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ASSESSING EXPOSURE TO BIOTOXINS

Step One of the Shoemaker Protocol is to identify and remove the source of biotoxin exposure. If you know or suspect that you have CIRS, have you assessed your home lately to ensure that it is conducive to recovery?

80% of CIRS cases are induced by one or more of the toxins produced by mold and bacteria in buildings with current OR historical water damage, so this is what most people consider first (home, school, work). Lyme Disease, certain types of blue-green algae, and brown recluse spider bites can also produce biotoxins that lead to CIRS.

1) Has there been a known leak or water intrusion? Is the indoor humidity often above 50%? Is there a musty smell, a crawl space or damp basement, water staining on the ceiling, warped floors under sink cabinets, or peeling/ bubbling paint? Do you feel differently in this building compared to outdoors or other buildings? Have your symptoms worsened since you moved in, or remodeled this home? While these signs are not always present, they can certainly be cues.

2) If your environment has visible mold or known water damage, it is best to hire a professional mold inspector to perform a comprehensive assessment of your whole house and devise a customized remediation plan to remove damaged building materials and microbial growth.

3) If you don't have obvious issues, or you'd like more objective information before hiring a professional, consider using a do-it-yourself dust sampling method called ERMI or HERTSMI-2. These tests are used to identify the presence and amount of key mold species that are often correlated with water damage and human illness, using DNA-based PCR technology. Because even dead, settled fragments of mold can be toxic and inflammatory for CIRS patients, it is advised to sample household dust rather than just air or cultures. Dust sampling also captures some of the most toxic mold species that are typically too heavy to be airborne.

Mycometrics, Lis Biotech, and Envirobiomics are three reputable labs that offer these DIY kits for online purchase. Your kit will come with sampling instructions. About a week after returning your dust sample to the lab for analysis, you will get a report outlining the specific mold species that were present, and in what abundance. This information can be used to compare your home to national norms, and to determine if your home reflects "normal fungal ecology" or not.

Dr. Ritchie Shoemaker has devised a free-scoring system called the HERTSMI-2 scoring system that calculates a health score for your home based on the raw data from either an ERMI or HERTSMI-2 test. According to Shoemaker's research, folks whose homes score higher than a 15 on this scale do not tend to heal well from CIRS unless they remediate or move. Scores between 11-15 are equivocal, indicating the need for further inspection or deep cleaning. If your home receives a score of 10 or less, it is statistically safe for CIRS recovery.

This handout was created by Jenny Johnson at Simplified Wellness Designs as part of a series of continuously updated instructional guides for her personal clients, CIRS Healing Collective members, and Equipped to Overcome CIRS online course participants.

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General Guidelines for Collecting Dust Samples in Your Home

**To be customized according to your circumstances*

- Three reputable labs that offer test kits: Lis Biotech, Mycometrics & Envirobiomics
- Most people choose the Swiffer style cloth kits rather than the vacuum test, so that they can test the settled dust on various elevated surfaces rather than the floor, which may represent contaminants tracked in from outside.
- Use the gloves and cloth that come with your kit to collect settled dust. In a pinch, you can make your own dust collection kit using brand new gloves, cloths and bags. In this case, you would download/print the required chain of custody paperwork from the lab's website.
- In general, aim to collect settled dust from elevated surfaces that are not touched or disturbed regularly (tops of ceiling fans, interior door frames, TV, pictures, mirrors, light fixtures, walls, bookshelves, dressers, etc).
- Avoid sampling off of HVAC systems/ductwork/registers/air purifiers/vacuum bags. Aggragated dust may have different concentrations than naturally-settled dust.
- Avoid sampling from window sills or external doors that are frequently opened.
- If you wish to compare your results/scores to standardized norms, do not directly swipe highly suspicious areas that could skew your results. This includes surfaces that could be wet, have visible microbial growth or water damage, or are used for produce storage, composting/trash, or food prep.
- Do not collect dust from surfaces that may have rust, kitty litter, makeup, significant plaster/clay/drywall dust, chemical storage or that have been recently cleaned with a chemical antimicrobial, as these areas may inhibit mold DNA analysis and lead to false negatives.

For the most up-to-date version of this information, please visit my Equipped to Overcome CIRS online course.

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Customization Considerations for Dust Sampling

- While some people like to do one "composite" sample for their home to get a general idea of potential issues, doing multiple samples can provide more information about hot spots. Sampling each floor or zone of your home separately (roughly 700 sq ft per sample) can help narrow in on problematic areas and prevent dilution of an issue.

- Depending on your unique circumstances, it may be appropriate to preclean your space prior to testing, in order to remove very old dust or unwanted influences. This is typically done using HEPA vacuuming of accessible surfaces, followed by wet-wiping (soap and water with microfiber cloth), and then dry wiping (dry Swiffer-type cloth). Precleaning helps to answer the question "Is there an ongoing issue with my home rather than a historic one."

- Doing a HERTSMI-2 dust sample is the most cost-effective way to get some helpful information regarding likely health consequences, though it can miss a lot. If you have a lot riding on the sample, it may be worth considering a full ERMI panel to assess for the presence and amount of more mold species. Please note that a HERTSMI-2 test can be upgraded to a ERMI once you get the results, if you decide more information would be valuable. Similarly, a HERTSMI-2 score can be calculated from an ERMI report, so there is no need to do both of these tests. A nice "in-between" option is the Mold Ten by Envirobiomics or the Fungi Ten by Lis Biotech.

- If you have had water events related to floods or sewage losses, if you live near farms, if you have indoor pets, if anyone in the home has toileting accidents, if your notice sour/rotten egg/sewer smells in your home, or if your doctor has determined that you are reacting to bacteria, it would be of value to test for endotoxins and/or actinomycetes as well as mold. A combo kit is also available on Envirobiomics.

- Because sometimes the source of mold and bacteria is actually outside of our home, taking an outdoor control sample to compare with your interior sample(s) is a good consideration. Dust would be collected from outdoor fencing, light fixtures, patio furniture, etc.

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Finding Indoor Environmental Professionals

1. Do you know or suspect elevated biotoxins or water damage in your home and need to figure out what to do about it? Start by asking your doctor if they have a referral to reputable IEPs who service your area!

2. If your doctor doesn't have a recommendation for you, try this next. The ACAC website lists certified mold inspectors and remediators who service each zip code. Look for CIEC or CMC credentials for inspectors, and look for CMR or CMRS credentials for remediators. ISEAI website has a "find environmental professionals in your region" feature. Then, use the questions below to interview them over the phone.

3. There are several Indoor Environmental Professionals (Michael Schrantz, Larry Schwartz, John Banta, Bill Weber and Greg Weatherman) who are members of the Surviving Mold professional community and offer virtual consults before, during, or after environmental work is done on your home. They can often:
    a. Inspect your home virtually, or help you find local "boots on the ground"
    b. Review, edit, or write remediation reports on your behalf
    c. Consult with your inspector or remediator on your behalf

4. If you need to have your HVAC unit serviced by an HVAC specialist, here is a good resource: ACCA.

5. If you need to have your ducts professionally cleaned, here is a good resource: NADCA

Examples of Questions to Ask Mold Inspectors Over the Phone

- What can I expect with your mold inspection process? What is included, and what is the cost?
- Are you familiar with the unique inspection considerations for the CIRS population? I need to assess for signs of current AND past water damage, and live AND dead microbial growth. Is this something you are aligned with?
- Are you able to perform cavity sampling if needed?
- Do you write up a remediation protocol if needed? Are you familiar with the unique remediation considerations for the CIRS population that focus on removal of affected building materials and microbial growth rather than killing?
- Do you offer post-remediation verification testing?

Examples of Questions to Ask Remediators/Water Extractors Over the Phone

- Do you offer emergency water extraction services?
- Do you work with insurance claims for acute water events?
- Are you familiar with the unique remediation considerations for the CIRS population? Because I need to avoid dead fragments of mold, I need for my remediation to focus on removal of water damaged building materials and microbial growth rather than killing and antimicrobial fogging. Is this something you are aligned with?
- Have you taken the Medically Important Remediation training course from the CIRSx Institute?
- What does your typical remediation process consist of? What materials do you typically use?
- Do you offer "environmental cleaning" or "small particle remediation" of additional living spaces/personal contents if needed?
- Can you provide me with an itemized cost estimate for a detailed plan provided by my IEP?

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