

12 WAYS TO IMPROVE BRAIN FUNCTION

WHEN YOU HAVE **HASHIMOTO'S**
OR **AUTOIMMUNITY**

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Hi There,

I AM JOSH REDD, DC, DABFM, DAAIM AND I'M GLAD TO SHARE THIS FREE EBOOK WITH YOU.

Josh Redd, DC, MS, DABFM, DAAIM, is a chiropractic physician and the founder and owner of RedRiver Health and Wellness, which currently consists of seven functional medicine clinics serving patients from around the world. His clinics focus on using non-pharmaceutical approaches to manage patients with challenging autoimmune, endocrine, and neurological disorders. Between all seven clinics, his practice sees hundreds of patients a day. This allows Dr. Redd to quickly identify patterns and trends among his patient population, as well as which evidence-based clinical strategies are the most successful in managing autoimmunity.

Dr. Redd studied Immunology, Virology, and Bacteriology at Johns Hopkins University where he is currently a MAPHb Candidate. He is the author of the Amazon bestselling book *The Truth About Low Thyroid* and a health consultant for ABC4.

He was formerly a co-host on ABC's *The Younger You*, and his colon health and brain health episodes were nominated for an Emmy in 2014. Dr. Redd is a frequent contributor for St. George News, ABC, and other news and TV outlets.

Dr. Redd delivers lectures to health care professionals around the country on functional medicine topics such as neuroendocrine immunology, gastrointestinal disorders, gluten sensitivity and celiac disease, autoimmune management, functional blood chemistry, and clinical strategies for hypothyroidism and Hashimoto's. Dr. Redd led a Covid-19 study in his area in early 2020 to investigate immunity to the virus. The data from that study is on track to be compiled into a research study for publication.

Let's do this!

JOSH REDD, DC, DABFM, DAAIM

— D R —
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Introduction

Brain symptoms are very common among our Hashimoto's and autoimmune patients.

That's because Hashimoto's can impact the brain in various ways.

Do any of these symptoms resonate with you?

- Fatigue
- Brain fog
- Depression
- Slow mental speed
- Poor brain endurance, meaning you tire easily from reading, driving, working, noisy areas, etc.
- Worsening memory
- Anxiety
- Sleep problems
- Low motivation
- Irritable, grouchy
- Worsening balance
- Drop things easily
- Handwriting getting worse
- Worsening muscle function
- Brain symptoms after eating certain foods
- Chronic gut symptoms

These are just a few symptoms of declining brain function that we commonly see in our Hashimoto's and autoimmune patients.

In this eguide I'm going to go over the reasons why your brain is not working well—because they can be different from person to person—and teach you what to do about it.

HOW HASHIMOTO'S CAN CAUSE POOR BRAIN FUNCTION

When a patient with Hashimoto's comes to our office, they're inevitably suffering from brain-based symptoms: Depression, fatigue, brain fog, loss of motivation, anxiety, memory loss, and more.

Unmanaged Hashimoto's has a severe impact on brain health for several reasons:

1. The brain depends on sufficient thyroid hormone to function and is not getting enough or levels fluctuate.
2. The autoimmune mechanisms that damage the thyroid gland can also attack the brain.
3. The inflammation that goes along with autoimmune Hashimoto's inflames the brain, causing symptoms.
4. The person is having immune reactions to undiagnosed food and chemical sensitivities, which inflames the brain and impairs brain function.

WHAT IS HASHIMOTO'S?

Hashimoto's is an autoimmune disease that damages the thyroid gland. More than 90 percent of cases of hypothyroidism are caused by Hashimoto's. It is identified by positive TPO and/or TGB antibodies on a lab test.

Thyroid levels and the brain

If you think you might have low thyroid problems, if you still have thyroid symptoms despite taking thyroid meds, or if it seems like the doctor has to constantly increase your dose, your brain's neurons may not be getting enough thyroid hormone to function.

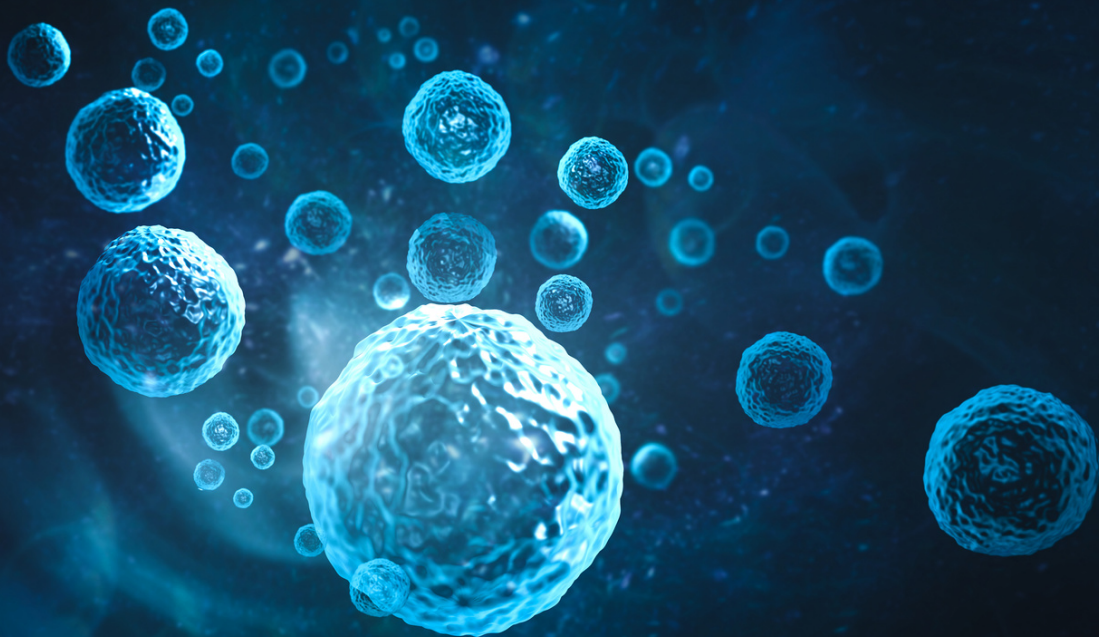
This means each neuron is not going to be able to function optimally and overall brain function slows down and becomes less efficient. This is one reason symptoms like depression, fatigue, and brain fog are so common with Hashimoto's hypothyroidism.

Every cell in the body needs thyroid hormones,

Every cell in the body needs thyroid hormones to function properly, and the brain's neurons are no exception. An unmanaged or undiagnosed thyroid condition can mean your brain is not receiving enough thyroid hormone. This can accelerate the degeneration of your brain.

This also impacts how well your organs work. That's because of a large nerve called the vagus nerve that runs between the brain and the organs. When brain function declines, so does vagal nerve activity. As a result, the organs do not receive sufficient stimulation from the brain.

This means the stomach does not make enough stomach acid and the pancreas does not make enough enzymes to digest foods. The liver does not make enough bile and fat digestion suffers. The large intestine is not activated to move food through the colon, leading to constipation. These are just a few examples of how compromised brain activity can diminish function throughout the body.



Why the right thyroid meds matter for your brain

To optimize your brain function, you need to be aware of several things.

First, while you may need thyroid hormone medication, if your thyroid autoimmunity is out of control, you'll never find balance with thyroid function.

This means you need to stabilize your thyroid function by managing your autoimmune thyroid condition. Next, it means you need to find the right kind of thyroid medication and a dose that works for you. Please refer to the articles and guides on my clinic site RedRiver Health and Wellness for more information about that.

For instance, many doctors only prescribe a synthetic T4 only medication.

However, your body must convert T4 to T3 for it to be usable by the cells.

Many people cannot do this efficiently.

Many patients do better with the addition of a T3 thyroid hormone replacement. Some do better with bioidentical thyroid hormone replacement versus synthetic.

Also, be aware that some brands of thyroid hormone meds have fillers such as cornstarch that may be triggering an immune reaction in you. Luckily, there is now a thyroid hormone on the market called Tirosint that is free of fillers and may be a good fit if you react to the fillers that are commonly used in medications.

Work with your prescribing physician to find the best thyroid medication option for you while also working on taming inflammation and thyroid autoimmunity.



How inflammation from unmanaged Hashimoto's worsens brain function

Chronic inflammation is one of the most common factors that trigger autoimmune diseases such as Hashimoto's hypothyroidism.

Unfortunately, this inflammation also makes its way into the brain, where it can cause damage and sometimes debilitating symptoms.

The important thing to understand about brain inflammation is that the brain has a different immune system than the body. In the body the immune system has an off switch, allowing it to turn off inflammatory immune cells when an infection or an invader is no longer a problem.

However, the brain has no such off switch. When something triggers the brain's immune system, this inflammation can move like a slow burning fire moving through the brain, and slowly damaging brain tissue along the way and causing poor brain function.

Things that can cause brain inflammation

Food intolerances: In fact, the tissue most often damaged by a gluten intolerance is brain and nervous tissue.

Chronic inflammation in the body: Immune cells involved in inflammation in the body make their way into the brain and begin triggering inflammation there as well.

Gut inflammation: Most of our Hashimoto's patients have some type of gut health issue stemming from gut inflammation. This is a common cause of brain inflammation.

Blood sugar imbalances: Blood sugar imbalances are highly inflammatory to the brain. In fact, high blood sugar is so damaging to nervous tissue that researchers call Alzheimer's type III diabetes. Low blood sugar and blood sugar crashes also inflame the brain. It is the constant spikes and drops of blood sugar and the surges of insulin that follow that disrupt brain function and inflame the brain.

Hormonal imbalances: Many of our female Hashimoto's patients have estrogen that is too high or too low. Polycystic ovary syndrome (PCOS), hair loss, facial hair, infertility, and menstrual difficulties from hormonal imbalances can inflame the brain. Estrogen deficiency during perimenopause and menopause can also inflame the brain.

Autoimmune diseases: If a person has an autoimmune disease that they are not managing through diet and lifestyle, the inflammation from the autoimmune disease will cause inflammation in other parts of the body, including the brain.

Leaky blood-brain barrier: When you have leaky gut, or intestinal permeability, you also most likely have leaky blood brain barrier. This means inflammatory compounds can make their way into the brain and trigger inflammation.



12 WAYS TO SUPPORT YOUR BRAIN IF YOU HAVE HASHIMOTO'S OR AUTOIMMUNITY

One of the most important things to do is manage your autoimmunity or Hashimoto's. Our RedRiver Health and Wellness clinics specialize in this. The program is beyond the scope of this guide, however it involves following an autoimmune diet specific for your dietary triggers, improving imbalances found through medical testing, and applying some lifestyle strategies to manage your autoimmunity effectively. Please see my site for more information.

Beyond that, following are some brain-specific strategies that work well for our patients.

#1 FOLLOW AN ANTI-INFLAMMATORY AUTOIMMUNE DIET AND LIFESTYLE

We start our Hashimoto's and autoimmune patients out on an anti-inflammatory autoimmune diet for 4-6 weeks. The diet is strict, but it allows the immune system to regenerate and the brain to get back online, and most patients report that they feel amazing on the diet. This diet consists solely of meats (excluding pork and beef), an emphasis on vegetables, healthy fats, and minimal fruit (due to the high sugar content).

The diet excludes grains, dairy, eggs, sugars, processed foods, legumes, nuts, seeds, and nightshades (potatoes, tomatoes, eggplant, and peppers). These foods are excluded because they are autoimmune triggers for many people.

After the immune system is calmed down and patients feel better, we have them reintroduce each food the eliminated one at a time every three days. If they have a reaction, then they know they need to continue to avoid that food.

You can learn more about the diet in the free guide on my [website](#).



#2 TAKE SUPPLEMENTS THAT LOWER BRAIN INFLAMMATION

Fortunately, some supplements can help dampen brain inflammation. The ones we use in our offices have been very successful. However, no supplement can overcome a poor diet and lifestyle, so you must also be following an anti-inflammatory diet and lifestyle.

Glutathione

Glutathione is probably the most powerful anti-inflammatory supplement out there. It is the body's master antioxidant and necessary to protect cells and prevent inflammation. Many people's glutathione levels have been depleted by poor diets, excess sugars, environmental toxins, and chronic health conditions. Aging also depletes glutathione. Glutathione is especially important for brain health.

The glutathione products we get the best results with are Trizomal Glutathione™ by Apex Energetics or Tri-Fortify Orange™ by Researched Nutritionals. How much you need depends on the degree of your inflammation, but we have our patients take two to three times the recommended amount.

Resveratrol

Taking therapeutic doses of liposomal resveratrol has been shown to significantly dampen inflammation.

We like to use Resvero Active™ by Apex Energetics, which is a highly absorbable liposomal resveratrol and allows you to take therapeutic doses.

How much resveratrol you take depends on how bad inflammation is, so take enough to feel an effect. We recommend two to three times the recommended amount of Resvero Active by Apex Energetics.

#2 TAKE SUPPLEMENTS THAT LOWER BRAIN INFLAMMATION

Vitamin D

Sufficient vitamin D dampens inflammation and supports brain health. Therapeutic doses of vitamin D range from 10,000 to 20,000 IU a day, but have your doctor monitor your vitamin D levels regularly to make sure it doesn't go too high. It's rare to see levels go too high, but it's best to stay aware of your vitamin D status. Use the cholecalciferol form.

NeuroFlam™

NeuroFlam™ by Apex Energetics is a blend of botanicals that have been shown in the scientific literature to dampen brain inflammation. They have also been shown to support the brain after a brain injury or stroke and provide general antioxidant support for the brain. I and many people I know take NeuroFlam daily for general brain support.

NeuroO2™

NeuroO2™ by Apex Energetics is a blend of botanicals that have been shown to improve circulation in the brain. This in turn supplies the brain with more oxygen and nutrients, which help dampen inflammation. Many people with Hashimoto's have poor circulation—cold hands and feet are symptoms of poor circulation and also a sign that the brain is not getting enough oxygen.



#3 IMPROVE YOUR BALANCE

It's not uncommon for people with Hashimoto's to also have autoimmune attacks against their **cerebellum**, an area of the brain that plays a role in movement, coordination, and balance. Many Hashimoto's patients also have gluten ataxia, a condition in which gluten triggers damage in the cerebellum.

Improving cerebellum function is important for several reasons. Poor cerebellum health worsens things like anxiety, stress, fatigue, insomnia, sound and light sensitivity, and intolerance to being in crowds. Poor balance is also a risk for falls.

Additionally, when the cerebellum degenerates, it speeds up degeneration of the rest of the brain, so if you have poor balance, this is a red flag regarding your brain health.



#3 IMPROVE YOUR BALANCE

Do you have these symptoms of poor cerebellum health?

- Do you wobble if you stand on one foot? How about with your eyes closed?
- Can you stand in a heel-to-toe position without swaying or stumbling? How about with your eyes closed?
- If you walk in a straight heel-to-toe line do you stumble? How about with your eyes closed?
- If you stand with your feet together and close your eyes do you sway to one side?
- Do you walk with a wide gait, or feel like you're going to fall if you don't hold the handrail going down the stairs?

If you answered yes to any of these questions, inflammation may be degenerating your cerebellum.

How to improve your cerebellum health when you have Hashimoto's hypothyroidism

There are several ways to protect the health of your cerebellum. One is to perform balance exercises, such as the ones listed in the symptom questions.

Or you can google the DUI test and use that for exercises – DUI testing essentially tests your cerebellum, which is significantly impaired by alcohol.

Yoga and tai chi are also beneficial. As your balance improves or if you are already athletic, continually challenge yourself, such as by doing your balance exercises on a wobble board or Bosu ball. Just be safe!

#4 TEST FOR BRAIN AUTOIMMUNITY

If you feel Hashimoto's is causing poor brain health, you can run some tests to screen for brain autoimmunity.

The Cyrex Labs Neurological Autoimmune Reactivity Screen Cyrex Array 7 screens for potential autoimmune reactions in the brain and other nerve tissue.

If any of your neurological antibody tests comes back positive, this means you have increased risk of accelerated brain degeneration and developing a neurological autoimmune condition.

It also means a food sensitivity can significantly accelerate this process. It's important to figure out which foods or chemicals trigger your symptoms and avoid them.

Some people also become triggered by stress, sleep deprivation, exhaustion, emotional conflicts, and infections.

If you test positive on the Cyrex neurological antibody test, it's important you customize an autoimmune diet and lifestyle to keep the autoimmune process in remission as much as possible.



#5 EXERCISE THE VAGUS NERVE TO IMPROVE BRAIN HEALTH

A simple way to improve brain health is to exercise the vagus nerve. The vagus is a large nerve that runs between the brain and the organs of the body. Activating the vagus nerve can improve function of the organs and metabolic systems, such as digestive health. At the same time, it can also help activate the brain to improve brain health.

A few simple ways to tell if your vagus nerve may not be sufficiently active include not having much of a gag reflex; when you say, “ahhh” the uvula (the little punching bag at the back of your throat) does not rise much; or you are not able to swallow supplements.

How to activate the vagus nerve

- **Gargle water** as intensely as possible for three minutes, three times a day.
- **Sing loudly.** If you are alone at home or in the car, spend some time singing as loudly as you can.
- **Gag.** Using a tongue depressor, which you can buy on Amazon, gently press on the back of your tongue to make yourself gag. Do not poke the back of your throat. Do this several times a day.
- **Deep breathing exercises** will help stimulate the vagus nerve as well as improve lung capacity and help oxygenate the body. Three times a day for five minutes at a time, breathe as deeply as you can through your nose and then exhale out your mouth. The goal is to minimize how many breaths you take per minute. Count your breaths and see if you can work towards cutting them in half. This builds lung capacity. I have people monitor their heart rate, blood pressure, and oxygen saturation while doing this exercise to ensure oxygen levels are actually going up.

#6 PERFORM A COFFEE ENEMA

Coffee enemas activate nicotinic and cholinergic receptors, which stimulate the vagus nerve. To learn how to do coffee enemas, see the link in my [Instagram bio](#) or on my Dr. Josh Redd [site](#) for my free download, *Coffee Enemas to Improve the Gut-Brain Axis*.



#7 HIGH-INTENSITY INTERVAL TRAINING (HIIT)

Exercise is a great way to oxygenate the brain, which dampens brain inflammation. High-intensity interval training (HIIT) in particular dilates blood vessels, lowers inflammation, and improves blood flow to the brain.

HIIT involves reaching your maximum heart rate with a short but vigorous burst of exercise, resting, and repeating. This can be done on a spin bike, running, walking up a hill, doing calisthenics, or whatever works for you.

Even just a few minutes of high-intensity exercise can improve blood flow in the brain.

However, it's important to work within your ability and avoid overdoing it — over exercising has the opposite effect and increases inflammation.



#8 COLD SHOWERS OR ICE BATHS

Although they sound horrible, most people come to love morning cold shower or ice baths for how much better they make you feel. I try to get as many of my patients as possible on board with them.

I also have my patients do breathing exercises along with their cold-water therapy. In the beginning this will help you better tolerate the water. Then you can use the experience to lengthen and deepen your breathing exercises, which will improve vagus nerve function, better oxygenate your body, and improve your lung capacity.

You will also find the cold showers give you a sense of accomplishment and pride, which boosts dopamine. Dopamine is a brain chemical that relieves depression, improves motivation, and boosts energy.

Stay at least 1 minute in a cold shower on the coldest setting—you can do it after your hot shower. Or fill a tub of cold water with ice and submerge yourself. Start with 2 minutes and work up to 5–10 minutes. See the link in my [Instagram bio](#) for my free guide, *The 30-Day Cold Shower Challenge*.



#9 ALPHA-STIM™ TRAINING

Your brain naturally has electrical currents. The Alpha-Stim cranial electrotherapy stimulation (CES) device delivers a natural level of microcurrent, via small clips worn on your earlobes, through the brain to stimulate and modulate specific groups of nerve cells.

The microcurrent is very tiny and completely safe, yet is effective for anxiety relief, mood normalization, and better sleep (both in quality and duration).

Treatments take only 20 minutes and you can use Alpha-Stim in the privacy of your own home or carry it with you.

Not only does the Alpha-Stim improve brain function, it also has been shown to relieve post-traumatic stress and acute and chronic pain.



#10 HYPERBARIC OXYGEN THERAPY (HBOT)

Hyperbaric oxygen therapy (HBOT) involves lying comfortably in a pressurized oxygen-rich environment. This increased pressure in oxygen-rich air allows the oxygen to dissolve and saturate your blood plasma (independent of your red blood cells).

This exponentially increases the delivery of oxygen throughout your body, allowing it to reach inflamed tissues and infuse the body's cells for improved function. We are seeing great results using hyperbaric oxygen therapy (HBOT) with our Hashimoto's and autoimmune patients.

See the free download guide in my [Instagram bio](#), Feel and Function Better with Hyperbaric Oxygen Therapy.



#11 FASTING AND INTERMITTENT FASTING (IF)

In our clinics many of our Hashimoto's patients undergo different types of fasts because we have found it is one of the surest ways to swiftly relieve their symptoms.

Fasting and intermittent fasting can dramatically improve brain function. One way it does this is by boosting a brain chemical called brain derived neurotrophic factor (BDNF). BDNF protects your brain from neurodegenerative diseases such as Alzheimer's and Parkinson's.

Fasting also supports autophagy, or the removal of dead and dying cells in the brain. This is essentially like cleaning house and helps your brain function more efficiently. Fasting also reduces brain inflammation and supports brain repair.

However, fasting is not appropriate for everyone, such as in the cases of low blood sugar, adrenal fatigue, certain brain disorders, pregnancy, or eating disorders/disordered eating. If fasting makes you feel better then you know it's ok for you.

To learn more about fasting, check out my free downloadable guide, *5 Ways Improves Hashimoto's and Autoimmunity* in my [Instagram bio](#).



#12 REDUCE YOUR EXPOSURE TO BLUE LIGHT AFTER DARK

Are you staring into a computer, phone, tablet, or TV screen right before bed?

If so, you're confusing your body's sleep hormone production. The body recognizes blue light as daylight, which suppresses the production of melatonin, our main sleep hormone.

Limiting your exposure to blue light at night can help boost your body's production of sleep hormones, saving wear and tear on your brain.

Wear orange glasses when it gets dark outside, use orange bulbs in your evening lamps, and limit your evening screen time to boost melatonin and improve brain function.



CONCLUSION

I hope by now you feel motivated to investigate your brain health, what may be causing any issues you have, and to take action to improve your brain function. The brain is an area that does not magically get better on its own, you have to take action to set it on the right course.

Unfortunately, the average health care professional is not going to help you spot early warning signs of declining brain function, or help you improve your brain health. Brain health isn't usually addressed in the standard health care model until you are in advanced stages of dementia. But there is no reason you have to wait that long.

If you would like support on your brain-healing journey, please contact our clinic, [RedRiver Health and Wellness](#).

NEXT STEPS?

Visit RedRiver Health and Wellness Center

We have seven clinics in the western United States and specialize in working with Hashimoto's and other autoimmune disorders. Call our offices to learn more about how to feel and function better right away.

**SCHEDULE AN
APPOINTMENT**

