

# **SIX LESSER KNOWN CAUSES OF ANXIETY**

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## About Dr. Kharrazian

Datis Kharrazian, PhD, DHSc, DC, MS, MMSc, FACN is a Harvard Medical School trained and award-winning clinical research scientist, academic professor, and a functional medicine health care provider. He develops evidence-based models to treat autoimmune, neurological, and unidentified chronic diseases with non-pharmaceutical applications. His clinical models of functional medicine are used by several academic institutions and thousands of health care providers throughout the world. He is Associate Clinical Professor at Loma Linda University School of Medicine and a Research Fellow at Harvard Medical School and the Department of Neurology at Massachusetts General Hospital. He is the author of *Why Do I Still Have Thyroid Symptoms?* and *Why Isn't My Brain Working?*, the creator of several functional medicine and neurology online courses, and the founder of the Kharrazian Institute, a post-graduate institute for functional medicine and restorative neurology. For more information, please visit [drknews.com](http://drknews.com) or [kharrazianinstitute.com](http://kharrazianinstitute.com).



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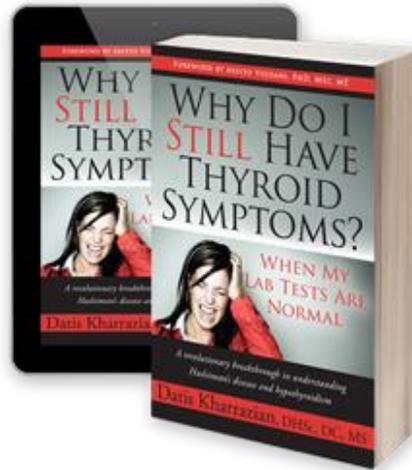
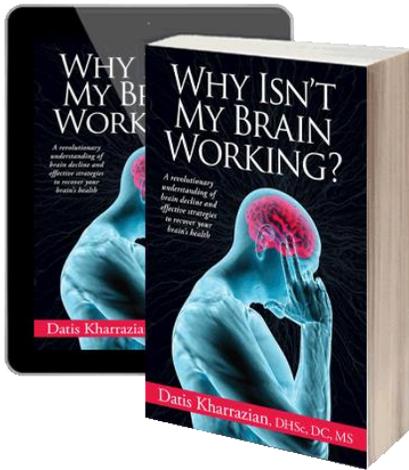
Six Lesser Known Causes of Anxiety

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# SIX LESSER KNOWN CAUSES OF ANXIETY

by Datis Kharrazian, PhD, DHSc, DC, MS, MMSc, FACN

If you suffer from anxiety you know how it can feel to be a prisoner in your own mind. Every thought is infused with worry, your heart pounds at the slightest upset, and the world around you is jarring and disorienting.

Anxiety disorders and depression are becoming more prevalent today—anti-anxiety medications are among the most often prescribed drugs in the United States.

Some causes of anxiety are well-known, such as consumption of excess caffeine and energy drinks, weight loss pills, or supplements that increase energy. Many people feel anxiety in response to psychological or emotional stress brought about by speaking in public, high performance standards at school or work, or family issues.

What most people don't realize is that chronic anxiety can have lesser-known causes that, if managed properly, can be ameliorated. Sometimes it's due to a complex medical issue, but in some cases it's simply a matter of making changes to diet or lifestyle. Below are some of the lesser-known causes of anxiety.

## 1. Genetic GABA conversion disorder

GABA (*gamma aminobutyric acid*) is a brain neurotransmitter responsible for calming the brain and preventing anxiety-related symptoms.

Some people have a genetic disorder that impacts the production of GABA, which leads to increased anxiety. This disorder affects the enzyme glutamic acid transaminase, which is responsible for converting glutamic acid to GABA. If you have had lifelong GABA deficiency symptoms or a history of anxiety in the family, this is worth looking into.

### The alpha-ketoglutaric acid challenge

How do you know if a persistent GABA deficiency is genetic? You can do a simple challenge with a supplement bought from a health food store called alpha-ketoglutaric acid, a glutamate precursor.

If I suspect this disorder, I'll have my patient take 3,000 to 4,000 mg of alpha-ketoglutaric acid. For someone with no genetic GABA abnormality, taking this supplement will not produce much in the way of symptoms. If anything, it will just energize them slightly, as if they had just eaten something sugary, but it will not cause anxiety or irritability.

However, for the person with the genetic disorder, this surge of glutamates combined with the genetic inability to convert them to GABA will cause symptoms of excitability, nervousness, anxiety, and other GABA-deficiency symptoms. For this person, taking GABA support on a regular, lifelong basis may be helpful.

Some people react to alpha-ketoglutaric acid right away; others may need to take it for a few days to see if they notice a reaction, so give it some time before you make a decision.

## 2. GAD65 Antibodies

GAD stands for *glutamic acid decarboxylase*, an enzyme that triggers production of the brain's primary calming chemical, *gamma aminobutyric acid* (GABA).

Some people develop autoimmunity to GAD, which means their immune system mistakenly attacks and destroys it. When GAD is reduced by these attacks, the body can't make enough GABA and anxiety increases.

GAD autoimmunity has been linked not only with anxiety, but with other brain-based problems such as motion sickness, obsessive-compulsive disorder, dizziness, and balance problems.

GAD autoimmunity is commonly found in those with non-celiac gluten sensitivity and in conjunction with other autoimmune disorders such as celiac disease, Hashimoto's, type 1 diabetes, and pernicious anemia.

### **The brain isn't the only target**

The brain isn't the only target for GAD antibodies. GAD is involved in the release of insulin from the pancreas, so for those with type 1 diabetes and other blood sugar regulation issues, GAD autoimmunity can directly impact blood sugar management.

### **GAD and gluten cross-reactivity**

The GAD enzyme can cross-react with gluten, meaning the immune system mistakes GAD for gluten, leading to an attack on not only gluten but also GAD.

This is especially important for those with Hashimoto's, an autoimmune condition that has been linked with gluten sensitivity. Anyone with Hashimoto's who has brain-based symptoms or blood sugar dysregulation issues should be tested for GAD antibodies.

### **Adopt a gluten free diet if you have GAD65 antibodies**

For those with GAD autoimmunity, strictly avoiding gluten can help minimize symptoms.

## **3. Cerebellar degeneration**

Your cerebellum, or "little brain," is comprised of two distinct lobes and sits at the back of your head directly above your neck. Long known to play a role in muscle coordination, balance, memory, and learning, it has more recently been linked to various cognitive and mood disorders, including anxiety.

While the cerebellum is best known for its role in balance and coordination, it also plays a large role in gating information that comes into the brain. This means it releases information in manageable amounts to the brain's cortex so the brain does not become overwhelmed.

When the cerebellum starts to degenerate and malfunction, the results can be worsened balance, anxiety, insomnia, and hyper sensitivity.

### **When things go wrong with the cerebellum**

The cerebellum is a common site of dysfunction and degeneration. It is very susceptible to gluten and other reactive foods, environmental toxins, autoimmunity, and inflammation. It also can degenerate with age — why older people often have bad balance. Children born with brain developmental disorders often have poor cerebellar function.

## **How do you know if your cerebellum is compromised?**

Stand with your feet together, your arms at your side, and then close your eyes. If you sway strongly to one side, that may indicate the side with more cerebellar dysfunction — it takes the cerebellum longer to respond to falling on that side of your body (a slight wobble is normal when first closing your eyes.)

Other tests to observe cerebellum function are coordination tests such as being able to touch your finger to your nose with your eyes closed and without your hand shaking or pausing, standing heel to toe with your arms at your side and your eyes open and then with your eyes closed, and then repeating that exercise walking heel to toe. You should be able to do that without swaying or stumbling (make sure you are near a wall in case you need to brace yourself so you don't fall).

Poor cerebellar function can also cause dizziness, disorientation, and nausea in cars, on boats, or when seeing things move swiftly, such as in a movie. Basically, the cerebellum is not able to respond appropriately to input from the environment.

## **Cerebellum function, anxiety, and insomnia**

As the cerebellum loses function it begins to falter at its job of gating information delivered to the cortex. As a result, excess information slips through.

This means the brain receives more information than it can adequately manage. This poorly gated sensory overload can cause many symptoms:

- Anxiety
- Sensitivity to light and sound
- Startle easily
- Insomnia due to racing mind
- Irritability
- Trouble staying asleep
- Highly emotionally sensitive
- Fearful
- Heart racing/palpitations
- Blood Pressure changes
- Digestive Issues

An anti-inflammatory diet and balance exercises (you can use the DUI test as exercises) can help improve your cerebellar health and reduce anxiety. This is based on the concept of neuroplasticity: when you do tasks that are more difficult for your brain, your brain increases connections between neurons (brain cells) which can improve function.

## **4. Estrogen deficiency**

Serotonin is one of the primary neurotransmitters in the brain and body. Estrogen is very important for serotonin activity in the brain and an estrogen deficiency may compromise serotonin function. In this case, symptoms may include depression, loss of enthusiasm for favorite foods or activities, depression when there is lack of sunlight, an inability to sleep well, unprovoked anger, or increased susceptibility to pain.

If these symptoms are predominant, nutritional compounds to support serotonin activity can be extremely beneficial. Although serotonin is the most likely to be hit, all the neurotransmitters can be affected by the ongoing inflammation of an estrogen deficiency.

Anxiety is a common side effect of estrogen deficiency, and the blood sugar swings and chronic stress that accompany estrogen deficiency could compromise GABA function. Symptoms include feeling anxious, panicky, dread, or overwhelmed for no reason, guilt about decisions, disorganized attention, and a restless mind.

If you are perimenopausal or recently menopausal and experiencing runaway anxiety, have your hormone levels checked. Although it's best to use diet and lifestyle strategies to resolve hormone imbalances, some perimenopausal and menopausal women need bioidentical transdermal hormone replacement therapy for symptom relief. Estrogen deficiency is very pro-inflammatory for the brain and can raise your risk of Alzheimer's, so "toughing it out" is not necessarily the best strategy.

### **5. Elevated thyroid hormones from Hashimoto's flares**

A common scenario in Hashimoto's is to see thyroid function fluctuate between under active and over active. This is the person whose symptoms are all over the map: One week she fits the classic description of hypothyroidism — tired, complaining of headaches and constipation, with low libido and depression. Then the next week she seems to be hyperthyroid: She can't fall asleep, her heart races, she gets anxious, and she has tremors.

If her doctor runs blood tests during these episodes, they will show her TSH peaking and dipping, and even appearing normal in between bouts of symptoms. These roller coaster fluctuations can happen for seemingly no rhyme or reason, whether it is days, weeks, months or more between swings. Sometimes the fluctuations can be linked to a trigger such as a stressful event, hormonal shifts, or eating foods containing gluten.

These fluctuations are sometimes misdiagnosed as anxiety disorders but in reality, the anxiety is caused by the autoimmune flare-up destroying thyroid tissue and releasing stored hormones into the bloodstream. Now flooded with excess thyroid hormone, the body's metabolism speeds up, resulting in hyperthyroid symptoms which can manifest as anxiety.

### **6. Blood sugar imbalances**

People vastly underestimate the effects of blood sugar on mood and brain health and instead look for more complicated or "exotic" causes of their health issues. Your brain is dependent on sufficient energy from your diet, whether it's glucose or ketones, for healthy function. When your blood sugar spikes and drops this can trigger a cascade of hormonal and inflammatory responses that trigger anxiety. People may especially feel anxiety when their blood sugar drops, such as during the afternoon, if they can't fall asleep, if they wake up 3 or 4 a.m., or if they go too long without eating.

These are all textbook symptoms of blood sugar imbalances. If you feel sleepy after you eat (high blood sugar) or feel energized after you eat (low blood sugar), you have a blood sugar imbalance. You should not experience a change in energy after meals but instead feel sustained energy throughout the day.

Consider the following habits of people with a blood sugar imbalance:

- Eat processed carbohydrates and sugars
- Eat a lot of fruit, fruit smoothies, fruit juices

- Under eat and skip meals
- Over eat and snack constantly
- Eat little to no fresh produce
- Sedentary lifestyle
- Continually over train

Balancing blood sugar frequently has a profound impact on anxiety, depression, mood, energy, and other aspects of brain health.

For perhaps the most in-depth training on blood sugar regulation in existence, please visit my practitioner course Diabetes and [Dysglycemia: Clinical Strategies and Treatment Applications.](#)

## To address your anxiety and brain health, check out my books and online courses

These are just a few of the factors that can underlie anxiety, depression, fatigue, lack of motivation and focus, and other confusing brain-based symptoms. Brain degeneration doesn't just happen to old people. More and more people in their 20s, 30s, and 40s are seeing early signs of brain degeneration, in part due to our modern dietary and lifestyle habits that undermine immune and brain health. The good news is the brain is extremely adaptable and wants to get well. You simply have to understand how the brain works, know what to look for, and how to care for and feed your brain.

I invite you to learn more about how to care for your brain in my online course **Save Your Brain: The Six Week Rescue Plan**. A guided course you can take at your own pace, **Save Your Brain** walks you through the same foundational brain health protocols I use with my clinic patients. During the course you learn easy at-home assessments to determine what parts of your brain need help, protocols to improve your brain function, and ways track your progress over time. The course also gives you access to a private support group on Facebook, as well as access to Apex Energetics' line of practitioner supplements.

Or you can read my book, **Why Isn't My Brain Working?**, which includes over 1,000 scientific references and advice on identifying and addressing common brain health issues.



### 3D Immune Tolerance Course

I also teach people how to address chronic food and chemical sensitivities and autoimmunity in my course **The 3D Immune Tolerance Program**. You'll learn dietary and nutraceutical strategies to improve your gut microbiome, gut health, and immune balance so you can tolerate more foods.



### For Health Care Practitioners

I teach intensive weekend seminars for health care practitioners on different functional medicine topics through the [Kharrazian Institute](#). Course topics include clinical strategies and treatment applications for neuroinflammation, autoimmunity, Hashimoto's, diabetes and dysglycemia, infertility and prenatal health, and more. Please visit the [Kharrazian Institute](#) for more information.



**Kharrazian Resource Center**

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