

Biotoxin Illness Removal Protocol for Mold

Mold Treatment:

1. **In all cases, getting OUT of the moldy situation is the first step.** Actually, it's the most important step. For some, this is not financially, or logically possible. Just so you know, it doesn't mean you cannot start the detoxification process, it just means you may never fully recover while living or working in a moldy environment. Most people can start to feel better with turning up detoxification and binding. At this stage we will often recommend a number of tests of the environment and of the person to get a picture of the severity and type of mold exposure we are working with.
2. **Next we test for MARCON's (Multiple Antibiotic Resistant Coag-Negative Staph) in the sinuses.** Many who get sick with mold toxins have this infection. This bacteria acts like "meat tenderizer" in the delicate tissues of the sinuses, leading to profound brain inflammation... increasing mold and mycotoxin penetration...essentially putting gas on an already burning fire. If you have it, you need to treat the infection with nasal spray prescribed by your doctor (I like BEGI, Argent23 (silver based nasal spray) ,compounded silver or other compounded nasal sprays, xclear, xylitol, or Neti pot/nebulizer treatments with any number of anti-microbial strategies including silver, Biocidin, iodine, and probiotic compounds) If no MARCONs infection is present: We will still need to treat with either BEI (bactroban, EDTA and itraconazole) antifungal nasal spray or silver EDTA compounded nasal sprays to address possible fungal colonization. If you don't or are not able to test, I recommend using Silver nasal spray at the very least. Silver is broad-spectrum antimicrobial that can hit fungus and bacteria. MARCON's infections are notoriously difficult to treat and often come back as a result of ongoing mold exposure, low MSH levels, chronic sinus issues including deviated septum etc, as well as infected dental cavitations. (Check out Dr. Brewer in Kansas City, he is best known for nasal spray treatment of mold colonization)
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3920250/>
3. **Supporting detoxification is next.** I initiate treatment by opening up toxin elimination pathways of Kidney, Lymphatic and Liver and to get people pooping regularly.
 - a. I love the I love the Pekana Drainage Remedies (<https://www.bioresourceinc.com/pekana/>) Start with 5 drops daily and work up to 15 drops each remedy twice daily. You can mix these remedies in a small amount of water and take twice daily, or you can put all the drops in 1 liter of water sip on it throughout the day. The later way is my favorite... just to keep that detoxification running through all the time.
 - b. I also like Detox 1 from Byron White: This is typically a better choice for kids or those adults who prefer herbs over homeopathic remedies: start 2 drops twice daily and work up to 5 drops twice daily. This method is better for those who are not reliable water drinkers or feel better getting it all done at once. It is also good for those who are already taking herbal drops, as they can be done together.
 - c. Pooping is key! You also need to be pooping 1-2 soft bowel (think soft serve ice cream) movement/stool per day. My recommendation starts with insuring adequate hydration 1-3 Liters of water per day and taking a magnesium citrate supplement (1-4 caps at night before bed) until this is your normal bowel routine. You cannot start binding with binders until you are pooping. The longer poop stays in the colon, the more toxins get reabsorbed!
 - d. Because mold toxins are eliminated through the urine, sweat and stool (especially the stool) supporting elimination is SUPER IMPORTANT. Harnessing the power of the

body to naturally eliminate these toxins is how we move forward in detoxification from biotoxin illness. Skin brushing, sauna therapy, epsom salt and baking soda baths, ionic footbaths, and coffee enemas all are amazing tools for supporting detoxification.

4. **Glutathione: the body's most potent antioxidant.** Another key to up-regulating our cellular antioxidant system to support detoxification and pull mycotoxins/toxins from the tissues is using glutathione. Mold toxins deplete our own intracellular glutathione by 80%! You can counteract this by taking the building blocks of glutathione like N-acetylcysteine (NAC). NAC works for a lot of people, but many mold and chronically sick people have defects in their genes that code for glutathione production, so I like to suggest taking a liposomal glutathione formula to bypass potential gene issues when people are dealing with a biotoxin illness. I like using a good, clean liposomal form of glutathione: dosing at 1-2 tsp twice daily of liquid or 1-2 caps liposomal glutathione capsules twice daily. Products I recommend are Quick Silver sublingual, Essential Pro Liposomal, using a compounded liposomal glutathione, S-acetyl glutathione by Xymogen and Researched Nutritionals Liposomal Glutathione. Choosing any one of these products depends only on patient preference. Some patients cannot tolerate taking it orally so they may do well with topical preparations, or intranasal or nebulized forms. There are many options. Mold also depletes other antioxidants like vitamin C and alpha lipoic acid and coenzyme Q10. Replacing these may also speed up detoxification and recovery.
5. **Inflammation support for CIRS.** Chronic inflammatory response syndrome (CIRS) is a condition that occurs in about 25 % of those people exposed to mold. We use a number of anti-inflammatory products, namely those specially formulated extended release turmeric compounds like curcumin. Curcumin helps to reduce the body burden of inflammation brought on by biotoxin illness. I like Curcuma Pro from *Integrative Therapeutics* or I may order a compounded or use many other supplemental liposomal curcumin products (*Turiva* by *Orthomolecular*, *Meriva* by *Thorne* are also great). I recommend 2 caps twice daily for those patients where inflammation is a major component (pain, brain fog, joint involvement). I also like high dose fish oils and using CBD products. Fish oils are potent anti-inflammatories, I like 2-4 grams daily in CIRS patients. CBD, dosed at up to 25-50 mg 2 times daily, helps to modulate the glutamate receptors in the brain (that become overexcited by mold toxins), reducing the anxiety and insomnia common with biotoxin illness.
6. **Choosing and initiating your Binders:** Depending on species of mold you are dealing with, you may have to use a number of binding agents. Activated Charcoal, Bentonite Clay, Cholestyramine, NAC, S. Boulardii, Zeolite and Chlorella are most common. How mold toxins are removed from the body is an important concept. Simply put, mycotoxins (and other toxins) are moved out of our cells using the antioxidant system, and then they are moved into circulation, and finally are sent to the liver for detoxification. Mold toxins are fat-soluble, so from the liver they get dumped into the bile for removal from the body. Bile is used in digestion as a detergent as well as to absorb fat-soluble vitamins from the foods we eat. Bile production is such a biologically expensive process for our bodies that we will recycle up to 80-90% of our bile for future use. So mold toxins are processed by the liver and "ride out" on the bile, dumping into the intestines for removal. This is great for us, but like I said, bile is such an important substance, we will reabsorb the bile via bile conservation (entero-hepatic circulation) and the mold and mycotoxins we worked so hard to get out of the cells, just got pulled right back into our circulation! What a waste!! Using research conducted by the military, those of us treating mold and environmental toxins have learned how to hack the Detoxification system and remove the mycotoxin using binders. All the above-mentioned binders work as "bile sequestrants", meaning they serve to "hang on to the bile", keeping it in the intestines, so that we can efficiently eliminate the toxins "bound" to it in the stool. This step is absolutely crucial for toxin removal. We need the liver to be working optimally (transporters transporting

toxins from circulation, through the liver cells and then packaging them into the bile), then the bile needs to be flowing well and moving from the gall bladder to the intestines, and lastly for the binders to meet up with the toxin packaged in bile in the intestines, at the right time, to keep it there and move it out of the stool and into the toilet! Whew!

- a. **Activated Charcoal:** Very strong binder: binds Aflatoxin species and Stachybotrys/trichothecene or black mold: 2-10 caps daily two hours away from meds and supplements. Preferably after fat containing meal
 - b. **Bentonite Clay:** binds Gliotoxin: 1-2 TBS two hours away from meds and supplements
 - c. **Cholestyramine:** This is a prescription: Is especially binds Ochratoxin A: 1-2 packets (4 gram packets) daily two hours away from meds and supplements. Preferably after fat containing meal.
 - d. **Note: you can take all the above binders together!!**
 - e. If you don't know what type of mold you have because you cannot afford/have not done testing, DO ALL the BINDERS to cover your bases. If you cannot get a prescription for cholestyramine, *Xymogen* carries a product called UltraFiber Lean that is touted to work like cholestyramine without a prescription. There are also generic combo binders out there: GiDetox and Ultrabinder I have also used these successfully to treat mold, you just need to get the doses right to get equivalence.
 - f. **Chlorella:** is a great general binder for mycotoxins from mold: doses are 1-10 pellets. This is the only binder that can be taken with or without food. It is not to be taken with other binders, as other binders will bind it. It is also important to know that this is the only binder that is safe to use in pregnancy or with nursing mothers.
 - g. **Sacchromyces Boulardi:** 1-2 cap per day. Type of yeast that crowds out mold in the gut. Good for Gliotoxin removal. Gentle binder but not to be taken with other binders. Take first thing in the morning or at bedtime
 - h. The Mold Warrior author Richie Shoemaker MD wants binders taken 4 times per day. Toxic author Neil Nathan MD says once is enough for most sensitive patients. I will say it is hard to find 4 times per day with a mold protocol to find enough time to take binders away from other meds and supplements used to treat mold. And the logistics are difficult, especially with mold brain!! Binders bind everything, including your expensive supplements and medications. Taking them away from these is important, especially if your life depends on a medication like a heart pill, diabetes medication or psyche meds. I got better and I have helped may others get well from mold by taking all four binders just once daily and chlorella with meals. Functional medicine is always individualized, but with diligence, I have seen many get well with binding only one time daily.
7. **Liver function and bile production:** (aka Phase 2.5 or Phase 3 detox) may need to be supported as well. Bitters (like dandelion), milk thistle, and phosphatidylcholine are important supplements that support liver function, liver protection and bile production and flow. Quicksilver Scientific makes great products for this. You can take these products individually or their combo product, Liver sauce, is also a great product. When taking anti-fungals, we must protect the liver so please make sure you are at least taking something with milk thistle for liver protection.
8. **Magnesium Citrate:** Binders are very constipating, because they "bind" the stool. Care must be taken to keep the bowels moving during detox, to safely eliminate all the toxins you have worked so hard to clean out of the tissues and get into the stool. Take 1-4 caps of Magnesium Citrate before bed to ensure at least one daily soft bowel movement! If that is not enough to keep things moving, we may need to add stronger bowel movers like Colon X from xymogen, more fiber, Pectisol-C, triphala, psyllium etc.

9. **Immune Modulation.** Mold toxins are among the most potent immune suppressants known. In fact mycophenolic acid (a mycotoxin) is used as a pharmaceutical medication to suppress the immune system in organ transplant and Hashimoto/Graves disease patients. When treating mold, we have to use immune modulating supplements to address the dys-regulated immune function. I like to say that mold and other toxins turn up the part of our immune system that make us feel flu-like and turn down the part that recognizes that we have seen certain infections before. This flip-flop causes us to feel sick and to get sick more often when we are dealing with mold. I use Transfer Factor Enviro: 1 cap twice daily. Some patients require Transfer Factor Sensitive. Both help to support the immune system after mold exposure. I have also used SBI Protect, Mega IgG Immunoglobulins, and colostrum products to repair damage to the gut endothelium and modulate the immune system in the GI tract.
10. **Antifungal therapy.** Like the sinuses, other tissues may become colonized with mold. Mold grows in dark, wet, warm places...just like the inside of our lungs, sinuses and intestines. After getting the above steps up and running, the last step in the mold protocol is starting prescription antifungal therapy. I usually won't prescribe unless I know the person is out of the moldy environment, but I have prescribed for those with profound symptoms. Depending on what molds we are working with, I typically start with itraconazole and nystatin as a double therapy. I have also done triple therapy with itraconazole, nystatin and fluconazole. If insurance will pay, I like voriconazole as it covers all three but it is more expensive. If you have Gliotoxin, it is only sensitive to Voriconazole, so that is where we will start. Initial treatment is 21-30 days, followed by a reassessment. Sometimes this is enough, sometimes treatment requires more time. You must have monthly blood work while on these anti-fungal medications. If you cannot get prescriptions, there are a number of herbal supplements that can help address fungal infections: single herbs like pau'd arco, oregano oil, caprylic acid, undecylenic acid, garlic, grape seed extract, Echinacea, S. boulardii, or combinations like A-FNG by *Byron White* and Mycoregen and ProMyco by *Beyond Balance*.
11. **Addressing Biofilm:** Mold and other biotoxins often live in a substance called biofilm. This is a thick glyco-matrix protein or mucus type substance protects communities of microbes within our system from antimicrobial agents. Certain enzymes, taken away from food, help to break open this biofilm and exposes the microbes living in the Biofilm to the killing agents we use to eliminate these infections/colonies. I use Interphase Plus: 2 caps daily away from food. I often hold off on this step until all the above steps are running smoothly before attempting to break open biofilm. Monolaurin/lauricidin is also biofilm buster and also covers viruses. I typically wait until people are up to speed on the whole mold protocol until I start working on biofilms... so I wait until after the first week on antifungal therapy.
12. **Treatment duration.** Treatment length for those no longer being exposed to mold is typically 6-12 months! I try to prepare patients for the long haul of treatment. They are often very motivated through the first month or two, but fall off the wagon after several weeks. In my experience, the first thing to go is the binders. But like I explained above, this is one of the most important, if not the MOST important step and should not be underemphasized! Mobilizing the toxins is great, but you have to bind them to get them out. I try to help people to understand how important this is and to be a good cheerleader to keep them motivated for this part of treatment.
13. **Detox is a lifestyle!** Depending on the patient, mold treatment may be a one and done thing, but often, mold illness is just one part of a whole chronic illness picture. I believe detoxing and binding are important parts of a whole lifestyle that includes drinking clean water, eating clean food and breathing clean air. This illness may just be the motivation to prompt overall lifestyle changes that support a healthier life!

Detox Support

When you start to detox from mold, you release mycotoxins/biotoxins stored in the body. Liberating mold toxins can sometimes make you feel worse before you feel better. It is often described as having flu-like symptoms, brain fog, or headaches. The following suggestions may be added to your treatment to help you feel better and be able to better tolerate treatment. If you can, adding these adjunct therapies can be the X-factor in recovering from mold illness.

I am from the camp of Dr. Neil Nathan: "more is not necessarily better". I do not intend for you to tolerate treatment by suffering. I try to get patients to gently detox and bind, while carefully monitoring for worsening of symptoms. Worsening may indicate things are getting liberated faster than the body can handle. When this happens, I like to turn down more killing type treatments and turn up the more soothing detox treatments listed below.

Biotoxin Removal Support:

14. **PK Protocol:** Intravenous therapy using Phosphatidyl Choline (PC) and Glutathione
 - a. PC stabilizes and repairs damaged cell membranes and the nervous system. Glutathione cleans everything up.
 - i. Removes biotoxin and neurotoxins from the membranes and the tissues
 - b. Recommend 20-50 cc PC and 15 cc Glutathione weekly or biweekly for 15 rounds then reassess how you are feeling. I usually start with 5 cc PC and work up
 - c. Oral PC works if you do not have access to IV therapies. I like Body Bio products. Start with 1 tsp daily and work up.
15. **Myer's Cocktails:** Detoxing from Mold and Lyme is a metabolically demanding process that requires large amounts of antioxidants: namely Vit C, Alpha-Lipoic Acid and Glutathione. These IV's help to replenish the body's stores of these vitamins.
16. **Tox-ease GL:** Cellular Detox support: 2 droppers full twice daily. Helps if patients feel worse with treatment. Especially good if you also have other infections like lyme.
17. **BT Detox Biotoxin detox drops:** 1-5 drops twice daily work up to 10 drops twice daily.
18. **NT Detox: Potent Neurotoxin detox drops:** 1-5 drops twice daily work up to 10 drops twice daily
19. **Cognease Detox:** more gentle than the ones listed above. It important especially in those with severe brain fog: 3 drops two to three times daily, work up to 15-20 drops two to three times daily
20. **Infrared Sauna:** passive parasympathetic sweating helps remove toxins. Start low and slow, max 135 degrees 5-30 min several times per week
21. Detox baths: 6c Epsom Salt and 6c baking soda baths in Luke warm water: soak in the bath
22. **Manual Lymph Drainage or Cranial Sacral therapy:** in the hands of a skilled practitioner, this can be soothing and help to move toxins stored in the lymphatic system.
23. **Acupuncture:** may help with relaxation, organ support and pain.
24. **Ionic Footbaths:** help with parasympathetic tone and supports detox, recommended 1-2 times weekly