C|R

HEALING MOLD

BRAIN, HOME, BODY

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INTRODUCTION

Mold is one of the quickest growing challenges to our health and it is getting worse every year. The development of modern building techniques, exacerbation by growing electrical signaling (EMF's) and a general unawareness has created a perfect storm for the worsening of mold illness.

If you are part of the 25% of people (in the US equals about 80 million people!) who have the genetics that make them highly sensitive to mold by reducing their ability to clear these toxins, chances are you are already suffering from health challenges. These genes are referred to as your HLA typing and looks like the image below. It can appear very confusing which makes it important to work with a practitioner who understands what this means for your specific case. We will dive into common symptoms for those susceptible to severe mold illness, but it is important to first note that no two people are alike when it comes to mold illness.

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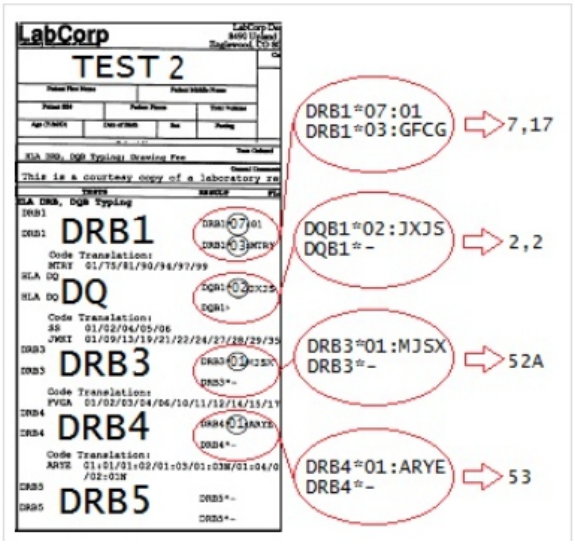
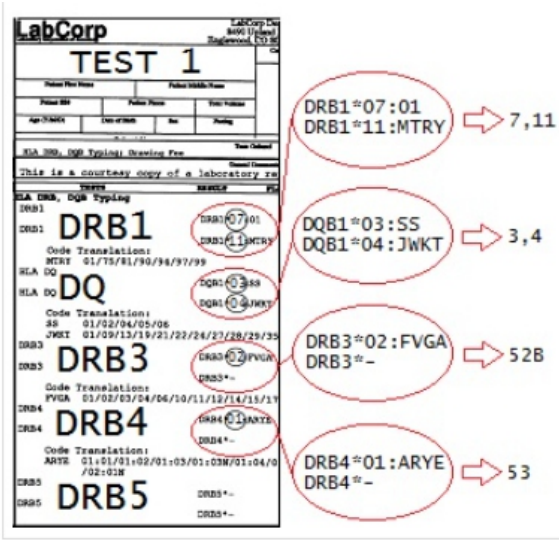




****The 25% of people who carry the HLA-DRBQ gene related to mold toxicity, do not make the antibodies needed to deactivate and remove mold toxins. Their bodies cannot recognize the mold toxins as "bad guys" to be eliminated. So, the toxins get stored…**

For the remaining 75%, mold and mycotoxins act as an additional burden in what we call your, "toxic load". This is the cumulative total of all toxins that you are exposed to including herbicides, pesticides, plastics, toxic cosmetics, pollution in the air and water and of course, mold.

Current research estimates that most Americans spend 90% of their time indoors. This includes time spent at work and school in addition to time spent at home. Even the most outdoorsy of us still spend nearly half our day in the house to sleep and get ready for the day. Though we may believe that our homes are clean and benefit our health, The Environmental Protection Agency estimate that indoor air is up to 5 times more toxic than outdoor air.

Getting to know mold is important as it is much more than the green stuff on a loaf of bread or ominous looking black wall in an old abandoned house. It is more commonly the stuff that you never see or smell that is lurking behind the wall in your recently built home or the crawlspace that you were told is up to code.

The prevalent nature of mold toxicity can be attributed to the simplicity of requirements needed for growth to occur. Mold only requires three things to grow:

1. Nutrient source
2. Proper temperature (32-120 degrees F)
3. Moisture.

It does not require light and the nutrient source may surprise you. Mold can absorb nutrients from any organic material such as paper, adhesives, resins that make up fiberglass insulation, house dust and possibly the worst offenders, drywall and carpets. The Journal of Indoor Air found "that these three fungal species (Aspergillus, Chaetomium, Stachybotrys) are already embedded in the materials, presumably in the paper/carton layer surrounding the gypsum core, before the panels reach the retailers/ building site". Simply add in a temperature between 32-120 degrees Fahrenheit and a moisture level above 45% and mold can flourish.

While it is important to maintain the cleanest home possible for several reasons, we will look at the symptoms that may prompt you to take a deeper dive into taking care of mold issues.

Symptoms Associated with Mold Illness

Fatigue/Weakness
Joint Pain/Morning stiffness
Muscle Cramps Trouble with focus
Poor/worsening memory
Headaches/light sensitivity
Abdominal pain/bloating
Numbness/Tingling/Static Shocks
Vertigo/dizziness
Frequent Urination
Red itchy eyes/blurred vision
Anxiety/Mood Swings
Chronic Cough/respiratory issues
Sleep Disruption

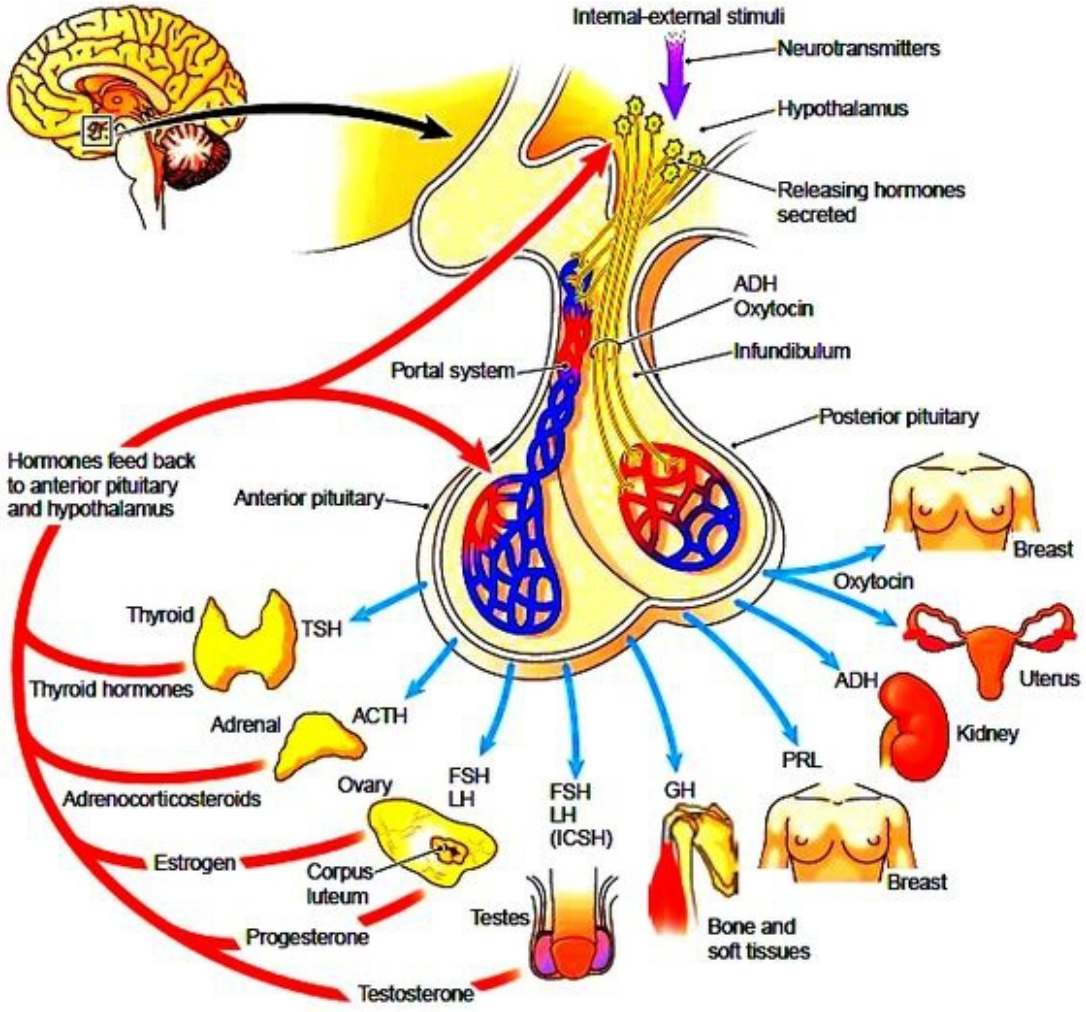
Conditions Associated with Mold Illness

Autoimmune Disease
Sinusitis
Chronic Fatigue
Arthritis
Chronic Candida
ALS
Restless Leg Syndrome
Gastric Reflux (GERD)
Irritable Bowel Disease
Migraine
Polycystic Ovarian Syndrome
Compromised Mitochondrial Function
Autonomic Nervous System Dysfunction

You can see how the symptoms do not impact just one system of the body and why it has been named, "The Great Mimicker". In addition to the several areas of the body represented by the list of symptoms, mold toxins have a great affinity for the brain which is comprised of 60% fat. This is because they are "lipophillic" meaning that they are fat loving.

One component of that is how mold can contribute to significant weight gain without changing other aspects of lifestyle. This also may explain why some people actually feel worse despite losing weight. Additionally, since the brain is made of predominately fat, mold spores often get deposited into specific regions such as the hypothalamus, nicknamed the "control center" of the body. The many hormones produced by the hypothalamus can help illustrate the far- reaching effects of mold:

Adrenal Function Disrupted (CRH) -Stress Response
Thyroid Function Disrupted (TRH) -Energy, brain function, hair
Reproductive hormone dysfunction (GnRH) -Hormone Mayhem!!
Somatostatin-no feedback
Feeling of connectedness altered (oxytocin) -Libido, relationships, childbirth
Tiny Bladder Syndrome (Vasopressin) Constant thirst and urination



HOW DO I KNOW IF I AM DEALING WITH MOLD?

There are several types of testing that can be performed not only to look at your body but also your home environment. Your next steps will vary depending on your symptoms, health history, finances and recommendations of a doctor. The next pages will outline your next steps starting from the very basic level all the way up to the most advanced cases.

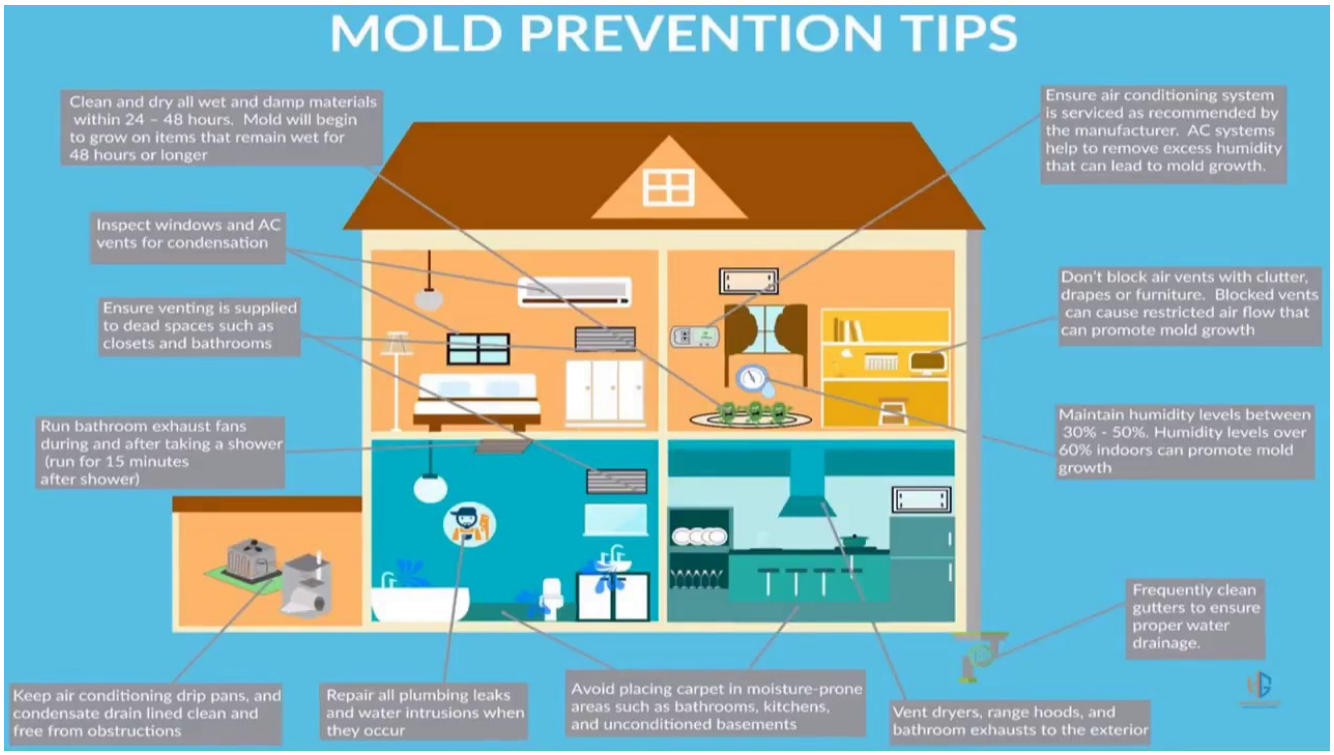
Mold Requirements For Growth

Growth Material
Drywall
Carpet
Wall paper

Moisture
Leaks
Humidity
HVAC

Temperature
Mold can grow between
40-120 degrees F

General Recommendations for a Clean Home



Step 1: Basic Visual Inspection

Taking a walk through your house with a purposeful eye (and nose) may reveal things that you have seen a thousand times without giving second thought to. Take into account that mold only requires something to grow on, moisture and the correct temperature to grow. Mold growth can take place in as little as 36 hours after a water event. Spend extra time looking for signs of mold in the bathrooms, underneath sinks, basement/crawlspaces, attics and underneath windowsills. These are places that are the most susceptible for providing the perfect breeding ground for mold. Look for signs of moisture that may indicate a larger problem. Water spots, discoloration, wrinkled wallpaper and nail-pops in drywall are all indicators that moisture is or was present. The use of moisture meter can be helpful as well. They come in two major varieties but the non-invasive one is a good option when starting out. Simply check the reading of the walls to determine if you should suspect active moisture. While each material is a little bit different, you should have a reading near 0% with anything over 20% being a prime mold growth location.

Your visual inspection may also include looking at the outside of your home for pooling water, whether your house is downhill at all, roof/gutter issues or cracks in the foundation. All of these are areas that water or moisture can enter the home. Having these things corrected is beyond the scope of this particular document but the most common thing we see is moisture coming in through the basement/foundation/crawlspace. Most importantly include assessing your gutter system (clogs, downspouts etc.), grade/pitch of soil away from foundation and drainage systems such as a french drain can be an easy DIY solution to prevent water from pooling in these places. Below are some common places to look to get you started.

Exterior

1. **Basement/Windows:** Water can come through cracks in the foundation, leaky basement windows or if you are on a crawlspace, it is common for humidity to accumulate on your floor joists or around any HVAC ductwork you may have. If you have a crawlspace it is best to encapsulate completely so that you can control temperature and humidity. This is more of a professional job as it is important to do properly.
2. **Gutter Downspouts:** As good habit, cleaning your gutters can prevent water from pooling around any unexpected areas. Additionally, gutters should drain at least 4 feet from your downspout.
3. **Roots:** Avoid planting trees, bushes, shrubs etc. too close to your foundation as these roots can begin to cause erosion or cracks in your foundation.
4. **Windows:** Frequently inspect all windows to ensure that the moldings, caulking, and fitting is tight.
5. **Roofs:** The most common culprit for water leaks, roofs can be more susceptible along ridge lines, dormers, chimneys, vent pipes or any other area where pitch changes. Flat roofs should be inspected for proper pitch and drainage.

Living Room

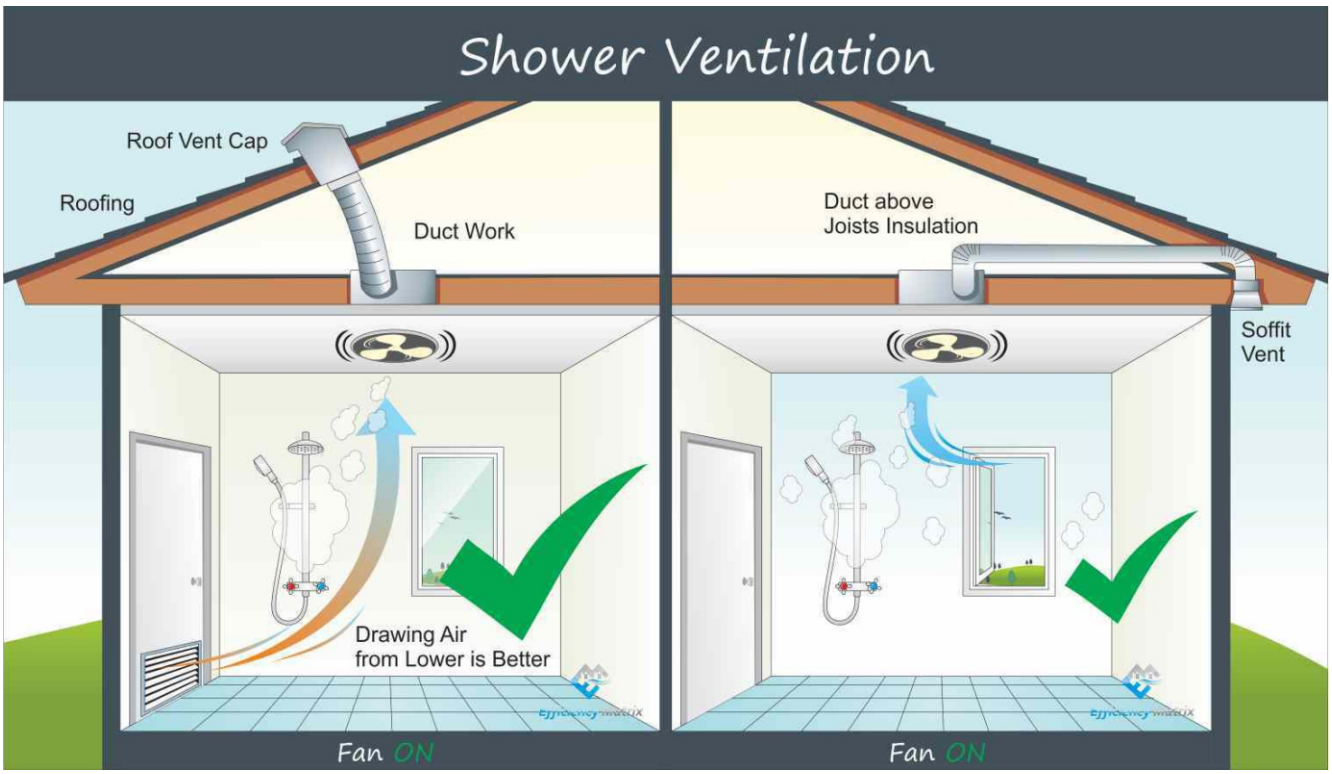
1. **Carpeting:** Carpets are the perfect material for mold to grow on and that includes the padding underneath. Any spills, water leaks or moisture in the carpet can lead to mold growth in 36 hours. Hard floors are ideal such as wood, concrete, tile etc.
2. **Pets:** Fish tanks contribute significantly to indoor air humidity and dogs/cats are additional sources that can harbor mold or create "wet spots".
3. **Entry Points:** Chimneys and windows create opening that can allow moisture in if not properly sealed properly. Any cracks in the chimney or broken seals in the windows should be fixed as soon as possible
4. **Drywall:** Modern drywall was created out of convenience rather than health and has even found to be impregnated with mold spores straight from the store. Ensuring that your drywall stays dry is important during installation and through the lifespan of your wall. Replacing water damaged areas before mold growth occurs is essential to preventing the spread of potentially harmful spores.

Kitchen/Bath

These areas present the most common indoor areas for mold growth due to the unique appliances. This is an area you will want to check inside cabinets, use a moisture meter and look for any discoloration.

1. **Appliances:** Washing machines, dishwashers, sinks, showers, tubs and toilets all present higher pressure areas of commonly flowing water that has the possibility of leaking. Gas stoves also create water vapor that increase humidity in the air. Be sure to use your hood vent.

2. **Ventilation:** Bathroom vents are often vented improperly. Whether they are vented just into the attic or not at all, mold can become present. Be sure that vents exit through the roof, soffit or side wall and not into a "dead space" such as an attic.



3. **Grouting:** Any grout that is cracked or loose can allow water to seep into cabinets or under the floor. This is the case for tile floors, around the sink, countertops or even backsplashes.

Basements

1. **Flooring:** Any underground flooring has the potential for water to seep through.
2. **Sump Pump:** Any area of the basement floor that either backs up due to a broken sump pump or areas of the basement with improper slope can accumulate mold. It is best to have a back up sump pump in case the initial fails. These can be installed in conjunction with your primary unit.
3. **HVAC:** These systems can spread mold contamination throughout a home. If they are in a basement or crawlspace, this contamination is even more likely. Change filters as recommended (often 90 days or sooner) and utilize a filter with a rating of MERV 11 (or greater) or MPR 1500 (or greater).
4. **Humidity:** Basements often harbor a great deal of humidity making a dehumidifier very helpful at maintaining a mold free environment. Many dehumidifiers can be set up with an included hose to drain directly into the sump.
5. **Crawlspace:** Though there has been debate surrounding the topic, it is decidedly clear that a crawlspace should be encapsulated rather than ventilated. While it is best to have a professional provide this service, an avid DIY-er will do.

Step 2: What's your humidity?

In step one you did a simple walk around your house looking for clear signs of current or past moisture accumulation. Ideally you found nothing but for most of us, there are a few spots. And with that said, a clean visual inspection does very little at ruling out any potential of mold.

Humidity in your home is one of the biggest hurdles you have when trying to keep your home a mold free environment. This falls into the category of something that everyone should monitor whether they are experiencing symptoms or not. This requires a very easy to get and inexpensive tool called a hygrometer. Easily found at most hardware stores or online, this device will check your ambient room humidity. You can expect to pay between $10-$25 but it is an absolute essential in every home. We recommend having multiple throughout your house and many have magnets so that you can keep one on your fridge. You want this to stay between 35-45%. If you live in the southeastern area of the country this can be a large hurdle; especially in the summer.

You can use dehumidifiers in the home to keep the humidity down in smaller spaces where an individual unit is practical. As previously mentioned, running a dehumidifier in the basement will likely be necessary. Fortunately, most units have a hose attachment so that water can directly exit into the drain rather than having to empty the unit. Be sure to keep these units emptied and cleaned often so that mold does not accumulate there either. For larger homes it may not be practical to use individual units which is where a whole house dehumidifier can be a cost effective means of controlling humidity.

Step 3: Clean up your air!

As was mentioned earlier in this document, it has been found that indoor air is up to 5x more toxic than outdoor air! There are several reasons for this but one reason that has not been discussed is the "tight" building design of modern structures. Double paned, triple insulated with constant temperature control creates a living environment more like an airplane than of houses past.

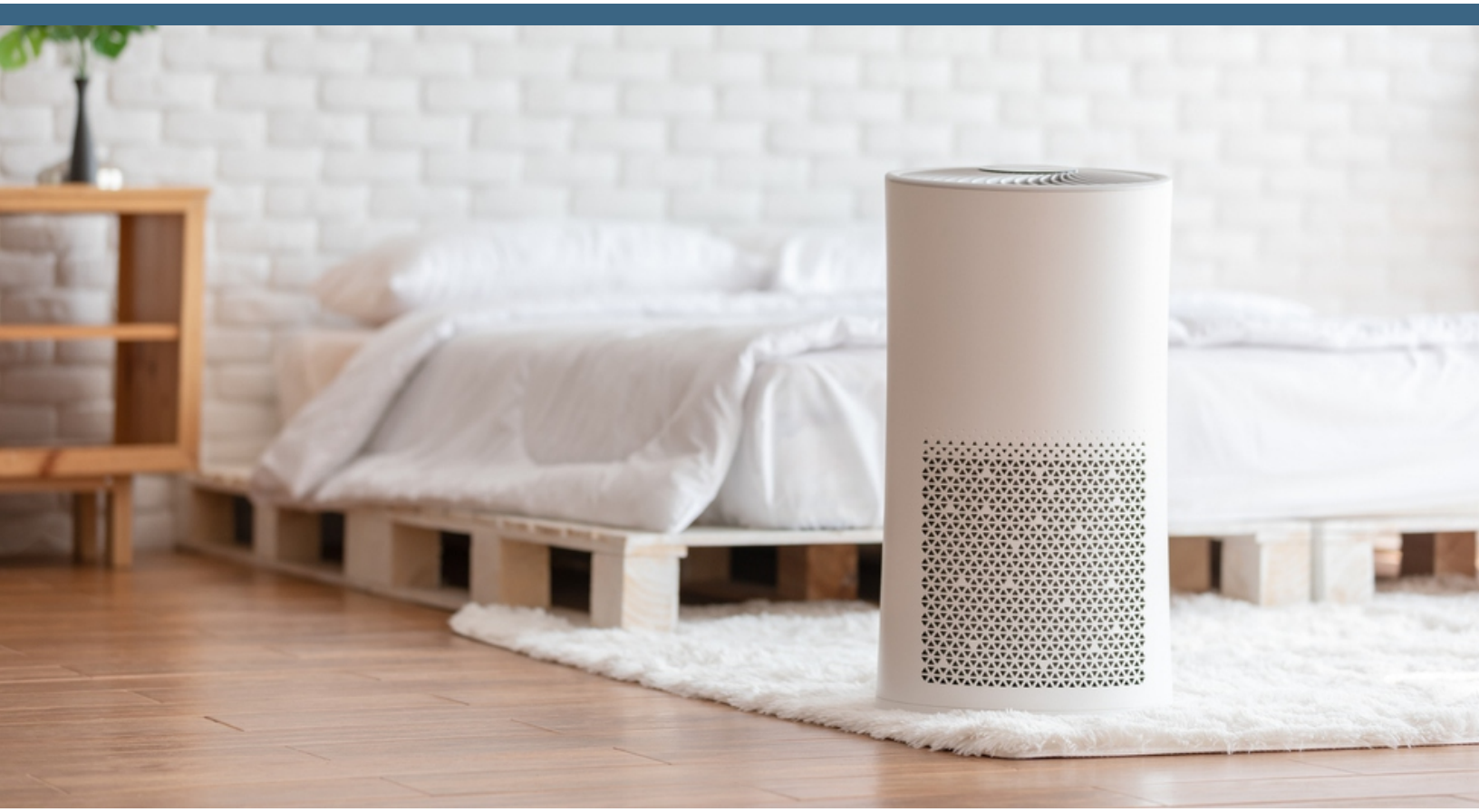
Air filtration units are highly sophisticated pieces of equipment that vary greatly in effectiveness and cost. A quality unit can be one of the greatest investments in you and your family's health. It is critical to have an air filter that traps particles as small as .3 microns. A HEPA filter is often accompanied by carbon, charcoal or UV filtration components to more thoroughly capture airborne particulate that can cause illness or allergy. Once again you can purchase individual portable units or a whole house unit depending on the size of home and finances.

Air Doctor is one brand that makes top quality portable air filtration units. While there are several companies, Air Doctor packs serious value by balancing cost versus the number of square feet covered. These go above and beyond standard HEPA filtration units by combining several filters with increasing particulate capture. Filters will need to be changed however this is done most often between 6 months or yearly. Companies such as Air Doctor, Molekule, and Austin Air also make great units that will deliver great results.

For homes greater than 1200 square feet or for a more thorough air filtration unit, the IQ Perfect Air System is the highest rated currently. These units hook up to your HVAC system to filter out mold, dust allergens and more. The company claims that the air is more than 10x cleaner after passing through the filtration unit.

Though not in the scope of this document, it is worth noting that the air filtration component is essential not only for the mold but for the plethora of air borne toxins from other sources as well. Many modern building materials can off gas chemicals into the environment such as flame retardants in furniture, vinyl chlorides from vinyl flooring/PVC fixtures and especially the chemical milieu found in air fresheners and candles. Ultimately the goal is to begin replacing these toxic components with healthier versions but in the meantime, having good filters can help reduce the total toxic load.

Another aspect of cleansing your air can include killing pathogens (including mold toxins) while they are in circulation. Ultraviolet light is not a new technology when it comes to cleaning, however home use has unfortunately been less utilized. UV-C light technology is common practice in hospitals and doctors' offices where disinfection is paramount. UV-C light, specifically the wavelengths between 255nm-288nm is known as the germicidal wavelength and will penetrate into a molds nucleus to disrupt the DNA in the cell until it dies. There are multiple applications to utilize this technology. Most commonly, UV lights can be installed into your HVAC system as a fairly successful way of disinfecting the air circulating throughout your home. The draw back of these systems is that UV only disinfects what they light hits which means if it is only exposed to one side of your AC coil then the other is not cleaned. With that said, for the inexpensive cost of these additions, it does provide benefit. The other effective application are portable models. These smaller models can be transported room to room and used when needed. Ideally you place the UV light in a room for 30-60 minutes with the lights off and the room completely vacated. UV light will off gas small amounts of ozone that can be toxic to humans or animals. Though the ozone dissipates rather quickly it is best to stay out of the room for an extra 20-30 minutes after it has ran.



Step 4: Supercharge your air

Since breathing is the most common way to get toxic mold spores into the body, it is no surprise that the air gets a big focus. Filtration units are an amazing and effective means at removing toxins from the air but there is another step if you truly want the best air possible.

We are all familiar with probiotics for your gut health, but only recently have we looked at the tremendous ability of probiotics for the air. These work to go up into the air and land on all surfaces including furniture, floors, countertops and even hard to reach places like tops of trim or fan blades. These small probiotics grab onto bacteria, mold spores, allergens, pet dander and others to neutralize them just like our good bacteria in our gut does the same against gut infections. The result is a cleaner home environment without having to do anything!

This technology is relatively new and there are only a few companies who currently make these products. Homebiotic was started by bulletproof founder, Dave Asprey and they make a small portable misting spray that is perfect to take with you to work, hotels, in your car or to spray areas of your home. Another benefit is that it removes the bad smells in a room as well making it a much safer alternative than other room air freshening sprays.

Another option that would be better for more sustainable use would be a portable probiotic misting device that acts very similar to the ones that spray the toxic perfumes in a room. Better Air makes a small device that mists the probiotic sprays at regular intervals to maintain a healthy environment. The inserts last 3 months at a time and is truly one of those set it and forget it devices.

Step 5: Testing

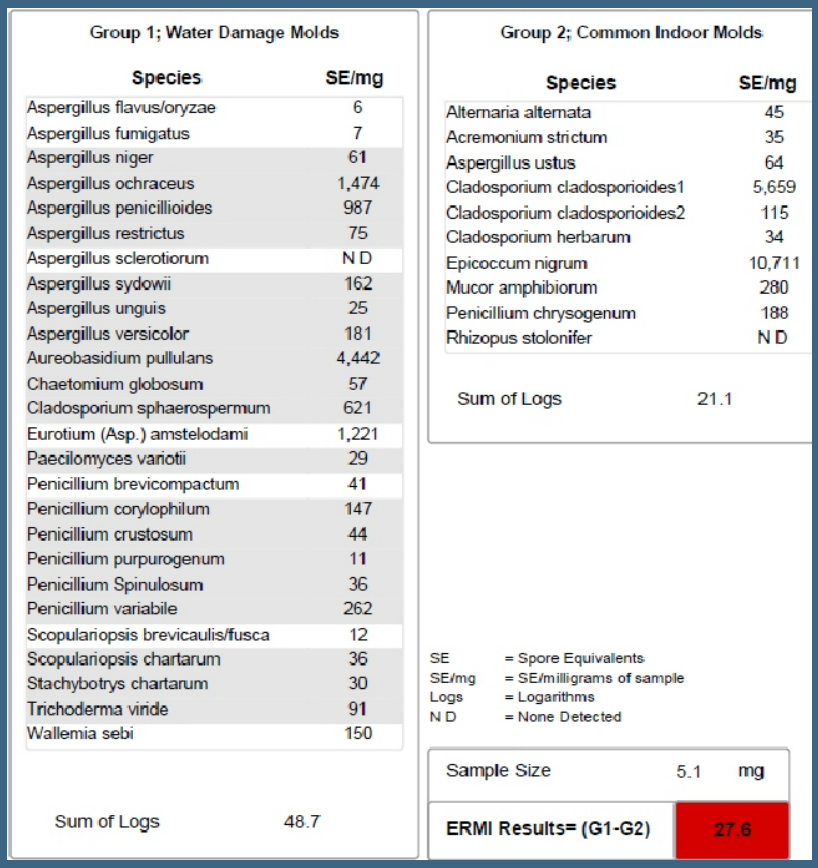
There are several different testing options when it comes to testing for toxic mold and air quality in your home. Each option comes with different pros and cons.

Although not mentioned until now, testing should always be conducted. Due to the complexity of mycotoxin testing and results it is best to work with a healthcare provider who has studied this. With mold, there are several tests available that are best performed in conjunction to get an accurate picture.

Testing Your Home

*There are several different options when it comes to testing for toxic mold and air quality in your home. Each option comes with different pros and cons.

1. ERMI (Environmental Relative Moldiness Index) was developed by the EPA to determine quality of the air in relation to mold and mycotoxins. Currently considered the gold standard for mold testing, we often recommend this test to our patients when we have any suspicion of mold related illness. An ERMI tests for 36 different molds using the most accurate lab methods which will also report back the actual count or relative spore index of each mold. The ERMI offers two methods for collecting dust samples including vacuum sampling and swifter cloth sampling.



Group 1; Water Damage Molds

Species	SE/mg
Aspergillus flavus/oryzae	6
Aspergillus fumigatus	7
Aspergillus niger	61
Aspergillus ochraceus	1,474
Aspergillus penicillioides	987
Aspergillus restrictus	75
Aspergillus sclerotiorum	N D
Aspergillus sydowii	162
Aspergillus unguis	25
Aspergillus versicolor	181
Aureobasidium pullulans	4,442
Chaetomium globosum	57
Cladosporium sphaerospermum	621
Eurotium (Asp.) amstelodami	1,221
Paecilomyces variotii	29
Penicillium brevicompactum	41
Penicillium corylophilum	147
Penicillium crustosum	44
Penicillium purpurogenum	11
Penicillium Spinulosum	36
Penicillium variabile	262
Scopulariopsis brevicaulis/fusca	12
Scopulariopsis chartarum	36
Stachybotrys chartarum	30
Trichoderma viride	91
Wallemia sebi	150
Sum of Logs	48.7

Group 2; Common Indoor Molds

Species	SE/mg
Alternaria alternata	45
Acremonium strictum	35
Aspergillus ustus	64
Cladosporium cladosporioides1	5,659
Cladosporium cladosporioides2	115
Cladosporium herbarum	34
Epicoccum nigrum	10,711
Mucor amphibiorum	280
Penicillium chrysogenum	188
Rhizopus stolonifer	N D
Sum of Logs	21.1

SE = Spore Equivalents
SE/mg = SE/milligrams of sample
Logs = Logarithms
N D = None Detected

Sample Size	5.1	mg
ERMI Results= (G1-G2)	27.6	

2. Immunolytics Test Plates: Immunolytics offers a simple, affordable, and convenient test to identify more than 500 mold species. This mold test provides information to help in determining if contamination is present and what steps must be taken if it is. The kits include testing materials, analysis, and consultation with the Immunolytics lab advisors in the price. The detailed analysis includes both the quantity and type of mold found in the sample, along with a health index scale to help interpret the results. While this will not be as accurate or in depth as the ERMI test, it can be a great place to start or an invaluable tool when working through remediation.

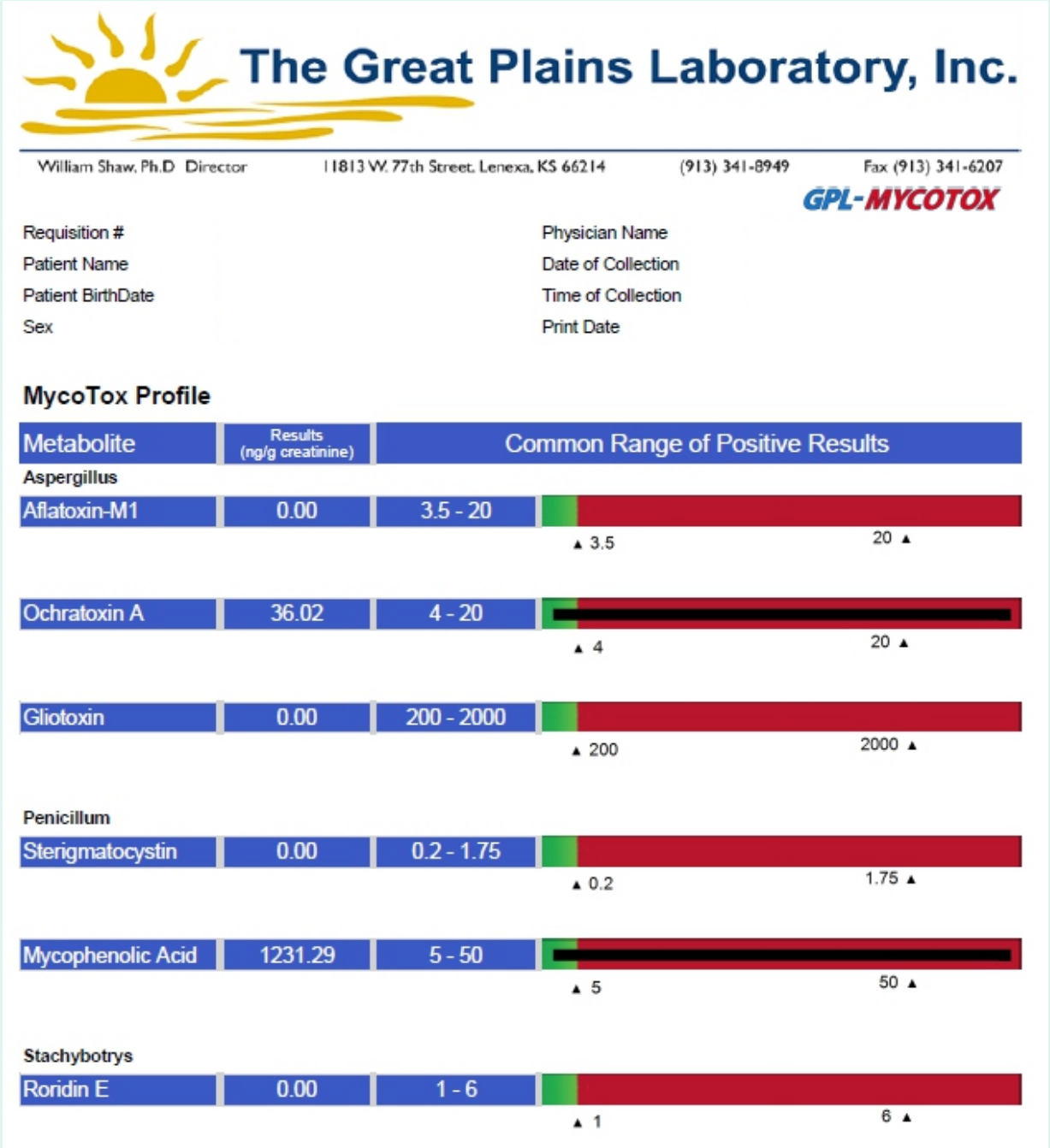
3. Environmental Mold and Mycotoxin Assessment (EMMA): This at-home Environmental Mold and Mycotoxin Assessment uses sensitive molecular detection technology to look for the presence of 10 of the most toxigenic molds and 15 of the most poisonous mycotoxins. This test provides a comprehensive environmental diagnostic of not only which molds you are being exposed to, but also measures the degree to which you are being exposed. Testing is simple, requiring small amounts of dust or material from AC or heater filters. This test is often chosen when you are either suspecting that your HVAC system is contaminated or if there will be a potential for litigation.

4. EC3 Mold Screening Plates: Each kit contains 6 mold test plates and detailed instructions for testing indoor air or specific items for the presence of mold. Provides results in just 5 days that will indicate whether or not mold has reached unhealthy levels with allergy and disease implications. These screening plates can be a starting point to determine if more in depth mold testing is indicated. They can also be very helpful to use during and after the remediation process.

5. Professional Mold Inspection: It can be very difficult to find quality inspectors and remediators who truly understand the complexities of biotoxin illness. Currently, the industry standards for mold inspection and testing are a number of years behind the science of Biotoxins. Ideally, one should have certifications in areas such as indoor air quality, environmental science and/or building biology, microbial and mold remediation, water restoration, environmental inspections, and building inspections. They should also be a member of the Indoor Air Quality Association.

Testing Yourself

1. MycoTox Profile: This urine mycotoxin test detects mold toxins that are being processed through the body. This test can be very helpful in determining the specific mold toxins that you are/have been exposed to. While we have found this test to be one of our most impactful tests in the office, there can be situations in that a person is unable to detoxify these mycotoxins due to complicating health challenges (detoxification, genetics etc.) which will results in a test looking good. Despite the seemingly good results, these patients are often the sickest individuals. This is often due to the body storing/not releasing these toxins rather than detoxifying them out. This is one reason that it is best to utilize a combination of tests to get the most accurate results.



The Great Plains Laboratory, Inc.

William Shaw, Ph.D Director | 11813 W. 77th Street, Lenexa, KS 66214 | (913) 341-8949 | Fax (913) 341-6207

GPL-MYCOTOX

Requisition #	Physician Name
Patient Name	Date of Collection
Patient BirthDate	Time of Collection
Sex	Print Date

MycoTox Profile

Metabolite	Results (ng/g creatinine)	Common Range of Positive Results
Aspergillus		
Aflatoxin-M1	0.00	3.5 - 20
Ochratoxin A	36.02	4 - 20
Gliotoxin	0.00	200 - 2000
Penicillum		
Sterigmatocystin	0.00	0.2 - 1.75
Mycophenolic Acid	1231.29	5 - 50
Stachybotrys		
Roridin E	0.00	1 - 6

2.MyMycoLab: This blood serum test is the most precise and accurate test for the detection of the body's reaction to antibodies, both toxicologically and/or allergically. It tests for 12 different mycotoxins for both IgG and IgE antibodies. This can help to determine if the mold toxins present, are eliciting an immunological response. This test will often be paired with the Mycotox test to get an accurate depiction of potential mold illness.

3. Bloodwork: Working with a practitioner to obtain comprehensive bloodwork to add to the overall picture can be beneficial in a mold diagnosis. Several inflammatory and immune system markers help to determine the impact that mold may be having on your health as well. It is also important to have regular bloodwork to monitor your liver/kidney health, immune function, inflammatory markers and Natural Killer function testing.

4. Microbiology Dx: This test examines the nares (nose) through the use of a nasal culture for MARCONS (Multiple Antibiotic Resistant Coagulase Negative Staphylococcus) and other bacteria isolated and fungi including mold and yeast in clinical specimens. These infections including the potential for existence is frequently an issue for those dealing with mold toxicity due to the inhaled path that mycotoxins take. If these infections or mycotoxins are present in a nasal biofilm, symptoms related to the brain can be perpetuated and are more likely to be suffering from brain-based illness.

*When mold is suspected by yourself or your doctor it is important to be tested thoroughly so that an accurate game plan can be created. Our doctors are trained however, regardless of symptoms, diagnosis or suspicion; keeping a mold free home should be a foundational goal.

BASIC MOLD REMEDIATION TIPS

Before even getting started with any remediation you must first determine if this is something that you can handle yourself or are you going to need to have the professionals do this. The size of the job is the first factor when determining this. Major plumbing work, crawlspace encapsulation or multiroom remediation may be beyond the scope of DIY but very individual dependent. The other major factor relates to how severe your symptoms are. If you are having symptoms it is recommended to avoid doing the remediation yourself as this could make your health worse. Best option in that case, call in the professionals and go for a trip somewhere. That could mean Disney or it could mean staying at a family members house where you don't react.

Visible mold on drywall or under carpet on the subfloor or padding will need to be cut out and removed. Wear proper protection and remove all areas of visible mold by putting it into thick trash bags and do your best to avoid tracking the bags throughout your house when possible.

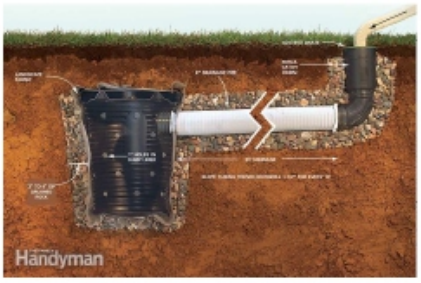
Step 1: Remove causative factors

You must identify and correct the reason that mold was able to become present in your home in the first place. A leaking sink, leaky roof, porous basement or whatever your particular case may hold, get this fixed first or count on having to remediate year after year. Use the "Visual Inspection" area check off any and all areas. In most cases there are multiple contributing factors adding to the totality of moisture or "mold growth burden". This part also includes removing any drywall, subfloor, carpet or material that is harboring the mold. Any organic matter can harbor mold spores making it important to really assess your attachment to mold exposed clothes, beds, furniture, books, paper items etc.

Spend a rainy day outside exploring the perimeter of your home and map out areas of poor drainage, low spots near the foundation of your home, gutter dysfunction and any penetrations into the house that could allow for moisture to enter. Draw this on a piece of paper and devise a strategy from there. A few of the most common solutions include:

Extended gutter drains

Sloped grade away from foundation



Dry Well Drainage System

Step 2: Address humidity

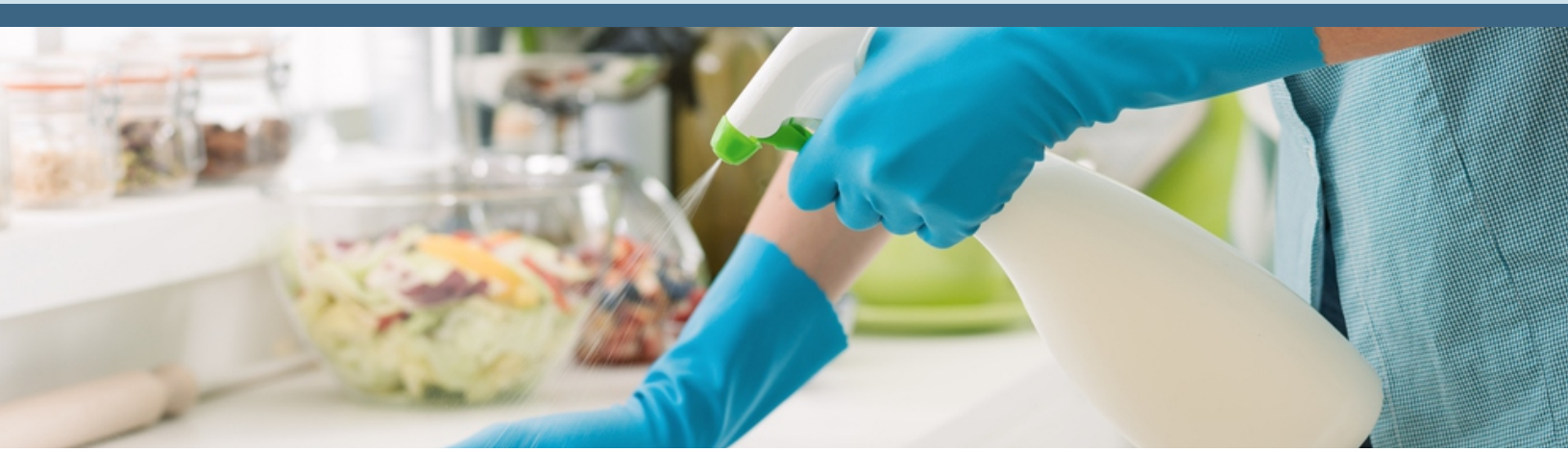
Since humidity drives mold growth, getting humidity between 35-45% must become a priority. As mentioned previously, simply beginning with budget friendly hygrometers can help you assess your home for areas of high or low humidity as well as seasonal fluctuations or times of high moisture (rain, snow etc). Depending on the size of your home, there are multiple options available as discussed earlier in this guide. Portable dehumidifiers are useful if you only have one area where the humidity is elevated such as a moderately humid basement. In many cases, a whole house dehumidifier is the optimal solution if finances allow. Prioritizing this step early on is beneficial to limit further growth of mold and additionally this is a passive intervention meaning that once you set your dehumidifiers you can then begin working on the next steps.

Step 3: Proper Cleaning

Before we get too far, I want to stress the importance of NOT using bleach to clean up mold. This puts the mold under stress and it actually produces MORE mold toxins into their air. Fortunately, there are several other options available. EC3 is a brand we will mention frequently as they have a full assortment of home and cleaning options to SAFELY eliminate mold. There are all purpose cleaners, laundry detergent additives, air purifying candles, cold fogging solution and more.

For a more do it yourself approach, the most effective combination is a 1/2 cup vinegar, 1/4 cup borax mixed with a quart of warm water. Another effective option is misting hydrogen peroxide over the area, once the bubbling/fizzing stops you can scrape off that area using a putty knife and/or wire brush.

Follow that up with a HEPA vacuum and then let that area dry completely. It is very important to follow safety protocols when dealing with mold. Section off the area you are working with using 4mm thick plastic barrier and aim to have sufficient ventilation using an open window and a fan or ideally a HEPA air scrubber that you can rent from a hardware store. Air ventilation masks should be at least N-95 rated. Depending on the magnitude of your remediation, other safety equipment should be utilized to include gloves, eye protection and a full disposable coverall suit.



Step 4: Fogging

The best way to address mold and mold toxins that are already in the home is to use a cold air fogger that can also be purchased from Micro Balance Health Products. The fogging solution is designed to lightly mist an entire area to include walls, ceilings, furniture, pictures and decorations. Mix the solution with distilled water per the ratios on the bottle of the solution. Once the mist has settled for about 10 minutes (and dried), vacuum all surfaces with a HEPA bagged vacuum cleaner. All linens can be washed using the EC3 laundry detergent additive or a DIY solution using borax. Depending on mold test results, a good protocol is to fog every day for one week then once a week after that until future tests come back negative. Solid items look wood furniture or picture frames can be wiped down with a cloth after misting.

In addition to the EC3 fogging solution, another product that has shown to be effective is Concrobium Home Mold Solution and contains no bleach or ammonia. Protocol is the same as described above. When applied heavily, this solution can provide a bit of a while film making it more ideal for unfinished areas like basements and crawl spaces rather than your master bedroom.

**The fogging machines can be rented but it ends up being much cheaper in the long run to just purchase a machine.

FOUNDATIONAL SUPPLEMENTS AND HOME CARE

Supplementation is a critical component to mold illness that ranges from good general support all the way to personal protocols designed by a health professional. For the purpose of this document we will talk about general support and if you are interested in more in-depth assistance we recommend working with a professional.

1. **Binders**-These act in the small intestine to prevent mold toxins from being reabsorbed into the body. Our body typically recycles much of our bile which also deals with the toxins so by adding in a binder we can reduce the amount of toxin that stays in our body. Quicksilver Ultra Bind binds the widest array of toxins. It offers an optimized combination of zeolite, bentonite clay, activated charcoal, chitosan, aloe vera, acacia gum, and silica. GI Detox is another great gentle full-spectrum binder that helps remove metabolites of yeast, mold, heavy metals, bacteria and other unwanted debris from the body. It contains zeolite clay, activated charcoal, aloe vera, silica, humic and fulvic acid, and apple pectin.
2. Phosphatidylcholine. This supplement helps replenish the cell membrane and it is also an emulsifier for fat and cholesterol metabolism and liver detoxification. Phosphatidylcholine can often help make difference with brain fog that those who are mold toxic often find an issue.
3. **Bitters**- Bitters have been used for centuries to help stimulate the liver to produce bile. A huge issue with mold illness is that it can make your liver toxic. The liver produces bile and if it is not functioning well it can become sluggish therefore creating thicker bile. Bitters can help to increase the bile flow from the liver and increase the flow of pancreatic enzymes. Some examples of bitter foods to include in your diet are dandelion greens, artichoke, and arugula. BitterX is a strong bitter combination supplement that can help to support the bile flow necessary for healthy detoxification.
4. **Antioxidants**- Mold toxins create much of their damage by acting as pro-oxidants in the cells. This interferes with mitochondrial function, disrupts cell membranes and ultimately opens the door to several diseases. To help buffer these toxins and reduce damage we recommend Mito-Fusion**, Ultra Resveratrol, Liposomal Glutathione and Hepato Reset for added antioxidant support. It is also very important to include a brain antioxidant for mold and mycotoxins like Melatonin SRT or Liposomal Melatonin. For many people, beginning with liposomal glutathione and melatonin can be the most important antioxidants to include.

**Mitochondrial support should not be used in the initial phase of care until much of they mycotoxin burden has detoxified so that a cell danger response (CDR) is not perpetuated.

5. **Nasal Wash and Sprays–** The nose is environmental mold's main gateway into the rest of the body. If you are susceptible to mold illness or are immunocompromised mold can colonize and excrete mycotoxins in your sinus. Regular nasal washes with saline, xylitol, antifungals, and colloidal silver can help to flush out mold spores and prevent colonization of the sinus. In addition to nasal wash and sprays, nebulization can be utilized to penetrate the sinuses and eliminate mold which has colonized.
6. **Detoxification Support-** In addition to the binders previously mentioned there are several other beneficial ways to support the removal of these toxins. The most powerful method from our experience to detoxify is to use an infrared sauna. It is important to start slowly as removal of these toxins can create negative symptoms called a Herxheimer reaction. We recommend utilizing several techniques as opposed to only one. Epsom salt baths, dry skin brushing, vibration plate therapy are all additional ways to help detoxify your body of mold.
7. **Lymphatic Drainage-** The lymphatic system of your body is considered your "sewage system" as it often transports waste products, mold and toxins out of the body to be detoxed. If these channels get clogged up or are not draining, these harmful toxins will collect in the body causing greater harm. Lymphatic massage specialist are trained professionals that focus on massaging flow of these lymph systems which can be tremendously beneficial. Other top ways to stimulate lymphatic flow include:

   - Rebounding on trampoline
   - Self-lymphatic massage
   - Dry Brushing
   - Sauna
   - Exercise
   - Red Root supplement
   - Lymphatic Support
   - Vibration plate therapy
   - Chiropractic Adjustments

FOUNDATIONAL SUPPLEMENTS AND HOME CARE

The food and nutrition that you consume can play a major role in recovering from mold illness. The first class of foods that we will focus on are highly recommended and have significant therapeutic value.

MOLD FREE DIETING

MOLD KILLERS

Foods

Garlic
Onions
Scallions
Chives
Leeks

Spices

Clove
Cumin
Rosemary
Sage
Thyme
Oregano
Basil

Drinks

Green Tea
Coffee

SAFE FOODS

Veggies

Artichokes
Asparagus
Brussel Sprouts
Cabbage
Cucumber
Celery
Dark leafy greens

Meats

Beef liver/organ meats
Grassfed/Bison
Wild Caught Salmon
Sardines

Healthy Fats

Avocado
Olive
Ghee
Grass-fed Butter

AVOID

Foods

Sweets
Dried fruits
Yeast
Refined/ simple carbs
Corn
Peanuts
Vinegar
Fermented foods
Oats/Grains
Grain fed meats

Drinks

ANY sweetened drinks
Fruit juice
Kombucha
Alcohol
Moldy coffee
Fermented tea
Instant coffee

While these are not exhaustive lists, they can certainly begin the process of ultimately healing through nutrition. Mold and yeasts primarily feed upon sugar (glucose) and alcohol meaning that strict restriction of these two groups will begin the process of "starving" these invaders. Mold toxins can also be found in foods themselves such as grains, corn, oats, peanuts, coffee and poorly sourced spices.

HYDRATION

First and foremost, water is essential in anyone's health regiment, especially while on the road to recovery. One primary goal is to drink AT LEAST ½ your body weight in ounces per day. Water helps to facilitate detox in several facets but most notably by increasing cellular cleaning through lymphatic channels, bowel motility and kidney filtration.

Weight: 150 pounds (dived in half) = 75 ounces water per day

Similar to food, water can be a foundational piece of your healing journey when a good quality is consumed or a major facilitator of disease when filled with toxins. Purified water such as Reverse Osmosis systems, Aqua Tru countertop reverse osmosis and Berkey Filters are great at removing all additional toxins while alkaline water can actually help to kill mold in your body (through the same alkaline mechanism as borax).

If you are interested in working with our doctors
please contact the office at: 270.389.9696
or

click here

ADDITIONAL RESOURCES:

-**Break the Mold by Dr. Jill Crista**- This is a great book for anyone wanting to learn more and to get an understanding on what mold does to the body and how to go about treating it with some very actionable steps and guidelines. You can also follow Dr. Christa on social media where she provides lots of helpful tips for mold sufferers.

-**Podcast: Mold Finders Radio (Apple, Google, Spotify, and more)** -Get expert advice from mold expert, Brian Karr, on how to find and remove mold and mycotoxins from your home.

-**Moldfreeliving.com -**Great website started by a mom whose family and herself suffered from very serious health issues due to a toxic mold exposure.