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Heart, Hope, Healing

Anxiety: Simple Ways To Calm And Soothe By Fine Tuning Your Biology

BY KARYN SHANKS MD | JUNE 23, 2017



The Power of Self-Care to Smooth the Rough Edges of Anxiety

In my own life, I've had to contend with my personal biology to discover the ways in which I am more vulnerable to anxiety. Taking good care of my body's needs has been one of the cornerstones of my mood stabilizing strategy. A few key corrections to my nutrition and lifestyle has made a world of difference.

For all of us, self-care is a critical inroad to smoothing out the rough edges of anxiety.

Biological imbalances contribute greatly to anxiety and the experience of overwhelm. Working with our biology through self-care and lifestyle change, and seeking the guidance of important biomarkers of brain health and mood balance, leads us toward powerful solutions.

We can soothe the overwhelm of anxiety through what we do for ourselves.

My dear anxious comrades, there is *no* way to ignore or hack care of our bodies on our quest to soothe our overwhelm. Self-care is a non-negotiable part of the solution.

When our bodies are sick, out of balance, over-tired, or under-nourished, we *will* adapt by moving into *stress overdrive syndrome*—the way our bodies, without our conscious control, mobilize energy reserves to support us, help us survive, and get our attention. For many of us this stress activation will translate into the heightened discomfort of anxiety and of being more easily triggered into anxious states.

Anxiety is the message, not the problem: look for root causes.

My Functional Medicine systems biology approach to health and healing has led me to understand anxiety as *a symptom of imbalance, not a disease*. Numbing it or medicating it doesn't address the underlying root causes (though may provide much needed respite for those in real trouble). The message is often that some core aspect of our internal biology is out of balance or not supported by our lifestyle. We must look to our genetics and the core aspects of our internal biology: how well we make energy, detoxify, digest and assimilate our food... or how challenged we are by inflammation, hormonal imbalance, or excesses of stress.

These are all issues we can solve with lifestyle and the myriad ways we care for ourselves. Self-care addresses the *root causes* of anxiety.

We support our healthy bodies through these anxiety-busting lifestyle attributes: nourishment with good food, movement, quality sleep, relaxation and letting go, love and connection, and resolving excesses of stress. These are within our personal control and have powerful influences on our genetics and the internal biology that drive how we feel.

Genetic vulnerabilities contribute to anxiety: MTHFR and COMT

While there are many genetic traits that contribute to heightened anxiety, two are quite common: these are versions of the *MTHFR* and *COMT* genes that lead to imbalances in our physiology that make us more vulnerable to both anxiety and depression. I discovered through my own genetic testing that I possess common variants of these two genes that effect my ability to *methylate (MTHFR)*—necessary for a healthy nervous system—and to *break down stress hormones (COMT)*—too much adds to overwhelm. Both of these

issues contribute to anxiety, are easily tested for, and addressed with simple nutrition strategies—this has made a world of difference for me.

- *MTHFR*: I possess a copy of the *MTHFR-C677T* genetic variant. This impacts many aspects of brain and mood function—including mood-supporting neurotransmitter synthesis, removal of toxins, creation of energy, control of inflammation, utilization of protective antioxidants, and control of expression of potentially harmful genes—all through a core biological process called methylation. One copy of the *MTHFR-C677T* genetic variant means that this critical function is reduced by about 30%. Having two copies would mean 70% reduction in function. This genetic variant shows up in about 30% of the population at large, and much more commonly in those with persistent mood imbalances. *Corrections for the MTHFR-C677T genetic variant*: methylfolate, a pre-methylated form of folic acid, which helps us bypass this genetic methylation roadblock. Just 400 mcg of methylfolate (5-methyltetrahydrofolic acid) taken daily as part of a multivitamin-mineral supplement or as a separate agent will resolve this core problem for most people and correct the imbalances it created. Blood *homocysteine levels* are excellent markers for successful correction of this methylation problem. An ideal homocysteine level is between 6 and 8—above 8 is evidence for a slow down in our ability to methylate and the likelihood of critical imbalances in our brain and mood health.
- *COMT*: I also have a genetic variant of *COMT (Catechol-O-methyltransferase)*, which is involved in the break down of catecholamines—the stress hormones, epinephrine and norepinephrine, also known as adrenaline and noradrenaline. When I'm stressed and tired, my stress hormones hang around longer, adding to the potential for anxiety, becoming hyper-vigilant, and feeling overwhelmed. **Corrections for the COMT genetic variants**: For those who possess COMT variants that reduce its function, working on ways to *reduce excesses of stress* is important—these include all the ways we care for our bodies to keep them in working order and reduce *stress overdrive syndrome*—like eating nourishing food, getting plenty of good sleep, moving our bodies, removing toxins and irritants, connecting with others in positive ways, and adopting lifestyle habits that help quiet and calm our minds—meditation, positive affirmations, prayer, and journaling. In addition, *antioxidants* from food and supplements (N-acetyl cysteine 500-1000 mg, alpha-lipoic acid 500-1000 mg, mixed tocopherols 400 IU, vitamin C 500-1000 mg, and carotenoids 5000-10,000 IU) and *s-adenosyl-methionine (S-AdoMet)*—which helps activate COMT activity—200-400 mg taken at bedtime.
 - COMT-related imbalances can be tough to correct—the stress reduction piece is critical and a challenge to sustain in this crazy world.

Both MTHFR and COMT genetic tests are available through most large commercial labs and can be ordered by your healthcare practitioner. You can also obtain them through [23andMe](#) genetic testing. Order the genetic test kit from 23andMe, then run the raw data file they provide through an on-line genetic analysis and interpretation service, such as [LiveWello](#).

Self-care strategies have the power to strengthen our biology and calm our minds.

Food: Remove Irritants and Support Nutrition

Food irritants such as grains (especially gluten-containing grains—wheat, barley, non-gluten-free oats, and rye) and animal milk products promote inflammation that interfere with normal brain function. Many people with mood disorders, myself included, feel much lighter and happier when we ditch the grains and dairy. Try a few weeks with no grains or dairy products in your diet and observe what happens.

Excesses of dietary sugar also promote inflammation in the brain, and lead to instability in mood and energy throughout the day. All refined carbohydrates are suspect, especially high fructose corn syrup, but also non-refined sugars (honey, maple syrup, agave, coconut sugar, brown rice syrup), starchy vegetables (think potatoes, green beans, and peas), and fruit with high sugar content (bananas, cantaloup, pineapple).

Work to *intensify nutrition* by eating more plants, especially dark greens and multi-colored varieties. Especially include crucifers (broccoli, Brussels sprouts, cabbage, and kale) and dark berries daily. Use green tea (ground Sencha has the most nutrition) and spices (turmeric, ginger, rosemary, cayenne, cinnamon, garlic, onion) daily. Optimize protein intake and eat lots of healthy fats.

It is helpful to do nutritional testing to identify unique needs and to look at key genetic markers to address areas where our physiologies are vulnerable.

Many people with anxiety need to avoid stimulants like coffee and chocolate, or excesses of alcohol.

Support the Gut Microbiome

We must lovingly tend to the community of organisms that share our living space with us—the trillions of bacteria that inhabit our guts, mucus membranes, and skin. Studies show a direct link between imbalances in the gut flora and mood disorders—including anxiety—and demonstrate favorable effects on mood by supporting the microbiome through the use of probiotics and prebiotic foods.

Avoid the use of antibiotics when at all possible, as these wipe out the microbiome in addition to the offending pathogens. Even the trace amounts of antibiotics found in commercial meat products are a problem. Eat organic as much as possible to avoid the toxic effect of pesticides on the vulnerable bacteria inhabiting the gut. Eat plenty of prebiotic plant foods—these contain sources of fiber that the bacteria need to grow and thrive. A diet high in plant foods should provide ample nutrition for your microbiome without you having to think about it. These “prebiotic” sources of energy for your bacteria are the most powerful ways to strengthen your microbiome.

Use fermented foods like kombucha and fermented vegetables—these are excellent sources of friendly bacteria. And most of us benefit from the use of a daily probiotic—

choose something with multiple species from the Lactobacillus, Bifidobacteria, and Saccharomyces families—60-100 billion organisms per day for most of us.

Sleep Deeply

I've had to become militant about sleep, getting eight to nine hours every night, even if it means being a party-pooper and going to bed early while everyone else stays up. Nothing revs up the stress hormones like sleep deprivation. Sleep also is critical for detoxification and energy production. The reduced stress hormones, decreased toxicity, and better energy soothe and calm the nervous system.

Move Your Body

Moving my body every day keeps me calm and grounded. From sitting to standing to walking throughout the course of my normal day, with bursts of intensive exercise in between. We all have our favorites, but I go to Crossfit classes four times weekly, yoga classes twice weekly, intersperse yoga poses throughout my week, and take long walks with my dogs or alone in the woods.

You've heard the adage, "sitting is the new smoking." [Recent studies](#) show the importance of generally moving more during the course of our days. There is a large body of literature to support using more intense forms of exercise to calm our brains and minds through its effect on stress, endorphins, inflammation, blood sugar control, energy systems, and general health improvement.

Reduce Immune System Overdrive

Immune system overdrive syndrome is when the immune system is in a persistent state of vigilance—contributing to anxiety in many susceptible people.

Many factors drive persistent immune activation: food irritants and sensitivities (including allergies), chronic infections, allergies, toxins, gut flora imbalances, nutrient deficiencies, and chronic lack of sleep are all common causes.

Immune system overdrive leads to continuous abundance of the chemical mediators of inflammation—*inflammatory cytokines*—released by the activated immune cells. Inflammatory cytokines challenge the body in myriad ways, interfering with our ability to make energy, damaging normal cells and tissue (leading to dysfunction), and promoting stress overdrive as the body's effort to support survival. Addressing these sensitivities, infections, toxins, and deficiencies will downshift the immune response, soothe the vigilant stress response, and calm our moods and minds. Work with a Functional Medicine specialist to help guide you.

Get Quiet, Connect, Be of Service to Others, and Open Your Heart

In fact, all of these body-mind practices are ways to directly change your gene expression to improve your internal biology. Through meditation, connecting with others, helping others, and feeling and expressing gratitude we marinate ourselves in positive neurochemistry that leads to a sense of security, calm, belonging, and love—beautiful antidotes to the anxious mind.

Resources:

[23andMe](#)

[LiveWello](#)

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Karyn Shanks, MD, is a physician who lives and practices in Iowa City. Her work is inspired by the science of Functional Medicine, body-mind principles, and wisdom gleaned from the transformational journeys of thousands of clients over her twenty-five-year career. Her work honors each individual and the power of their stories, their inner wisdom, and innate healing potential. She believes that the bones of healing are in what we do for ourselves. She is the author of *Liftoff*, a manual of energy recovery and healing through essential self-care practices.