Ways to Support Stomach Acid

Others have found that apple cider vinegar (one teaspoon of apple cider vinegar in one glass of cold water) and/or lemon juice (squeeze the juice of one lemon into a cup of hot water) can support digestion in some cases of low stomach acid.

#5: SYSTEMIC ENZYMES

Systemic Enzymes - systemic enzymes can help with reducing thyroid antibodies and many food sensitivities that are common in Hashimoto's.

Systemic Enzymes, also known as proteolytic enzymes act as natural immune modulators, meaning they can help bring our immune systems into balance. They can help normalize your TSH, reduce food sensitivities, reduce thyroid antibodies, and clear out pathogens.

Next, we have systemic enzymes, which are also sometimes called proteolytic enzymes. This is a fantastic supplement for a variety of reasons but one of the most impor-

tant is that they help break down circulating immune complexes. Ultimately, an immune complex is when an antibody and antigen unite and try to wreak havoc on the body's immunity. Immune complexes often trigger autoimmune diseases, so these enzymes help break them down. They normalize TSH and contribute to reducing or eliminating antibodies. Since the antibody unites with the antigen, the process that occurs to break them apart plays a crucial role in bringing Hashimoto's into remission. When these complexes can no longer attack the immune system, our bodies can heal.

What are they?

Systemic enzymes are a blend of plant and animal derived enzymes and may contain a mix of some of the following ingredients:

- Bromelain (from pineapple)
- Papain (from papaya)
- Rutin or Rutoside trihydrate (bioflavonoid)
- Chymotrypsin (porcine)
- Trypsin (porcine)
- Pancreatin (porcine)

When you are looking for this supplement, please note that they should contain a blend of enzymes.

How to take them

For best results, this enzyme should not be taken with food. In fact, they should be taken on an empty stomach, at least 45 minutes before a meal, or 1 ½ hours after a meal. If you take them with food, they are pulled into the digestion process instead of getting into the bloodstream to combat immune complexes. I've seen great results with the Wobenzym PS and the Pure Encapsulations Systemic Enzyme Complex version,

What do they do?

In autoimmune disease, we become sensitive to various proteins. These reactive proteins can attach to antibodies creating what's referred to as "circulating immune complexes (CICs)." Under normal circumstances, the body can break down CICs using self-made proteolytic enzymes, specific protein-eating enzymes released by the stomach, and the duodenum part of the small intestine. In autoimmune disease, however, the proteolytic system can become overwhelmed with too many CICs. As these complexes accumulate, they can contribute to liver congestion, autoimmune disease, and many associated symptoms, such as pain, inflammation, and even heart attacks!

A part of the strategy for reducing circulating immune complexes (CICs) is to limit your exposure to the reactive protein. CICs are produced in autoimmune disease whenever a reactive food is eaten and then accumulate in the liver, leading to impaired liver function which then perpetuates the autoimmune imbalance. As gluten, dairy, and soy are the most likely proteins to become reactive for people with Hashimoto's, this is why I always recommend avoiding these foods for at least three months as part of your healing journey. In some cases, you may need to avoid additional reactive foods for a time period.

Another strategy is to use systemic enzymes! The enzymes reduce the antibodies to foods and to the thyroid by breaking down circulating immune complexes that are formed in autoimmune disease.

Additionally, systemic enzymes help break down inflammatory cytokines that are seen in autoimmune disease and contain proteases that may also be involved with breaking down pathogens such as bacteria and parasites. These enzymes also speed up tissue repair by reducing inflammation.

Systemic enzymes promote overall tissue health and immune support. I really like the brand from Pure Encapsulations because the enzymes have potential to influence bradykinin formation, modulate the arachidonic cascade and prostaglandin E2 production, and provide fibrinolytic support. These actions contribute to the potential of proteolytic enzymes to maintain healthy immune mediator activity at the cellular level and overall tissue health. One placebo-controlled human study involving athletes found that proteolytic enzymes support muscle comfort and recovery of contractile function. In animal studies, some proteolytic enzymes may result in enhanced muscle recovery. Proteolytic enzymes also support joint and cartilage comfort.

What successes have people experienced?

Back in 2002, there was a poster presentation in France where people took five capsules three times a day of systemic enzymes. Through the use of an ultrasound, it was discovered that people were able to improve the appearance of their thyroid. They were also able to normalize their TSH and lower their antibodies, as well as improve their symptoms. Results have been promising with this supplement. People have been able to reduce and eliminate their thyroid antibodies by taking these digestive enzymes. These supplements can have a great impact on your well-being when paired with a clean diet.

The study also revealed what happened when 40 people with Hashimoto's, who were taking Levothyroxine, were given Systemic enzymes for 3-6 months. The patients reported a reduction of thyroid symptoms, plus a normalization of their thyroid ultrasound. They also saw a reduced number of inflammatory cells in the thyroid and significant decreases in TPO and TG antibodies. In fact, many patients were able to reduce their dose of levothyroxine, and some were able to discontinue their medications altogether.

In many cases, cholesterol profiles improved in the patients who had high cholesterol levels before starting the enzymes.

In my clients, I have seen reductions in thyroid antibodies, complete elimination of thyroid antibodies, as well as complete eliminations in food sensitivities and related symptoms (such as breakouts, joint pain, stomach pain, anxiety, inflammation, etc.).

NOTE: While most labels of systemic enzymes will say to take six capsules daily, the dose of enzymes used in this particular study was 2.5 times higher. They took five capsules three times per day (on an empty stomach).

Experienced clinicians will use five capsules three times per day with a good glass of water (at least 8 ounces or 240 ml). In some cases, even ten capsules three times per day may be used in the acute phase to modulate the immune system effectively. The six capsules per day dose on the label is thought to be a maintenance dose.

#6: MODUCARE

Moducare – The 2 in 1 adrenal and immune balancing dream team.

We discussed adrenals in-depth earlier regarding how important they are to overall health. When we are in adrenal duress, the rest of the body quickly gets out of whack. For someone with Hashimoto's, this is a big blow, and the adrenals have to be a top priority. Whether you suffer from stress or lack of sleep, adrenals are crucial to our functioning health.

I've found that Moducare does an incredible job in the balancing department. I like Thorne Moducare because it balances both the immune system and adrenals. It balances Th1 and Th2 helper cells, which enhances cellular immunity and overactive immune responses and contains natural balancers, plant sterols, and sterolins. You'll see plant sterols as fats in fruits, veggies, and medicinal plants. Beta-sitosterol (BSS) and glycoside (BSSG) are the richest plant sterols. Even when administered at very low levels, these sterols have been shown to have enhanced the activity of cells in the body which reveals positive immune activity. Moducare helps maintain normal ratios for the adrenal hormones cortisol and DHEA and buffers negative stress reactions.

How do I know my dosage amount?

While this can be found naturally in fruits and veggies, I've observed that the supplement works better because it's hard to judge how much of the nutrients are actually in our foods. The amount depends on the person, the situation, and the extent of the Hashimoto's. I advise you to talk with your doctor to determine the right dosage for you. It may be helpful for you to try different amounts to see what works best for you. I would recommend three per day on an empty stomach.

Success stories from Moducare

People have been able to improve their adrenal function as well as reduce their thyroid antibodies and other antibodies related to other autoimmune conditions. As you reduce your antibodies, the immune system can heal and get back on track in protecting you. The adrenals and immune system work so interminably close that when one is not working, the other isn't working, or it's close to malfunctioning. Moducare ensures that both have the needed boost to function and thrive. Moducare's potential to promote immune health was tested in a group of volunteers participating in an ultra-marathon in a double-blind, placebo-controlled study. Subjects in the Moducare group maintained a more healthy immune response compared to individuals taking the placebo. The benefit to the immune system was believed to be because cortisol levels did not increase in response to the exercise stress in those taking Moducare.

#7: THIAMINE (B1)

B1/Thiamine - The Fatigue Terminator

Thiamine is one of the B vitamins, known as B1. It has the important role of converting carbohydrates into energy and aids with the digestion of proteins and fats. Thiamine is required for proper release of hydrochloric acid in our stomachs which is needed for proper protein digestion. As you may remember from the "What's Going on in Hashimoto's" chapter, most people with Hashimoto's have low stomach acid or do not release any stomach acid. Thiamine supports blood sugar function, adrenals, and can boost our energy levels.

Overt thiamine deficiency is primarily thought to affect alcoholics. However, the latest research is suggesting that mild deficiency may exist in people with autoimmune disease and related malabsorption. Thiamine is an important nutrient and is added to fortified processed foods including cereals and breads. Since you'll be avoiding processed foods, there's a greater chance that you will be deficient in thiamine. Symptoms of milder forms of thiamine deficiency include: fatigue, irritability, depression, brain fog, abdominal discomfort, low blood pressure, low stomach acid, and trouble digesting carbohydrates.

Long term thiamine deficiency in those who consume any carbohydrates (even fruit) can lead to a build-up of pyruvic acid, which is a byproduct of glucose metabolism, and can lead to mental fog, difficulty breathing, and heart damage. Those on low-carbohydrate diets are at a smaller risk of the build-up of pyruvic acid and may not have any symptoms except for fatigue.

The recommended daily allowance for thiamine is only 1.1 mg for women >19 years of age and may not meet the needs of those who are on a grain-free diet and have malabsorption issues (very common in autoimmune disease). Researchers in Italy found that

taking a 600 mg dose of thiamine relieved fatigue in women with Hashimoto's who were already taking thyroid medication. The supplement that works best is the highly absorbable version of thiamine known as benfotiamine.

I can't tell you how many readers have run up to me at conferences to give me a hug or thank me for my blog post on thiamine, which helped turn their fatigue around.

Remember, 600mg is a mega dose of thiamine so you will likely have to take multiple tablets/capsules to get to that target (you won't find a sufficient dose of thiamine in most B complex formulas).

Unfortunately, standard lab tests for thiamine deficiency will not show if someone is mildly deficient; they will only show a severe deficiency of thiamine. If you've been struggling with fatigue, low stomach acid, carbohydrate intolerance, low blood pressure and your adrenals, you may benefit from a trial of thiamine.

The supplement I recommend for thyroid fatigue is the highly absorbable BenfoMax by Pure Encapsulations (three per day).

Root Cause Rebel Experience with Thiamine

I wrote about Thiamine in my 2013 newsletter and have since received hundreds of emails like this one from readers: "After feeling really great with my dietary changes and supplements, I hit a wall. I had already been eating a Paleo diet and my digestion was 90% better, but I continued to struggle with my adrenals, energy levels, and blood pressure. Sometimes my blood pressure would be as low as 90/60; my doctor would wonder how I was even walking! A few days after starting thiamine, my energy began to bounce back, my blood pressure normalized."

#8: B12

Vitamin B12 – The Energy Creator

Low levels of B12 may lead to anemia, underdevelopment of villi (which house our digestive enzymes), inflammation, and impaired digestion. Vitamin B12 from our diet is found in animal proteins.

Do You Have Low Levels of B12?

Lab tests for measuring B12 levels are available, but they do not always tell the whole story. Established "low" ranges are too low and researchers have found that "normal-low" B12 levels have been associated with neurological symptoms such as difficulty balancing, memory lapses, depression, mania, fatigue, and psychosis!

B12 is released for absorption by the activity of hydrochloric acid and protease, an enzyme in the stomach. Low levels of hydrochloric acid, commonly found in those with Hashimoto's, put people at risk for B12 deficiency. Intake of breads and cereals fortified with folic acid may mask this deficiency on standard lab tests.

Vitamin B12 is naturally found in animal products including fish, meat, poultry, eggs, milk, and milk products. However, this vitamin is generally not present in plant foods, and thus vegetarians—and especially vegans—are at a greater risk for deficiency.

Taking a vitamin B12 supplement is essential for vegans and may be helpful for those with low stomach acid and pernicious anemia, until the conditions are corrected.

Options for B12 replacement include tablets, sublingual (under the tongue) liquids, and injections. I prefer the sublingual route as there may be advantages for those with absorption issues, and it is more convenient than injections.

Beginning with sublingual doses of 1 mg (1000 mcg) to 3 mg (3000 mcg) of B12 daily for ten days; going to once per week for four weeks; then moving to monthly doses have been found effective in restoring B12 levels in those with deficiency.

I recommend Pure Encapsulations brand of methylated B12 for most people with Hashimoto's.

#9: VITAMIN D

Vitamin D - VItamin D is a potent immune supporting substance!

Vitamin D deficiency is more commonly found in people with Hashimoto's—68% of my readers with Hashimoto's reported also being diagnosed with Vitamin D deficiency—and deficiency has been correlated with the presence of anti-thyroid antibodies. Research done in Turkey found that 92% of Hashimoto's patients were deficient in vitamin D, and another 2013 study found that low Vitamin D levels were associated with higher thyroid antibodies and worse disease prognosis.

Vitamin D plays an important role in immune balance, building resiliency against infections like the Epstein-Barr Virus, and in maintaining gut health. Scientists believe that autoimmune conditions are more likely to cluster in regions farther from the equator because of inadequate vitamin D levels (vitamin D is primarily absorbed via sunshine on skin that is free of sunscreen). Vitamin D is shown to prevent and modulate autoimmunity, and I believe that Vitamin D is especially important for people who have had a prior Epstein-Barr infection (this infection can often trigger Hashimoto's and create a chronic low grade infection), as the cells that fight the virus (CD8+ T cells) are vitamin D dependent.

Vitamin D has been helpful in my recovery, and I've found that exposure to sunshine is consistently something that makes my clients and readers feel better. Furthermore, a sampling of clients who reported feeling well or being in remission, showed that most of them had their vitamin D levels in the optimal range at the time of being in remission or feeling well.

An RDA of 400 IU was established; however, studies are showing this is not adequate for most people. I generally recommend 5000 IU per day for my clients with Hashimoto's as a starting point. Furthermore, I also recommend monitoring vitamin D levels to ensure that the person is within the optimal range. In some cases, practitioners may utilize doses as high as 20,000 IU to get to the goal, but I would not recommend doing this on your own as Vitamin D can build up.

Vitamin D levels should be between 60 and 80 ng/L for optimal thyroid receptor and immune system function. I recommend the Pure Encapsulations brand of vitamin D.

Your Prescription? A Beach Vacation!

The best way to restore optimal vitamin D level is through sun exposure, safe tanning beds, and an oral vitamin D3 supplement. The second best sources of vitamin D are from foods like wild salmon (800 IU of D3/3.5 oz. of salmon) and cod liver oil (700 IU per teaspoon). However, people with fat malabsorption may not properly absorb vitamin D from foods.

Vitamin D advocates recommend 15 minutes of unexposed skin without sunscreen around noon. (Perhaps you can go for a walk during lunchtime?) If you are fair skinned and not used to the sun, you may not be able to tolerate as much sun exposure at first. You may need to bring your sun exposure up gradually while taking a vitamin D supplement. Be careful not to overexpose yourself to prevent getting a sunburn.

However, some health care professionals suggested that in severe deficiency, getting adequate vitamin D levels would require you to spend 4-6 hours exposed on a sunny beach for 7 days straight! Unless you have a beach vacation planned (bring me?), taking a vitamin D3 supplement is your best bet.

#10: MAGNESIUM

Magnesium - People using this nutrient report miraculous improvements in many symptoms!

Magnesium is a nutrient that is very commonly deficient in thyroid patients and may be responsible for a number of symptoms that can potentially lead to thyroid abnormalities. According to the Institute of Functional Medicine, the following symptoms, family history, and health conditions are reasons to suspect magnesium deficiency:

- Depression or poor mood
- Irritability or anxiety
- Difficulty focusing
- Family history of autism
- Anxiety
- Frequent headaches or migraines
- Family or personal history of diabetes
- Trouble swallowing
- Acid reflux
- Sensitivity to loud noises
- Fatigue
- Family history of asthma
- Constipation (fewer than two bowel movements a day)
- Excess stress
- Trouble falling and/or staying asleep
- Muscle twitching
- Premenstrual syndrome
- Leg or hand cramps
- Restless leg syndrome
- Heart flutters, skipped beats, or palpitations
- Family or personal history of kidney stones
- Family or personal history of heart disease or heart failure
- Family or personal history of mitral valve prolapse
- Low intake of kelp, wheat bran or germ, almonds, cashews, buckwheat, or dark-green leafy vegetables

I'd like to add that joint pain, leg cramps, menstrual cramps, and thyroid disorders ARE ALWAYS A REASON TO SUSPECT magnesium deficiency, from my experience.

How common is magnesium deficiency?

There are two types of deficiencies that can occur with respect to nutrients. There are overt deficiencies which can lead to low serum calcium or potassium levels due to a disturbed balance of minerals in the body. This is a serious condition that can present with numbness, muscle contractions/cramps, seizures, personality changes, abnormal heart rhythm, and other types of serious reactions. This is relatively rare because, in times of low intake, the kidneys kick in to prevent the excretion of magnesium, holding onto it to prevent this.

There are also subclinical deficiencies, which will not be seen on standard blood tests but may manifest with the symptoms I listed above.

The recommended daily value of magnesium is 400 mg per day, and most adults eating the Standard American Diet are getting less than 300 mg per day. Populations at increased risk for deficiency include:

- People with type 2 diabetes
- People with a history of alcoholism (among other mechanisms, alcohol can double—even quadruple—our excretion of magnesium)
- People with diarrhea (such as in celiac disease, IBS, Crohn's)
- People with Crohn's disease
- Older adults, as their ability to absorb magnesium in the gut is reduced as they age, and their excretion of magnesium through the kidney increases
- People taking certain medications that can result in a magnesium depletion (the most common ones are proton pump inhibitors like Nexium, Prilosec, Omeprazole, Protonix)
- People with hypothyroidism because, yes, a lack of thyroid hormones can lead to low magnesium levels
- Americans! In 2009, the World Health Organization released a report that stated up to 75% of Americans were not receiving adequate amounts of magnesium!

Food sources of magnesium include green leafy veggies (like spinach and kale), whole grains, nuts, beans, legumes, and seeds. Some processed foods like breakfast cereals may also be fortified with magnesium. As we know, excluding grains and processed foods is often beneficial for people with Hashimoto's, but this may cause some people with Hashimoto's to become inadvertently deficient. If they are following a diet like the

autoimmune Paleo diet, which excludes nuts, seeds, beans, and legumes, their risk of deficiency will go up even more.

Of course, green leafy vegetables are an appropriate option for most people with Hashimoto's. (If you are concerned about goitrogens, please read my Thyroid Food Myth Post.) However, it's not always realistic to eat enough of them… One-half cup of boiled spinach will provide us with just 20% of the recommended daily allowance of magnesium.

Caffeine, stress, and toxins like fluoride and alcohol, are everyday things that can deplete us of magnesium.

A Client Story

A few years ago, I started working with a new client who was taking 12 different supplements from an alternative medicine doctor. Some were antimicrobial agents used for killing gut pathogens; some were herbs and nutrients to support her liver and adrenals. In theory, the protocol she was on was aligned with my teachings—supporting the gut, liver, and adrenals…

However, the protocol and practitioner didn't consider her bio-individuality or her unique root causes. Furthermore, the practitioner gave her every protocol at once, not paying attention to how the different herbs could interact with one another within a body that was compromised. Her practitioner gave her everything but the kitchen sink—she was spending thousands of dollars each month and still feeling like crap!

When we had our consult, her biggest complaints/priorities were: migraines, constipation, and insomnia. I always ask people what their top 3 priorities are so we can address them right away.

She also complained about sensitivity to loud noises and increased anxiety. To me, this was a clear case of magnesium deficiency, potentially exacerbated by all of the supplements she was on…

I went through my magnesium questionnaire with her, and she turned out high risk for magnesium deficiency.

I reviewed her list of supplements and had her stop all twelve of them and recommended just one supplement….

Magnesium citrate: 1 teaspoon at bedtime.

At our follow up appointment, she reported that her migraines, constipation, and insomnia were GONE! She no longer needed to take NSAIDs, laxatives, or sleep medications and was able to tolerate her teenager's music (music had previously aggravated her).

Magnesium Research

Roy and Helga Moncayo, two Austrian researchers, have been working with people with autoimmune thyroid disease since 2007. In their initial interventions, they noticed that thyroid patients had low selenium and began to supplement them that way. Selenium did not lead to lasting results. They continued to dig deeper and found that magnesium deficiency correlated to many thyroid symptoms.

They reported that physical and psychological stress leads to the depletion of magnesium, which is needed for iodine utilization by the thyroid gland.

They tracked thyroid function, thyroid appearance on ultrasound, and thyroid symptoms.

Eleven patients with an elevated TSH (range of 2.3 – 21, average 7.67), received magnesium citrate for 6 weeks. Every patient had a drop in TSH (resulting range was 1.6 – 4). The average drop was by 5 points, resulting in an average TSH of 2.67 after the treatment! The highest drop was from a TSH of 21 to a TSH of 4!

In addition to the magnesium citrate, these clinicians also use Selenium (Pure Encapsulations 200 mcg) and Coenzyme Q10 (Pure Encapsulations 120 mg) with their patients, as well as managed their psychological stress and physical alignment.

Patients reported feeling better, having more energy, better sleep, less anxiety, and less constipation.

Additionally, the researchers also reported a normalization on some of the patients' thyroid ultrasounds (patients with Hashimoto's initially presented increased appearance of veins and damage to the thyroid on their initial ultrasound). They cautioned that not everyone's thyroid tissue will normalize and that at least 8 months of supplementation with magnesium is needed to see improvement on the thyroid gland. However, I think it's worth a try, especially if magnesium will help people with symptoms.

Uses of Magnesium

If you've browsed the drug-store aisles in depth, you may have noticed that magnesium is used as a laxative. This is only true for certain versions of magnesium, and most types of magnesium will not give you diarrhea, although some may have stool softening properties. Specifically, for people with Hashimoto's and constipation, I recommend Magnesium Citrate.

For people with normal bowel function or who tend towards diarrhea, I recommend Magnesium Glycinate. This type of magnesium has been shown to relieve magnesium deficiency on blood tests.

How to Use Magnesium

While I always recommend the Root Cause approach—figuring out the main reason your body is out of balance and leading you to experience symptoms, I am also a fan of Orthomolecular Medicine. I was first exposed to Orthomolecular medicine in my 4th year of pharmacy school during my clinical rotations. I was an intern at the Pfeiffer Treatment Center led by Dr. William Walsh. The center often used high doses of vitamins and minerals to address symptoms of biochemical imbalances that manifested as mood disorders. This was a fascinating experience for me, and I learned so much getting to see how the right nutrients could help people feel better. While I'm always looking for root causes, I love to utilize Orthomolecular principles in combination to help people meet their health goals and feel better fast!

Magnesium is one of the tools in my toolbox to address my client's symptoms.

- For constipation: Take 1-2 capsules of magnesium citrate at bedtime. The magnesium citrate salt acts as a gentle laxative. If you are still constipated, increase your dose. If your bowel movements become too loose, cut back on your dose. You should also explore gut issues, including SIBO, parasites, and food sensitivities.
- For insomnia: I like to recommend Epson salt baths at bedtime (1 cup of salts per tub—follow package instructions, don't overdo it!) and either magnesium citrate or magnesium glycinate.
- For period cramps: Prevention is key for period cramps, so if you tend towards period cramps, start magnesium ASAP. You can do either magnesium citrate or magnesium glycinate. This should help your cramps right away! If you are having acute cramps, you can also take magnesium as needed (1-4 per day to relieve your pain as quickly as Ibuprofen without the side effects). If you find that your periods are still painful, that may be a sign that you will need more time on magnesium to replete your stores and that you should work on your adrenals, which can lead to menstrual issues when impaired. You can combine magnesium with Ibuprofen for period cramps in that case. Your ultimate goal, of course, is to get off the Ibuprofen and save it for emergencies only. I've also found hot water bottles or socks filled with rice, microwaved for 2 minutes and placed over the stomach, to be helpful in acute situations.

- For body cramps: Increasing your magnesium stores will prevent cramps, so if you have intermittent cramps now, you should start magnesium preventatively. You can do either magnesium citrate or magnesium glycinate. If you are having acute cramps, you can also take magnesium as needed (1-4 per day—magnesium glycinate is less likely to cause diarrhea—and for a soothing and wonderful tool for your self-care routine, try soaking in an Epson salt bath). If you find that you are still cramping, that may be a sign that you will need more time on magnesium to replete your stores or that you have other nutrient deficiencies or food sensitivities. You can combine magnesium with pain medications as you work your way off them. In most cases, taking magnesium with pain medications at the same time should be fine, though I'd recommend checking with your pharmacist first as magnesium can prevent the absorption of some medications.
- For anxiety: Anxiety is not fun. I've been there and done it! Magnesium deficiency can contribute to anxiety, and I recommend replenishing your magnesium stores to reduce anxiety. The citrate salt of magnesium (as in magnesium citrate) is the most common ingredient in formulations of "calming" supplements that feature magnesium, though I'm not 100% convinced that it is the required salt. For acute bouts of anxiety, a faster-acting magnesium in liquid form may work best. Other reasons for anxiety that should be explored include blood sugar imbalances, selenium deficiency, adrenal dysfunction, and gut issues.
- For headaches: Prevention is key for migraines and headaches as well, so start magnesium ASAP. You can do either magnesium citrate or magnesium glycinate. If you are having acute headaches, you can also take magnesium as needed (1-4 per day—magnesium glycinate is less likely to cause diarrhea) since this will reduce your headaches without the side effects. If you find that you are still getting headaches/migraines, that may be a sign that you will need more time on magnesium to replete your stores or that you may have reactive foods or infections, like H. Pylori, that can contribute. You can combine magnesium with pain medications in most cases, though I'd recommend checking with your pharmacist first, as magnesium can prevent the absorption of some medications.

Magnesium and Thyroid Meds

Magnesium can impair the absorption of thyroid medications, so please space out magnesium by 4 hours from your thyroid medications. For most conditions, I generally recommend taking magnesium at bedtime.

#11: FERRITIN

Ferritin - The iron storage protein that gives us beautiful hair!

Ferritin is a big deficiency to pay attention to because it's also known as the storage place for iron in our bodies. If we can't absorb iron, then we become anemic. The transport of T3 to cell nuclei and the utilization of the T3 hormone requires ferritin. When we lack iron, our hair falls out. In fact, this is one of the main reasons why most women start losing hair pre-menopause. There are a lot of ways to lose iron other than just not eating enough.

Ferritin levels can be measured and is a better predictor of how much iron you have stored in your body and available for use. Ferritin should be checked in all women with Hashimoto's and in anyone experiencing hair loss.

Normal ferritin levels for women are between 12 and 150 ng/mL. According to some experts, ferritin levels of at least 40 ng/ml are required to stop hair loss, while levels of at least 70 ng/ml are needed for hair regrowth. The optimal ferritin level for thyroid function is between 90-110 ng/ml.

Pregnancy is a major contributor to iron loss. You can lose 600-1000 mg of iron during pregnancy. If you have heavy menstrual cycles, you can lose up to 10-15 mg of iron per cycle. Iron needs an acid to be properly absorbed which is why it's important to have enough hydrochloric acid. If you take acid suppressants, then this will inhibit your iron intake. You can see how this is a vicious cycle. Not enough acid triggers acid reflux, so we medicate with an acid suppressant. Ironically, this depletes our acid which makes us unable to process iron, a key ingredient to healthy living. If you're currently taking an antacid, I recommend getting your ferritin levels checked. This is a great example of why Hashimoto's has to be healed of each trigger or else it just continues on.

To restore your ferritin levels, you can take the supplement Opti-Ferin C.

If choosing to take iron supplements, do so with much caution as they are one of the leading causes of overdose for children and adults. An iron overdose can be deadly, so make sure you keep the iron out of reach of children. Be sure you speak to your physician or pharmacist about a dose appropriate for you.

7

CHOOSING SUPPLEMENTS

Choosing Supplements

As a pharmacist, I am well aware that all supplements are not created equally. Vitamin and supplement companies do not undergo the same scrutiny as pharmaceutical products. This can result in ineffective—and even dangerous—products.

Here's what you should look for when choosing supplements:

- Supplements should be free of artificial additives, gluten, and dairy. Even small amounts can be detrimental and interfere with absorption.
- Methylated forms of B12 (methylcobalamin) are superior to cyanocobalamin.
- Folic acid should be in the form of methylfolate, metafolin, or naturefolate, especially for those with MTHFR gene variations.
- Formulations should be tested for purity, and the supplements should be tested to make sure the contents match the label description.

I have spent a great deal of time researching and testing various supplement brands, but I've always been hesitant to recommend specific brands or even products that I created. I didn't want people to think that I was giving them biased information because of my relationship with a specific company—or worse—that I was only sharing information to sell my own products.

This is why in my first book I kept recommendations to a minimum. However, numerous clients and readers have asked for specific recommendations and brands and many have even asked that I formulate my own line of products.

This type of feedback inspired me to create Rootcology, as I wanted to be sure that my clients were getting consistent results with my recommendations.

Additionally, some of my favorite high quality brands include: Pure Encapsulations, Designs for Health, Douglas Laboratories, Bulletproof, NOW foods, Protocol for Life Balance, Metagenics, Vital Nutrients, Douglas Labs, Thorne, and Allergy Research Group.

Please note that at times formulations may change. This is another reason I created Rootcology. I now have control of all of the ingredients, additives, and test procedures, and thus I can feel comfortable recommending them. You can be sure that you are getting a high quality, safe, and effective supplement.

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RESOURCES AND REFERENCES

Resources

Community Support

In addition to my website thyroidpharmacist.com, where I post helpful blog content, I also have a Facebook page. I hope you will join me. I post tips there almost every day to help you along on your journey. I truly want you to flourish from the inside out, and I hope to hear about the amazing outcomes you experience from implementing these various interventions.

Books

If you're looking for a deep dive into the science behind the triggers and root causes of Hashimoto's and how to dig for your health, I have a lot of information in my 2013 Net Your Times Bestselling Patient Guide *Hashimoto's Thyroiditis: Lifestyle Interventions for Finding and Treating the Root Cause*.

For a detailed action plan on how to take back your health, I invite you to check out my new book *Hashimoto's Protocol: A 90-Day Plan for Reversing Thyroid Symptoms and Getting Your Life Back*.

Self-Management Program

For advanced health seekers, I have a self-management program you can join to learn more about how to take charge of your own health, order and interpret their own labs. You can learn more HERE.

I hope this information is helpful on your journey!

Izabella Wentz, PharmD, FASCP

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