

Toxic Mold in Coffee?

Coffee is a lightning rod for conflicting medical studies. Every few weeks it seems, a new study comes out touting the benefits or risks of drinking coffee or drinking too much coffee – an amount which is also hotly debated.



(Photo courtesy of [Kari Shea](#) on [Unsplash](#))

According to BlueCross BlueShield, here's where the science stands regarding the pros and cons of coffee consumption:

Pros

- Coffee may help protect against type 2 diabetes.

- Coffee may help reduce the risk of Parkinson's disease and may help control Parkinson's related tremors.
- Coffee lowers the risk of liver cancer and protects against cirrhosis of the liver.
- Moderate coffee consumption (16 ounces daily) can help protect against heart failure.

Cons

- Drinking too much coffee/caffeine can trigger anxiety symptoms, especially in those with underlying anxiety disorders.
- Coffee/caffeine causes the release of adrenaline, which can lead to elevated heart rate and blood pressure.
- Coffee can inhibit proper sleep cycles in some people, and even cause headaches for other users.

The latest round of studies has introduced a new concern for coffee lovers – the level of mycotoxins in coffee. *Mycotoxins* are poisonous substances produced by fungi, including mold.

Understanding the Threat

You may have heard of or read about mycotoxins, but they are usually mentioned in the context of toxic molds that take residence in water damaged buildings. These molds produce a variety of mycotoxins that become airborne and, when inhaled, can cause serious health conditions in people who are sensitive to these toxins and/or are poorly equipped to eliminate the toxins from their bodies.

Mycotoxins are also found in various foods, including cereals, nuts, spices, dried fruits, and, yes, coffee beans. Molds that produce these mycotoxins grow on crops, especially under warm, humid conditions before or after harvest, in storage, or even

after processing. Roasting kills the molds, but mycotoxins are very stable compounds that remain intact even after roasting. Coffee producers may also use a technique called *wet processing*, which removes most of the molds and mycotoxins.

Of particular concern regarding coffee are the mycotoxins *Ochratoxin A* (OTA) and *Ochratoxin B* (OTB), which are produced by several species of *Aspergillus* and *Penicillium*. OTA is produced during storage and has a number of toxic effects, the most notable of which is kidney damage. It may also negatively affect fetal development and the immune system.

The problem is compounded by the fact that the U.S. has no standards for limiting OTA levels in coffee, so coffee merchants can sell beans on the U.S. market that test too high for OTA to sell into other markets around the world.

Gauging Your Toxic Load

Although the coffee you drink is likely to contain some mycotoxins and possibly even molds, you don't necessarily need to stop drinking coffee or start paying \$15 or more for a pound of *mycotoxin-free coffee* (yes, that's a real thing now). The real concern is your total *toxic load* – the level of toxins that build up in your body over time. Your toxic load is a factor of both your exposure to environmental toxins and your body's ability to eliminate those toxins.



Unfortunately, in today's world, we are exposed to more toxins than ever before. They are in the air we breathe, the food we eat, the beverages we drink, the cleaning products we use, the homes we live in, and even the clothes we wear. If our exposure to toxins exceeds our body's ability to eliminate those toxins, they build up in our bodies and can begin to cause serious, long-term health issues. For more information on the toxins we're now regularly exposed to here in Tampa, read our April 2019 article, [Diagnosing and Treating Environmentally Acquired Illness](#).

Reducing Your Toxic Load

Whether you are healthy and fit or not, it is always a good idea to reduce your toxic load. The first step is to reduce your exposure to toxins. Here are a few suggestions to get you started:

- Have your home professionally inspected for mold and have any mold removed.
- Eat high-quality, fresh, organic food products.
- Avoid consuming processed foods and beverages.
- Drink filtered water.
- Use stainless steel or iron cookware.
- Avoid cooking in or eating or drinking from plastic containers, plates, bowls, or cups.
- Use natural cleaning products, including laundry products.
- Wear clothes made from natural products.
- If you must have clothes dry-cleaned, allow them to air out outside for a few hours before bringing them into your home.
- When shopping for new furniture, look for furniture with low volatile organic compound (VOC) ratings.
- When bringing new furniture, mattresses, or home furnishings into your home, open the windows to let them

air out for a few days.

- Use personal hygiene products in moderation and opt for natural products when you have a choice.

The next step is to get yourself evaluated and medically detoxed, if necessary. Do not try to detox on your own. Most do-it-yourself detox programs remove toxins from cells faster than the body can eliminate them, which can make you feel terrible and may even be dangerous. The [Tampa medical detox](#) we offer here at BioDesign Wellness gradually and safely eliminates toxins.

You should also be evaluated to determine whether you have certain genes that prevent your body from eliminating certain toxins on its own. Treatments are available to help the body compensate.

How do you know when to schedule an evaluation? In most cases, patients come to us after exhausting their options with conventional medical practitioners – when they feel bad and all other treatments have failed or when they have received a diagnosis such as chronic fatigue syndrome, fibromyalgia, or depression with no hope for real relief. We hope you don't wait and suffer that long.

To schedule an evaluation, call our patient care coordinator, Lori, at (813) 445-7770.

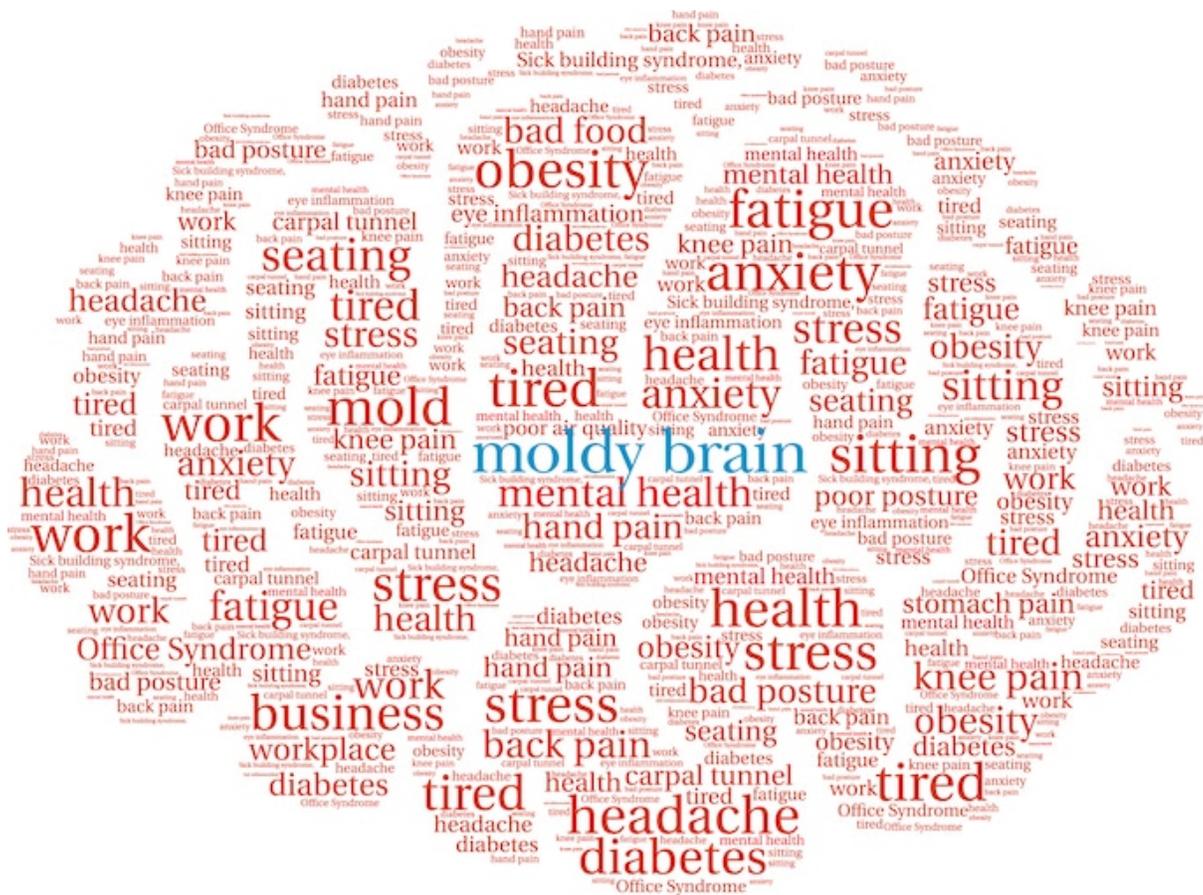
Disclaimer: *The information in this blog post about toxic mold in coffee is provided for general informational purposes only and may not reflect current medical thinking or practices. No information contained in this post should be construed as medical advice from the medical staff at BioDesign Wellness Center, Inc., nor is this post intended to be a substitute for medical counsel on any subject matter. No reader of this post*

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Psychiatric Illness or Moldy Brain?

Many people diagnosed with a mental illness or other psychiatric condition tell similar stories. They visit their primary care physician complaining of anxiety, overwhelming sadness, fatigue, joint or muscle aches and pains, brain fog, and other general symptoms. Their doctor orders a limited series of lab tests, examines the results, and finds “nothing wrong.” They are then either given a diagnosis on the spot or referred to a psychiatrist.

Ultimately, they are told they have depression, anxiety, chronic fatigue syndrome, fibromyalgia, or some other diagnosis that doesn't reveal what's really going on or how to cure it. They are sent home with one or more prescriptions for antidepressants, pain relievers, and other medications that, at best, provide only temporary relief. Sometimes the medications provide no relief or even make the condition worse.



The story changes only when a patient is fortunate enough to encounter a doctor who understands the effects of environmental toxins on the brain... a doctor like our own Dr. Matt Lewis, or one like [Mary Ackerley, MD](#) – a board certified integrative and holistic physician as well as a classically trained board certified psychiatrist who specializes in the natural treatment of chronic fatigue, mold and biotoxin illness, depression and anxiety. In addition to her education and training as a psychiatrist, Dr. Ackerley (as well as our own Dr. Matt Lewis) has specific training in [diagnosing and treating environmentally acquired illness](#).

(Editor's note: Dr. Lewis and Dr. Ackerley both attended the inaugural ISEAI Conference – International Society for Environmentally Acquired Illness –in early-May of this year in Phoenix, Ariz., where Dr. Ackerley was one of the featured

speakers.)

According to Dr. Shoemaker – a Roswell, NM-based pioneer in mold and biotoxin illness treatment – about 25 percent of the population is susceptible to biotoxins. Coincidentally, as Dr. Ackerley has been known to point out , “When you add up all the psychiatric illnesses that people are exposed to, it’s actually about 25 percent of the population that has been diagnosed or is said to have psychiatric illness.”

Could it be that depression, anxiety, bipolar disorder, schizophrenia, and other medical conditions that cannot be tested for, such as chronic fatigue syndrome and fibromyalgia, may actually be related to infections or environmental toxins?

Although we here at BioDesign Wellness cannot claim that all of these illnesses and certain others are caused solely by biotoxins, biotoxins seem to contribute significantly. The underlying mechanism seems to be that infections and/or biotoxins cause neuro-inflammation, which may be at the root of numerous brain disorders, including mood disorders (depression and bipolar disorder), schizophrenia, Alzheimer’s, and other inflammation-related disorders such as chronic fatigue syndrome and fibromyalgia.

Case Study

To see this in action, it’s helpful to review one of Dr. Ackerley’s very first case studies showing a connection between biotoxins and psychiatric illnesses:

- A woman in her seventies who was usually “pretty well put together” arrived for an appointment “disheveled and confused.” She had trouble remembering how to get to the office. She had referred herself to an ears-nose-and-throat (ENT) doctor because her sinuses were acting up and

had seen a dermatologist for a strange rash on her shins. She was also having aches and pains.

- Dr. Ackerley was so concerned at one point that she made a note about calling the patient's sons to discuss getting her into assisted living.
- At one point, Dr. Ackerley asked if there was anything new happening in her patient's life. Her patient said that the only thing was that she and her husband decided to renovate their home, and all the walls were being torn out. She could smell the mold, and mold had been found behind several walls.
- Dr. Ackerley decided to try her patient on *cholestyramine* – a medication typically prescribed to lower cholesterol but is also effective in binding to biotoxins, so the body can flush them from the system.
- Three weeks later, her patient came back “looking like a different person.” She was on time, alert, and “put together.” She was coherent and neatly dressed.

The Inflammation-Brain Connection

What fascinates Dr. Ackerley is that so many psychiatric illnesses are related to inflammation. What fascinates us at BioDesign Wellness Center is that so many illnesses, psychiatric and otherwise, are related to inflammation and that the underlying cause is often an infection or an exposure to environmental toxins along with a genetic inability to flush those toxins from the body. (*Approximately 25 percent of the population has one or more genetic anomalies that interfere with the body's ability to detoxify itself.*)

Infections and toxins that are well known for creating psychiatric complications include the following:

- **Lyme disease** (from tick bites).
- **Streptococcus infections** not treated properly, which can

lead to obsessive-compulsive disorder – Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS).

- **Encephalopathies** such as Rocky Mountain Spotted Fever that get into the spinal cord.
- **Toxoplasmosis**, associated with cats, is related to an increase in schizophrenia and in suicides. Toxoplasmosis may even trigger a change in personality.
- **Toxic mold**. A study conducted in Europe found the level of depression in people living in visibly moldy households was about 34 to 40 percent higher than for residents living in mold-free dwellings.

Inflammation in the brain can be initiated by certain infections or by exposure to mold or certain other toxins, producing symptoms characteristic of one or more psychiatric illnesses. A person may even be diagnosed as having a psychiatric illness, even though that is not what is really going on. The root cause is infection or toxins causing inflammation in the brain and possibly throughout the body's central nervous system (CNS). We often see patients here at our [Tampa Functional Medicine](#) practice who have been exposed to mold with additional neurological symptoms, including numbness or tingling in the extremities (hands or feet), tremors, fatigue, or migraines.

Cytokines in Depression and Alzheimer's

Several studies provide evidence of a connection between depression and significantly higher concentrations of inflammatory *cytokines*, including tumor necrosis factor and interleukin-6.

Cytokines are various substances – such as interferon, interleukin, and growth factors – that some immune system cells release to trigger responses in other cells. Some cytokines are inflammatory, whereas others are anti-inflammatory. When the

immune system is functioning properly, the two types of cytokines regulate inflammatory responses in the body.

Cytokines also tend to inhibit the expression and function of serotonin – a neurotransmitter that plays a key role in regulating mood. Many antidepressants work by increasing the level of serotonin in the brain, but they do not target the underlying inflammatory responses that negatively impact serotonin expression and function.

Inflammatory cytokines play a role in Alzheimer's disease. At least one study that examined the cerebral spinal fluid in people with Alzheimer's found higher concentrations of the cytokine TGF-beta, which is often found to be elevated in people exposed to and made ill by mold.

Neuro-inflammation = Leaky Brain

Inflammation in the brain is often referred to as "leaky brain" because what happens in the brain is similar to what happens in the gut with leaky gut syndrome – protective membranes become more permeable, allowing substances to pass through that should be blocked. Cytokines increase the permeability of the blood-brain barrier, increasing the stress response in the brain, which is likely to cause a breakdown of tryptophan, an essential building block of serotonin.

Cognitive Impairments Related to Neurotoxins

Dr. Ackerley often sees patients in her practice in Phoenix, Ariz., with symptoms of depression or anxiety who complain of fatigue and then add, "*My brain just doesn't work the way it used to.*" We have observed this in our practice in Tampa, as well. Many BioDesign Wellness patients report brain fog, impaired memory, or an inability to think clearly. The root cause of this cognitive decline is often found to be associated

with inflammation triggered by biotoxins found in a water damaged building. In fact:

- Several studies link mold exposure to cognitive impairment, and at least one study shows that mycotoxins excreted by mold are neurotoxic.
- One toxic mold – in particular, *Stachybotrys* – releases a mycotoxin called Trichothecenes, which kill olfactory neurons.
- *Fusarium*, a soil fungus, releases the mycotoxin T-2, which indiscriminately kills normal brain cells.
- Some species of *Fusarium* release the mycotoxin Fumonisin, which induces neuronal degeneration in the cerebral cortex—the part of the brain responsible for executive function. People who suffer from cerebral cortex degeneration may blurt out whatever they are thinking, ask the same questions over and over, have trouble solving problems or making decisions, or appear angry or irritable.
- *Aspergillus*, a fungus whose spores are present in the air we breathe, produces OchratoxinA (OTA), a naturally occurring foodborne mycotoxin found in a wide variety of agricultural commodities. OTA depletes striatal dopamine; this depletion is highly associated with mood disorders (depression and bipolar) and with movement disorders such as Parkinson's.

A study done in Poland that followed nearly 300 children showed that children living in homes with visible mold experienced a decline of 10 IQ points over six years compared to children who had not been exposed to mold. Children who had been exposed to mold for three years and then moved to homes without mold experienced a decline of five points.

Diagnosis: Is It a Biotoxin Illness or Something Else?

When a patient has symptoms of a mental illness, or brain or psychiatric disorder, one of the first determinations a doctor needs to make is whether the symptoms are related to an underlying infection or biotoxin exposure. Unfortunately, most doctors do not even consider the possibility of infection or biotoxin exposure. They may suspect mold if a patient has sinusitis, asthma, or chronic lung infections, but they don't suspect mold in relation to other conditions, such as depression, bipolar disorder, anxiety, chronic fatigue, or fibromyalgia.

At BioDesign Wellness Center, we are one of the few exceptions. In fact, during our initial examination, we screen patients for tick bites, exposure to mold, and previous infections that may have triggered certain symptoms. We are aware that neuro-inflammation is common among people experiencing depression, anxiety, fatigue, generalized pain, and other symptoms associated with psychiatric disorders.

When a patient experiences symptoms consistent with certain psychiatric conditions and/or chronic fatigue syndrome, fibromyalgia, or other vague diagnoses, we consider biotoxin illness a likely cause or contributing factor, especially under these conditions:

- The patient has no family history of psychiatric illness.
- The age of onset (of symptoms) is over the age of 50.
- Symptoms persist even when the patient is taking the prescribed medication(s).
- The patient has been made to feel like a hypochondriac – that all of their symptoms are “in their head.”

Unlike conventional doctors, who are unlikely to consider mold or tick-borne illness, we routinely ask our patients about any exposure they may have had at home, work, or school to visible mold or hidden mold that is common in water damaged buildings.

We also routinely ask about any tick bites the patient may have had in the past and about any exposure to areas where Lyme disease is prevalent – a person may have gotten bitten and not even realized it.

If we suspect a biotoxin-related illness, we then run tests to look for markers that indicate the presence of the biotoxin(s) or the body's reaction to the biotoxin(s).

Treatment for Biotoxin-Related Illnesses

At BioDesign Wellness, we have several treatments protocols for people exposed to water damaged buildings or other sources of biotoxins. We usually start by preparing the body to detox, which accounts for making sure vitamin, mineral and macronutrients are adequately being absorbed and utilized by the body. For some this may require healing the gut or supporting the liver.

The Shoemaker Protocol is a 12-step process for eliminating biotoxins and any infectious agents that are releasing biotoxins into the body. It involves addressing the source of the exposure (*for example, having mold professionally removed from the home*), detoxing with Cholestyramine, eradicating any antibiotic-resistant bacteria (referred to as MARCoNS) from the sinuses, correcting elevated serum anti-gliadin antibodies through avoidance of gluten, correcting androgen hormone levels to support the endocrine system, and several additional steps to improve cell function and reduce inflammation.

Diet plays a key role. People who suffer from biotoxin-related illnesses need to avoid sugar and simple carbohydrates that the body quickly converts to sugar. They also need to avoid gluten. Patients are typically required to adopt a very low-carb diet similar to the ketogenic or paleo diet – whole foods (no processed foods), high fat, moderate protein, and very low in

carbohydrates.

Certain supplements also help to dampen the body's inflammatory response, such as turmeric, high-quality fish oil, magnesium, vitamin D, and probiotics.

Get Help

If you suspect you may be suffering from a biotoxin-related illness or you have been bouncing around from one doctor to another with little or no explanation or relief from your symptoms, we encourage you to schedule an appointment to see a doctor who has experience in diagnosing and treating biotoxin-related illnesses. This is not something you can or should do on your own. You need someone who understands these types of illnesses, knows which lab tests to order and how to interpret the results, and is well trained on the various medications, supplements, diets, and lifestyle adjustments that are most effective in restoring health.

Keep in mind that you won't start feeling better if your doctor cannot identify and treat the underlying cause. If conventional medicine is not delivering the outcomes you desire and deserve, try a different approach – one that focuses on addressing the underlying cause and not just masking the symptoms.

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Reducing Mold in Your Home May Start with Your Air Conditioner

As recent news coverage here in Tampa revealed, a home is meant to protect you and your family from the outside elements, not expose you to a host of allergens, airborne irritants, and toxins that can make you ill. The biggest potential problem – as we covered through a post titled [Responding to the Mold Outbreak at VA Bay Pines Center](#) – is mold, but other airborne irritants can also pose a problem, such as pet dander, dust, and dust mites. In this post, we encourage you to reduce your exposure to indoor airborne irritants and provide guidance to reduce the levels of airborne irritants in your home.

Keep the Air Conditioning on in the Summer

Mold grows best in warm, humid conditions, so it makes sense that air conditioning is one of the most powerful weapons in the battle against mold. One of the most effective ways to prevent mold from getting a foothold in your home is to keep your air conditioner(s) running during the hot, humid days of summer. In addition to cooling your home, air conditioning removes humidity

from the air, and low humidity (ideally between 30 and 50 percent) inhibits mold growth.



Unfortunately, a poorly maintained heating, air-conditioning, and ventilation (HVAC) system can be a breeding ground for mold and facilitate the spread of airborne irritants throughout your home. The risk is higher for those who run their AC units intermittently, because mold can grow in the system on warm, humid days when the system is not in use, and then spores can spread more easily when the system is turned on and the spores dry and become airborne.

Other Airborne Irritants and Toxins

Mold isn't the only substance that can irritate your lungs and nasal passages and make you ill. Pet hair and dander, pollen, dust, dust mites, and even toxins from household furnishings and cleaning agents such as dryer sheets and liquid fabric softener can become airborne and cause irritation and illness when inhaled. The problem is compounded in forced-air systems that tend to stir up these irritants and when any fans are running in the home. A properly maintained forced-air system is designed to filter out most of these airborne irritants, but in systems that are poorly maintained, dust and other debris can collect in the filters and the ductwork and spread throughout the home.

Symptoms: The Canary in the Coal Mine

Some people give little thought to the air quality in their home until someone in the family begins to experience symptoms, such as the following:

- Frequent colds or flu
- Chronic coughing, sneezing, or wheezing
- Sinusitis
- Ear infections
- Asthma or trouble breathing
- Nasal or lung congestion
- Frequent headaches
- Dry, itchy skin
- Dry or watery eyes
- Sore throat
- Fatigue

Experiencing these symptoms is not necessarily a bad thing. Symptoms are like the canary in the coal mine that provide an early warning that something isn't right. In this case, these symptoms *maybe* a warning sign that the air quality in your home needs some attention.

Note: Keep in mind that people vary in their sensitivity to airborne irritants and toxins. Just because everyone in your family is breathing the same air and only one person is sick doesn't mean you can rule out poor indoor air quality as the cause.

Confirming or Ruling Out a Potential HVAC Problem

You can end up spending a great deal of money fixing an HVAC problem or mold issue that doesn't exist, so investigate first:

1. Check your home for visible mold, especially in the bathrooms, kitchen, laundry room, and basement or crawlspaces.
2. Check in and around vents and check the air filter in your HVAC system for signs of mold, excessive dust, or other problems.
3. Check the drainage pipe attached to your furnace to ensure it's draining properly. (*Central AC units must have a vent to allow condensation to drain out of the unit.*)
4. Take a big whiff inside each room (including the basement and crawlspaces) to determine whether it smells musty. (*If your sense of smell isn't very good, enlist a friend or family member to perform the smell test.*)
5. Clear out of your home for a week or so to see whether your symptoms clear up. If they do, chances are that your home is making you sick, and it probably has something to do with the air quality.
6. If you're still unsure, hire a service that specializes in air quality to inspect your home for possible problems. (*The most serious issues are typically mold-related, so consider looking for a company that specializes in mold testing and remediation.*)

Reducing Airborne Irritants in Your Home

To significantly reduce levels of airborne irritants in your home, we recommend the following:

- Have your HVAC system inspected and serviced once or twice a year, typically in the spring and fall, especially if you live in Tampa, Florida. Your HVAC service technician should perform a routine cleaning of the blower compartment and check the air filter and condenser drain pipe.
- If you have a forced-air HVAC system, check the air filter monthly and change it at least twice a year. Ask your HVAC contractor to recommend quality air filters for your unit.
- If you have a forced air system, have the ducts cleaned at least once every three years. Duct cleaning should include the supply and return ducts, all registers and grills, heat exchangers, heating and cooling coils, condensate drain pans, and the fan motor and housing.
 - **Warning:** Some duct cleaning services offer the option to have a chemical biocide applied (inside the ducts) to kill bacteria and fungi and prevent future growth. Keep in mind that if you have known or suspected chemical sensitivities, having a chemical biocide applied is not recommended. Chemicals, even those marketed as “natural,” can cause people who are sick or have chemical sensitivities to experience negative reactions.
- Vacuum carpets once or twice a week with a high-quality HEPA-certified vacuum cleaner.
- Dust once or twice a week with a damp rag to avoid stirring up dust. Be sure to dust the blades of any overhead fans.
- Keep a reasonable number of furry pets, if any, and take steps to prevent dander, such as bathing your pets regularly. (Pets are one of the biggest sources of indoor

allergens.)

- Have any visible mold treated professionally.
- If you have (or have had) any water damage to your home (for example, as a result of a toilet or washing machine that overflowed), have a professional assess and address any issues.
- Place dehumidifiers in any areas that are damp, such as a basement or crawlspace.
- Make sure your clothes dryer vents to the outside and that all connections to the vents are sealed tight.
- Eliminate the use of commercial dryer sheets, air fresheners, and chemical cleaning products.
- Keep the doors and windows closed when pollen counts are high but open them on cooler, drier days to air out your home.
- Keep bugs at bay, including cockroaches and dust mites.
- Limit the number of indoor plants and care for them properly to avoid mold.
- If possible, eliminate or reduce the use of wall-to-wall carpeting in your home – one of the top sources of indoor allergens.

Keep in mind that the less you do to eliminate irritants and toxins in the air you breathe, the more your body must do to filter out and eliminate those irritants and toxins from your system. In extreme cases, the level of irritants and toxins can overwhelm the body's ability to filter and eliminate them, which can seriously affect your health or the health of a family member. We encourage you to take the steps necessary to improve your home's air quality, so you and your family can breathe easier and maintain optimal health and fitness.

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quality, is provided for general informational purposes only and may not reflect current medical thinking or practices. No information contained in this post should be construed as medical advice from the medical staff at BioDesign Wellness Center, Inc., nor is this post intended to be a substitute for medical counsel on any subject matter. No reader of this post should act or refrain from acting on the basis of any information included in, or accessible through, this post without seeking the appropriate medical advice on the particular facts and circumstances at issue from a licensed medical professional in the recipient's state, country or other appropriate licensing jurisdiction.

Chronic Fatigue Syndrome, Fibromyalgia, and Other Waste-Basket Diagnoses

Many people who suffer chronic pain and fatigue find little to no relief from conventional medicine. At best, they are given what we refer to as a “waste-basket diagnosis,” such as chronic fatigue syndrome (CFS), fibromyalgia, or depression. Worse yet, the doctor runs numerous tests and explains that all the results came back normal – the implication being that the symptoms are all in the patient's head.

when all the tests come back negative, conclude that the patient must have chronic fatigue syndrome or depression.

Comparing Symptoms

Chronic fatigue syndrome, fibromyalgia, and depression have common symptoms, including the following:

- Brain fog (inability to focus or think clearly, impaired memory)
- Fatigue/weakness/exhaustion
- Unexplained aches and pains
- Irritability, sadness, and mood swings
- Poor sleep

Having common symptoms does not necessarily mean that chronic fatigue syndrome, fibromyalgia, and depression are all the same, but it does suggest that they may share the same underlying cause.

The Missing Link: Chronic Inflammatory Response Syndrome

Another trait that chronic fatigue syndrome, fibromyalgia, depression, and a host of other medical conditions have in common is inflammation. It is no surprise that Chronic Inflammatory Response Syndrome (CIRS) shares many of the same symptoms:

- Cognitive difficulties (brain fog)
- Fatigue/weakness/exhaustion
- Unexplained aches and pains
- Mood swings
- Poor sleep

Chronic inflammation can cause or contribute to a host of other medical conditions, as well, including arthritis, asthma, allergies, sinusitis, and inflammatory bowel disease (such as

colitis or Crohn's disease).

What Causes Chronic Inflammatory Response Syndrome?

Chronic Inflammatory Response Syndrome (CIRS) is caused by exposure to biotoxins that pass from cell to cell, causing cell damage and eventually immune system dysfunction that leads to chronic systemic inflammation. Common sources of biotoxin exposure include the following:

- **Water damaged buildings (WDBs):** WDBs often contain a combination of mold (fungi), bacteria, biotoxins (produced by the mold and bacteria), and volatile organic compounds (VOCs) that trigger CIRS. By some estimates, 80 percent of all cases of CIRS are caused by exposure to WDBs.
- **Tick or spider bite:** Ticks carry certain infectious agents, such as *Borrelia burgdorferi* (which causes Lyme disease) and *Babesia microti* (which causes malaria like symptoms). Bites from recluse spiders may also cause CIRS.
- **Direct exposure to infected fish or water:** People who have eaten reef fish contaminated with the toxin *Ciguatera*, or who have come into contact with water containing *Pfiesteria*, are at heightened risk of developing CIRS.

About 25 percent of the population is at a greater risk of developing Chronic Inflammatory Response Syndrome due to a genetic susceptibility. They carry specific HLA-DR genes that lack the mechanism for identifying and eliminating certain biotoxins from their bodies. In this segment of the population, the biotoxins quickly build up in their systems and remain long after exposure has ceased. The biotoxins continue to pass from one cell to the next, leaving a path of destruction.

Take Action

If you experience any of the symptoms described in this post,

regardless of whether you have been diagnosed with mold toxicity, chronic fatigue syndrome, fibromyalgia, or something else entirely, or your doctor simply informs you that “your test results are normal,” get tested by a [doctor specializing in biotoxin illness and who understands CIRS](#). If levels of any biotoxins are abnormally high, take the next steps:

- Have your home and workplace tested and, if necessary, treated for mold. If you test positive for biotoxins, you’re picking them up from somewhere. Treat the source first.
- Get tested. Numerous tests are available to check for the presence of a chronic inflammatory response, and the presence of the HLA-DR gene. Follow the age-old wisdom: Test, don’t guess.
- Perform a medically supervised detox. Even if your body is equipped to eliminate biotoxins on its own, it may be overwhelmed at this point. A medically supervised detox provides your body with what it needs to more quickly, thoroughly, and safely remove these and other toxins.

The BioDesign Wellness Approach

Our approach to diagnosing and treating a patient always begins by listening to you and reviewing symptoms and previous treatments. We do not want to repeat what has already been tried and failed. Your timeline of events often provides the clues we need to begin our investigation of underlying causes.

The next step is to order targeted lab tests to gather the detailed information we need to make an accurate diagnosis. At this stage, we are looking for evidence to confirm or refute our suspicions and to tell us which treatment options will be most effective.

If we discover you have Chronic Inflammatory Response Syndrome,

treatment includes one or more of the following:

- **Correcting your home or work environment, if necessary:** If the CIRS is caused by a WDB, the first course of action is to eliminate exposure.
- **Treating any infections:** Colonization of bacteria in the deep nasal passages can result in increased exposure to biotoxins. Bacteria protect themselves by creating a “bubble” or biofilm that shields them from antibiotics. Taking anti-fungals or antibiotics can often worsen the situation, as these biofilm dwellers can “sample” the medication and then share genetic information with each other to create resistance. We check you for biofilm-forming bacteria and provide appropriate treatment that avoids antibiotic resistance.
- **Medical detox:** Ridding the body of biotoxins prevents further damage to cells.
- **Anti-inflammation protocol:** Various treatments can be used to reduce inflammation, including an anti-inflammatory diet and supplements to restore healthy gut function.

Patients with chronic fatigue syndrome, fibromyalgia, depression, and unexplained symptoms often struggle for years without an accurate diagnosis or effective treatment. Many times, they have been told by family members, doctors, or friends that it’s all in their head. We are here to assure you that it’s not. If you suffer from chronic fatigue, pain, brain fog, sinusitis, arthritis, or other persistent symptoms, something is definitely wrong, and effective treatments are within reach. At BioDesign Wellness Center, we remain at your side until we uncover the root cause(s) of your illness and address each and every symptom.

You deserve nothing less than to feel your best.

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