



THE GREAT MASQUERADER: MYCOTOXINS

TOXIC MOLDS AND MYCOTOXINS


ANDREW CAMPBELL, M.D.

BASED ON MEDICAL EVIDENCE,



ANDREW W. CAMPBELL, M.D.

- Editor in Chief,
- Alternative Therapies in Health and Medicine;
Advances in Mind-Body Medicine
- Pathogens: The Invisible Enemy: Fungal Toxins.
- Microbiology Research.
- Co-Editor, Journal: Microbes
Reviewer: Journal of Immunology Research; Journal of
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Editorial Boards:
Biomedical Journal of Scientific and Technical Research.
Research in Medical and Engineering Sciences.
- International Journal of Complementary and Alternative Medicine.

- 
- If you have knowledge, let others light their candles with it.

Sir Winston Churchill

- Wrong does not cease to be wrong because the majority believe in it.

Leo Tolstoy



THE KEY TO SOLVING MEDICAL PROBLEMS CAUSED BY TOXINS:

1.DETECT
2.REMOVE
3.REPAIR



MEDICAL AND SCIENTIFIC FACTS

“Spores of toxigenic fungi contain mycotoxins.”

“Mycotoxins associated with spores are likely to be absorbed via the respiratory epithelium, and translocated to other sites, producing systemic effects.”

Airborne Deteriogens and Pathogens, 1989 by Dr. Lacey.

Canadian Journal of Public Health, 1987 by Drs. Tobin et al.

MYCOTOXINS

- Molds produce toxins known as mycotoxins. Molds are ALWAYS present in homes or workplaces that are water damaged and they are ALWAYS producing mycotoxins.
- Mycotoxin exposure is far more common than expected. In the United States, 85% of buildings have had past water damage, while 43% have current water damage.

HVAC ducts, Refrigerator compressor and HVAC Air Filter.

- This table summarizes the concentrations of mycotoxins in ppb detected in HVAC ducts, dust from the refrigerator compressor and one home with a dirty filter in the intake of the HVAC duct.

Home I.D.	HVAC & Refrigerator	Aflatoxins	Ochratoxin A	Trichothecenes
1	Supply Air (Mstr bath)	0	0	2.659
	Supply Air (Bdrm)	0	0	0.109
	Supply Air (Off/Den) Refrigerator	0	0	4.082
	Coil Dust	0	0	1.36
2	Return Air	0	0.04	1.15
	Supply air (MstrBdrm)	0	0.63	2.634
3	Return Air	0	0	0.491
	Supply Air (MstrBdrm)	0	0	0.305
	Refrigerator Compressor	0	0	2.652
4	Return Air	0	0	0.661
5	Return Air	0	0	7.417
6	Return Air	0	0	0.257
7	Return Air	0	0.5	7.753
8	HVAC Supply Air	0	0	26.511
9	Refrigerator Coil Dust	0	0.7	0.86

TWO IMPORTANT POINTS: MYCOTOXINS

A mold that produces mycotoxins produces a series of mycotoxins rather than just one mycotoxin.

1 mold = many mycotoxins

If a mold known to produce mycotoxins is present in a home or building, then the mycotoxins it produces are present as well.

SIZE MATTERS

- Hair is 100 microns.
- Spores are about 2-4 microns.
- **Mycotoxins are 0.1 microns.**
- Exposure to mycotoxins is mainly by inhalation, dermal absorption; ingestion is negligible.

MYCOTOXINS IN FOOD ARE EXCRETED IN URINE

- Low levels of mycotoxins are found in many foods: cereals, beans, fruits, grape juice, beer, coffee, etc. per the WHO and the United Nations Food and Agricultural Organization.
- For that reason, mycotoxins can be found in the urine in ppb in healthy people.

FOOD MYCOTOXINS ARE NOT A CONCERN

- The amounts of mycotoxins tested in foods have been shown in numerous studies to be below the Tolerable Daily Intake (TDI) set by the FDA, the European Food Safety Authority (EFSA) and the U.N. Food and Agricultural Organization/World Health Organization Joint Expert Committee on Food Additives.

FREQUENT MISDIAGNOSES:

- Fibromyalgia and CFS
- Chronic Lyme Disease
- Depression/Anxiety: resistant to treatment
- Autism, PANDAS, PANS
- Autoimmune diseases
- Dysautonomia, POTS
- Breast Implant Illness

AUTISM SPECTRUM (ASD) DISORDER AND MYCOTOXINS.

BM1

- A study of 172 children with ASD with 61 controls; the authors showed significant differences in comparing antibodies to mycotoxins between the two groups, with the ASD group showing elevated serum antibodies to mycotoxins.
- Tufts University School of Medicine studies have found evidence implicating mycotoxins as causing ASD.
- Effects of Mycotoxins on Neuropsychiatric Symptoms and Immune Processes: Clinical Therapeutics/Volume 40, Number 6, 2018; Tufts University

Slide 13

BM1

Ah. Here is ASD defined... first use of the acronym should have it spell out then it can be used elsewhere without further explanation

Brian Morris, 2022-04-15T16:30:32.531



Postural Tachycardia Syndrome (POTS), Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) are Linked to Mycotoxins.

Tuuminen T. The Roles of Autoimmunity and Biotoxicosis in Sick Building Syndrome as a "Starting Point" for Irreversible Dampness and Mold Hypersensitivity Syndrome. Antibodies (Basel). 2020 Jun 22;9(2):26. doi: 10.3390/antib9020026. PMID: 32580407; PMCID: PMC7345570.

MYCOTOXINS ARE RELATED TO OTHER CHRONIC ILLNESSES AND AUTOIMMUNITY IN PARTICULAR

- Mycotoxins in particular may alter the functions of not only the central and the peripheral nervous system but also the glands of internal secretion, especially the thyroid.
- Mycotoxins can cause the development of autoimmune thyroid disease and type I diabetes mellitus.

Tuuminen T. The Roles of Autoimmunity and Biotoxins in Sick Building Syndrome as a "Starting Point" for Irreversible Dampness and Mold Hypersensitivity Syndrome. Antibodies (Basel). 2020 Jun 22;9(2):26.

HASHIMOTO'S THYROIDITIS AND MYCOTOXINS.

- Millions of people struggle with Hashimoto's, an autoimmune thyroid disease. They eat normal amounts of food and exercise regularly yet keep gaining weight.
- Their thyroid levels are difficult to treat.
- This is because the cause are mycotoxins, not the thyroid.
- Once the treatment for the mycotoxins is complete, the Hashimoto's goes away.
- Tuuminen T. The Roles of Autoimmunity and Biotoxycosis in Sick Building Syndrome as a "Starting Point" for Irreversible Dampness and Mold Hypersensitivity Syndrome. Antibodies (Basel). 2020 Jun 22;9(2):26.

RHEUMATOID ARTHRITIS

- Deoxynivalenol and Ochratoxin increased the susceptibility to develop RA.
 - They increased the clinical severity of RA.
 - They elevated levels of IL-1beta and IL-6 and these were found in inflamed joints.
-
- Jahreis S, Kuhn S, Madaj AM, Bauer M, Polte T. Mold metabolites drive rheumatoid arthritis in mice via promotion of IFN-gamma- and IL-17-producing T cells. Food Chem Toxicol. 2017 Nov;109(Pt 1):405-413.

LOOK AT HIS
RING FINGER
AS WELL AS
HIS SKIN:
PSORIATIC
ARTHRITIS.



Psoriatic Arthritis



Psoriatic Arthritis

**At 6 months
of treatment**





PSORIASIS

BEFORE AND AFTER



BREAST IMPLANT ILLNESS

- Silicone breast implants (SBIs), first marketed in 1962.
- Recently, attention has refocused on SBI-associated anaplastic large cell lymphoma (BIA-ALCL).
- Brain fog, hair loss, fatigue, chest pain, sleep disturbances, irritable bowel syndrome, headaches, chronic pain all over the body, and autoimmune diseases, such as lupus and fibromyalgia.

Dijkman HBPM, Slaats I, Bult P. Assessment of Silicone Particle Migration Among Women Undergoing Removal or Revision of Silicone Breast Implants in the Netherlands. JAMA Netw Open. 2021 Sep 1;4(9):e2125381.

BREAST IMPLANT ILLNESS

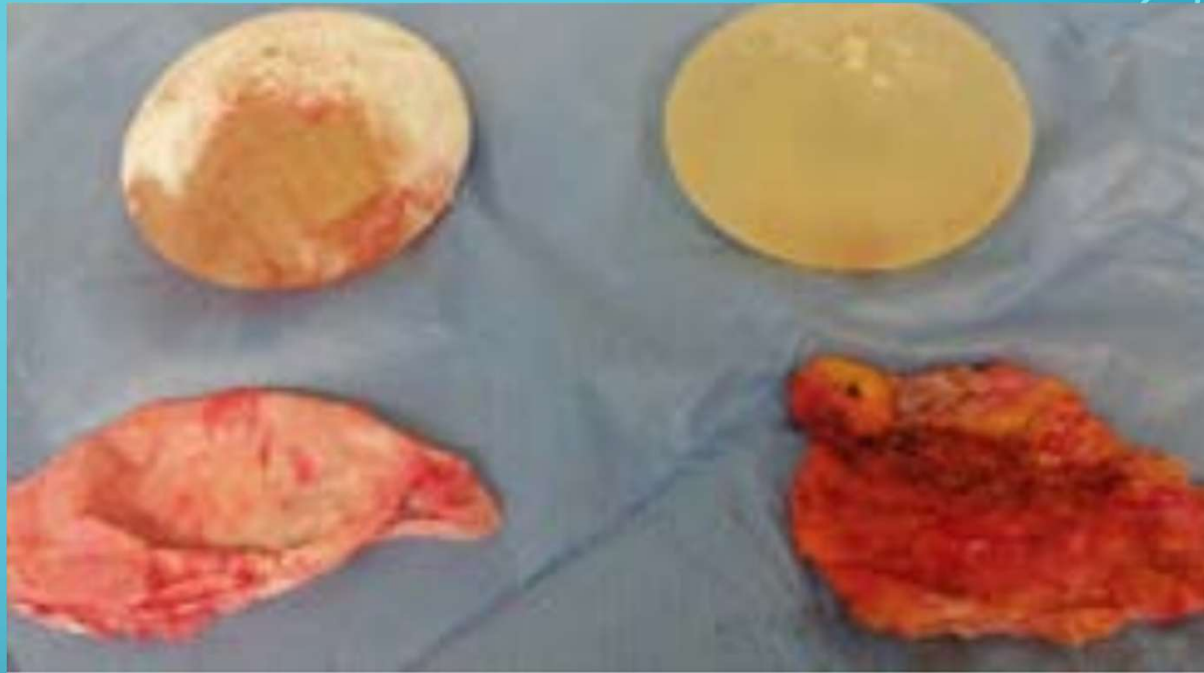
- As early as 1995, Brautbar and Campbell proposed that there was evidence for a causal relationship between implants and disease.
- Silicone implants sweat, releasing silicone particles, and these particles can end up inside the capsule or migrate into the surrounding tissue and in the body.

Dijkman HBPM, Slaats I, Bult P. Assessment of Silicone Particle Migration Among Women Undergoing Removal or Revision of Silicone Breast Implants in the Netherlands. JAMA Netw Open. 2021 Sep 1;4(9):e2125381.

A 47-year-old female patient presenting with BII mastodynia unilaterally on the left breast underwent total capsulectomy to remove the silicone gel-filled implant (left) and capsule (right). The capsule was removed from the implant for better visualization.



A 29-year-old female patient presenting with BII mastodynia bilaterally underwent total capsulectomy to remove the saline-filled implants (top left and right) and capsules (bottom left and right).





WHAT DO THEY FIND INSIDE THE IMPLANTS?

- In 200 women with breast implants, positive cultures were found in 68.5%:

Toxic Molds

- Metzinger SE, Homsy C, Chun MJ, Metzinger RC. Breast Implant Illness: Treatment Using Total Capsulectomy and Implant Removal. Eplasty. 2022 Mar 16;22:e5.

MYCOTOXINS AND LYME DISEASE

> [Altern Ther Health Med.](#) 2019 Jul;25(4):8-10.

Lyme Disease and Mycotoxicosis: How to Differentiate Between the Two

[Andrew W Campbell](#)

PMID: 31202204

Clinical Practice Guideline

Lyme Neuroborreliosis

Sebastian Rauer, Stefan Kastenbauer, Volker Fingerle, Klaus-Peter Hunfeld, Hans-Iko Huppertz, and Rick Dersch for the guideline group*

BOX 2

Unsuitable diagnostic tests for Lyme neuroborreliosis (4)

- antigen detection in bodily fluids
- polymerase chain reaction on serum or urine samples
- lymphocyte transformation tests (LTT) (23)
- enzyme-linked immunospot assay (ELISPOT) (e23)
- xenodiagnosis: ixodid tick larvae are allowed to suck blood from a patient with suspected Lyme borreliosis and are then examined for *Borrelia* (e24, e25)

Clinical Practice Guideline

Lyme Neuroborreliosis

Sebastian Rauer, Stefan Kastenbauer, Volker Fingerle, Klaus-Peter Hunfeld, Hans-Iko Huppertz, and Rick Dersch for the guideline group*

BOX 2

- Visual Contrast Sensitivity Test (VCS or gray shade test): the measurement of the patient's ability to recognize different shades of gray is held to indirectly demonstrate the effect of a lipophilic neurotoxin derived from *Borrelia* (e26)
- detection of so-called L forms or spheroplasts (24)
- detection of immune complexes as a marker of disease activity
- CD57-positive/CD3-negative lymphocyte subpopulation (e27)
- commercially available serological rapid tests (inadequate sensitivity [18–32%]) (e28)

Rauer S, Kastenbauer S, Fingerle V, Hunfeld KP, Huppertz HI, Dersch R.
Lyme Neuroborreliosis. Dtsch Arztebl Int. 2018 Nov 9;115(45):751-756.

Diagnostic Evaluation

Both IgG and IgM antibodies to Borrellia can persist for several years despite a clinically healed infection.



BIOMONITORING OF MYCOTOXINS IN PLASMA OF PATIENTS WITH **ALZHEIMER'S AND PARKINSON'S** DISEASE

B. ARCE-LOPEZ, L. ALVAREZ-ERVITI, B. DE SANTIS, ET AL
TOXINS JULY 10TH, 2021

Mycotoxins in Patients with Alzheimer's and Parkinson's Disease

- The plasma levels of 14 mycotoxins from patients diagnosed with a neurodegenerative disease (44 PD and 24 AD) and from their healthy companions were analyzed.

Arce-López B, Alvarez-Erviti L, De Santis B, Izco M, López-Calvo S, Marzo-Sola ME, Debernach F, Lizarraga E, López de Cerain A, González-Peñas E, Vettorazzi A. *Toxins (Basel)*. 2021 Jul 10;13(7):477.

Mycotoxins in Patients with Alzheimer's and Parkinson's Disease

- Ochratoxins A
- Sterigmatocystin
- Deoxynivalenol

Arce-López B, Alvarez-Erviti L, De Santis B, Izco M, López-Calvo S, Marzo-Sola ME, Debnach F, Lizarraga E, López de Cerain A, González-Peñas E, Vettorazzi A. Toxins (Basel). 2021 Jul 10;13(7):477.

BJØRKLUND G, PEANA M, ET AL. THE GLUTATHIONE SYSTEM IN PARKINSON'S DISEASE AND ITS PROGRESSION. NEUROSCI BIOBEHAV REV. 2021 JAN;120:470-478.

- This review provides evidence that Glutathione is associated with the pathophysiology of Parkinson's Disease.

GLIOTOXIN

- This study demonstrated that the mycotoxin gliotoxin causes demyelination leading to multiple sclerosis.
 - Rutgers Medical School published a study in 2010 that stated:
 - “We propose here that fungal toxins are the underlying cause of multiple sclerosis and thus may offer an avenue towards an effective cure.”
-
- Campbell AW, Weinstock LB. Molds, Mycotoxins, the Brain, the Gut and Misconceptions. *Altern Ther Health Med*. 2022 Mar;28(3):8-12.
 - Purzycki CB, Shain DH. Fungal toxins and multiple sclerosis: a compelling connection. *Brain Res Bull*. 2010;82(1-2):4-6. <https://doi.org/10.1016/j.brainresbull.2010.02.012> PMID:20214953
 - Ménard A, Amouri R, et al. A gliotoxic factor and multiple sclerosis. *J Neurol Sci*. 1998 Feb 5;154(2):209-21.



MS pathophysiology:

Gliotoxin has been shown to effect and damage microglia, astrocytes, and oligodendrocytes.

Gliotoxin is a mycotoxin that is a neurotoxin:
Do not use glutathione.

Kraft S, Buchenauer L, Polte T. Mold, Mycotoxins and a Dysregulated Immune System: A Combination of Concern? Int J Mol Sci. 2021 Nov 12;22(22):12269.

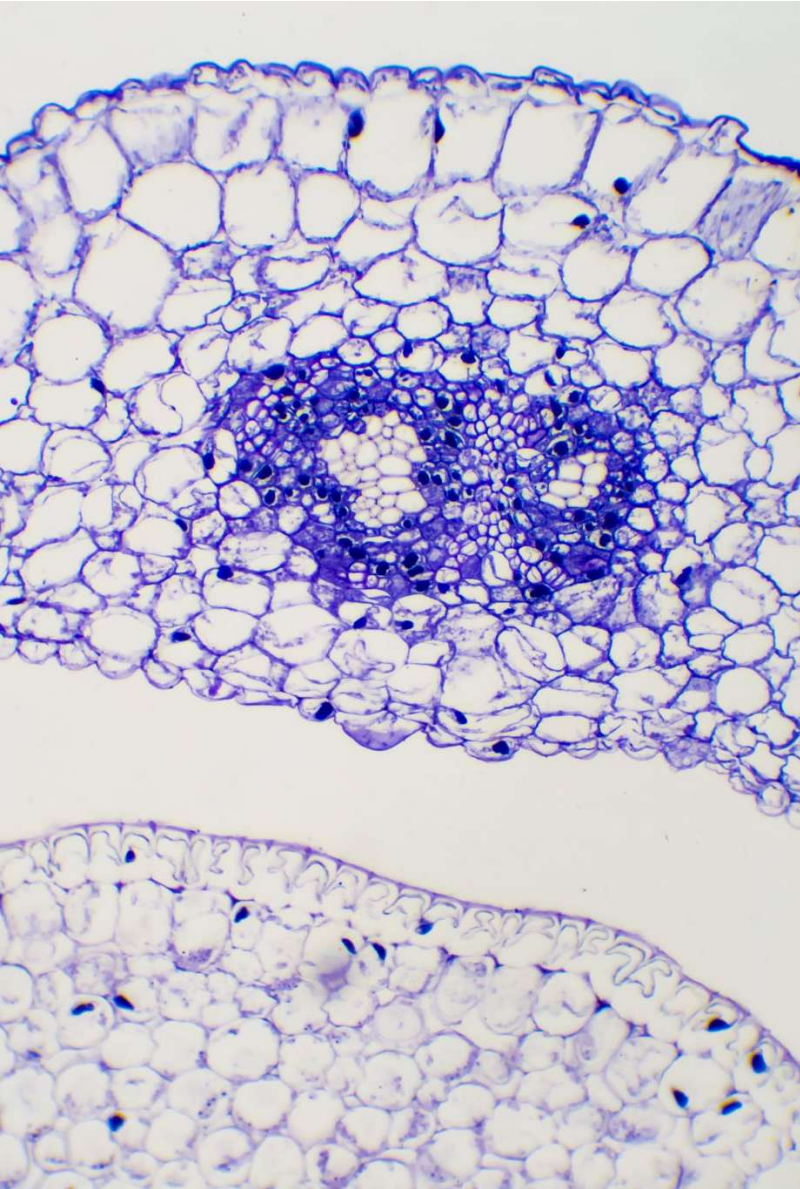
CHRONIC SINUSITIS: MAYO STUDY

- Dr. Ponikau, Chairman of ENT, Mayo Clinic; published this study in 1999.

210 patients studied: 96% had mold

Treatment: intranasal Amphotericin B reduced inflammatory mucosal thickening on both CT scan and nasal endoscopy.

- Ponikau E, Frigas J, et al. The diagnosis and incidence of allergic fungal sinusitis. Mayo Clinic Proceedings, vol. 74, no. 9, pp. 877–884. 1999.



FUNGI FOUND IN 35 DIFFERENT CANCERS

PAN-CANCER ANALYSES REVEAL CANCER-
TYPE SPECIFIC FUNGAL ECOLOGIES AND
BACTERIOME INTERACTIONS. CELL. 2022 SEP
29;185(20):3789-3806. NARUNSKY-HAZIZA L,
SEPICH-POORE GD, LIVYATAN I, ET AL.

FUNGI FOUND IN 35 DIFFERENT CANCERS

- 17,401 patient tissue, blood, and serum samples from 35 cancer types.
- Fungi were found in individual tumor types and contribute to carcinogenesis:
- Esophageal, pancreatic, breast, lung, melanoma, ovary, colon, brain, and bone.

ITRACONAZOLE ANTI-FUNGAL DRUG REPURPOSED AS ANTI-CANCER DRUG



MYCOTOXINS CROSS THE PLACENTA INTO THE FETUS

- Deoxynivalenol and Ochratoxin:
- miscarriage, stillbirth, prematurity,
- small-for-gestational age and stunted-for-gestational age
- Mycotoxins found in 73% of amniotic fluid samples from fetuses with genetic defects.

- Mycotoxins may also be complicit in the manifestation of conditions such as polycystic ovary syndrome (PCOS), premature ovarian function (POF) and endometriosis, which can cause serious problems in conception and maintaining a pregnancy.

Altered testosterone reduces the efficiency of spermatogenesis. Reduced sperm motility, viability or acrosomal response also result from the ability of Zearelanone to bind to receptors on male reproductive cells.

Kościelecka K, Kuć A, et al. Endocrine Effect of Some Mycotoxins on Humans: A Clinical Review of the Ways to Mitigate the Action of Mycotoxins. Toxins (Basel). 2023 Aug 23.

HER STORY IN PICTURES



**PM Pre-
Itraconazole**

June 10, 2021



**AM During
Itraconazole**

September 12, 2021

First morning I've woken up with a just about completely flat stomach with no bloating. I'm still dealing with some as the day goes on but nothing compared to what it used to be!!

BEFORE AND AFTER



THE SENSITIVE PATIENT

- Too many supplements!!!
- Mast Cell Activation Syndrome.
- **Wrong diagnosis + wrong treatment = patient continues sick and gets more sensitive.**
- **Right diagnosis + right treatment = patient gets well in about 6 months and is no longer sensitive.**

SUPPLEMENTS: NEW STUDY

A RECENT STUDY FOUND:

11% OF NEARLY 60 TESTED DIETARY SUPPLEMENT
ACTUALLY CONTAIN AN ACCURATE AMOUNT OF THE KEY
INGREDIENTS LISTED ON THE LABEL.

40% DID NOT CONTAIN A DETECTABLE AMOUNT OF THE
INGREDIENTS AT ALL.

40%???!!!

COHEN PA, AVULA B, KATRAGUNTA K, TRAVIS JC, KHAN I. PRESENCE AND QUANTITY OF BOTANICAL
INGREDIENTS WITH PURPORTED PERFORMANCE-ENHANCING PROPERTIES IN SPORTS
SUPPLEMENTS. JAMA NETW OPEN. 2023 JUL 3;6(7):E2323879.

HEAVY METALS IN SUPPLEMENTS

- An analysis of 40 dietary supplements for the presence of lead, arsenic, mercury, cadmium, or pesticides found trace amounts of 1 or more of these contaminants in 93%.
- One study reported botanical supplements contained plant species not listed on the label; additionally, active ingredient substitution was observed among 83% of companies tested.

- Starr RR. Too little, too late: ineffective regulation of dietary supplements in the United States. Am J Public Health. 2015 Mar;105(3):478-85.

Binders

- Binder types of substances include inorganic materials, e.g. kaolinite, clays , activated carbon, zeolites, bentonite or aluminosilicates.
- Such adsorbents are highly capable of neutralizing aflatoxins. However, they are relatively ineffective in case of other mycotoxins. In addition, they also bind vital vitamins, as well as macro-micro-elements.

DETOXIFICATION OF MYCOTOXINS THROUGH BIOTRANSFORMATION

- Some physical strategies such as the application of adsorption agents (binders) presented no sufficient effect against mycotoxins.



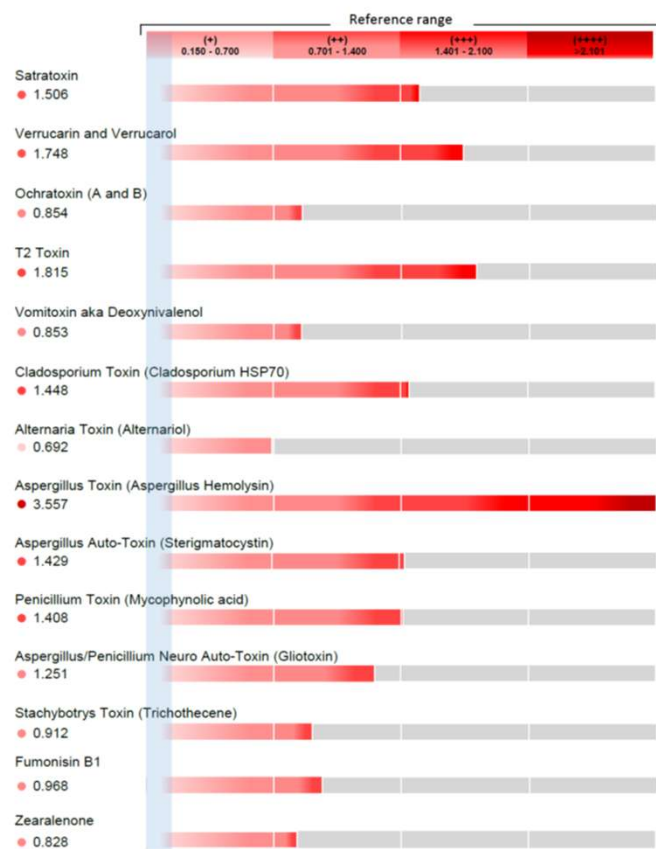
THE MOST PRECISE AND ACCURATE TEST FOR MYCOTOXINS

- Both IgG (toxic reaction) and IgE (mast cell activation) measurements of **14 different mycotoxins.**

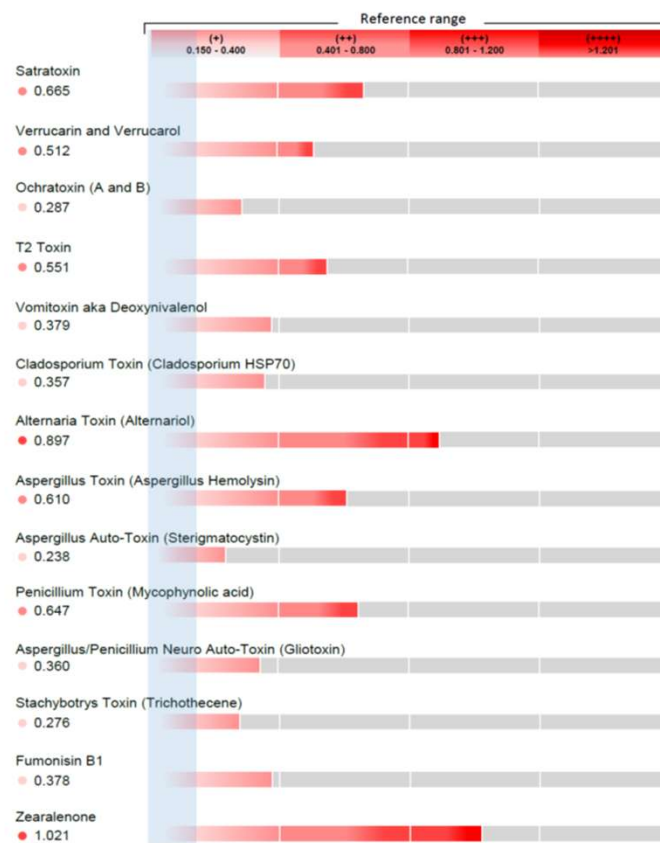
Available Internationally



Test results for IgG antibodies

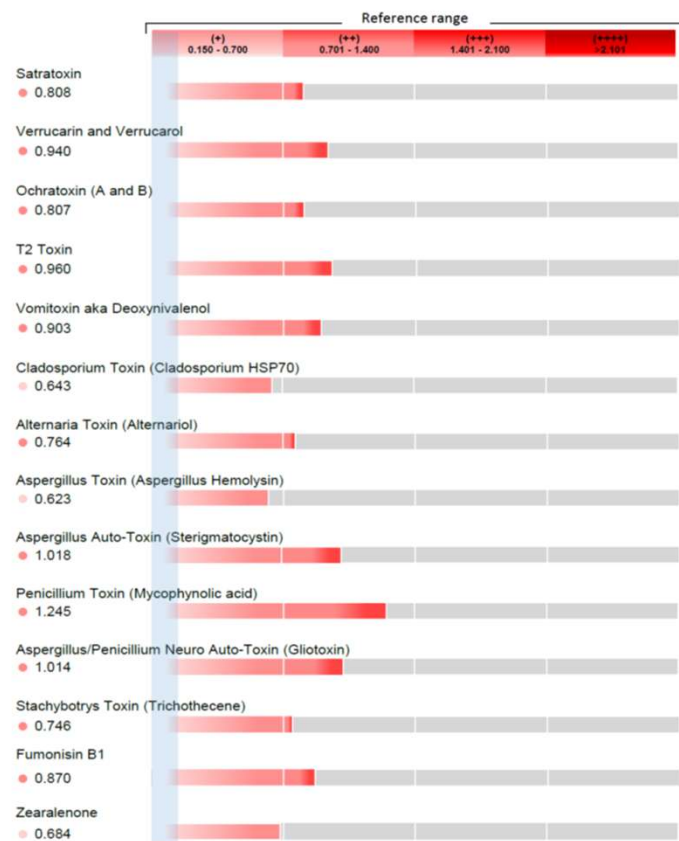


Test results for IgE antibodies

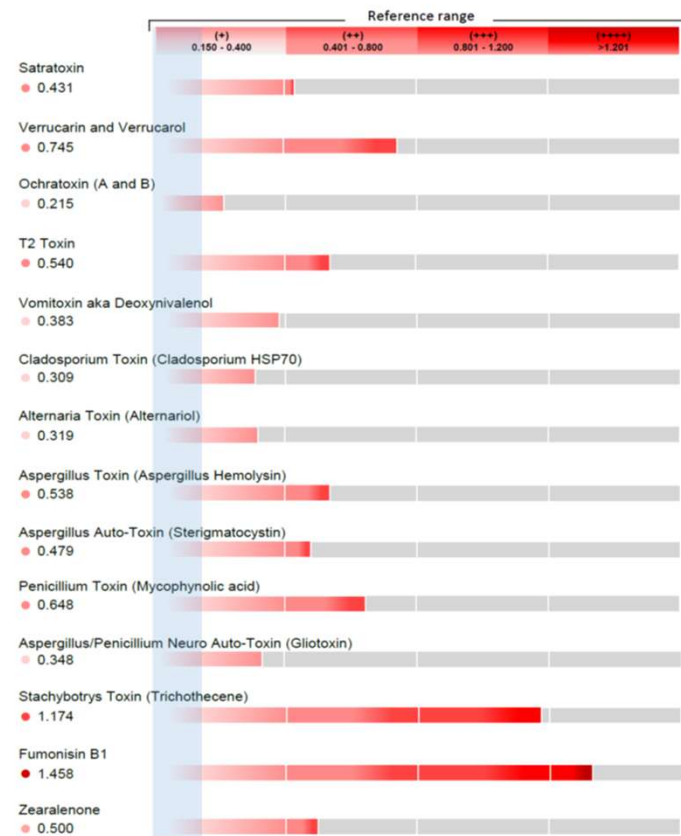




Test results for IgG antibodies



Test results for IgE antibodies



UNDERSTANDING ANTIBODIES

- There are 4 categories of pathogens:
 1. Bacteria
 2. Viruses
 3. Pathogenic Fungi
 4. Parasites
- We develop antibodies to these after an exposure/infection.

UNDERSTANDING ANTIBODIES

1. These 4 pathogens are living organisms, have cell walls, etc.
2. Antibodies to these mean past exposure/infection.
3. Toxins are not alive, do not have cell walls, etc. Toxins are molecules.
4. Antibodies to toxins indicate current immune reactivity, not exposure/infection sometime in the past.
5. Once the toxins are gone from the body, the antibody reaction fades away.

LATEST STUDY ON COMPARISON OF URINE VS SERUM FOR MYCOTOXINS:

- The ELISA method to detect mycotoxins in human serum comes with significant accuracy, precision, and specificity.
- Garg K, Villavicencio-Aguilar F, Solano-Rivera F, Gilbert L. Analytical Validation of a Direct Competitive ELISA for Multiple Mycotoxin Detection in Human Serum. Toxins (Basel). 2022 Oct 25;14(11):727.

LATEST STUDY ON URINE TESTING FOR MYCOTOXINS

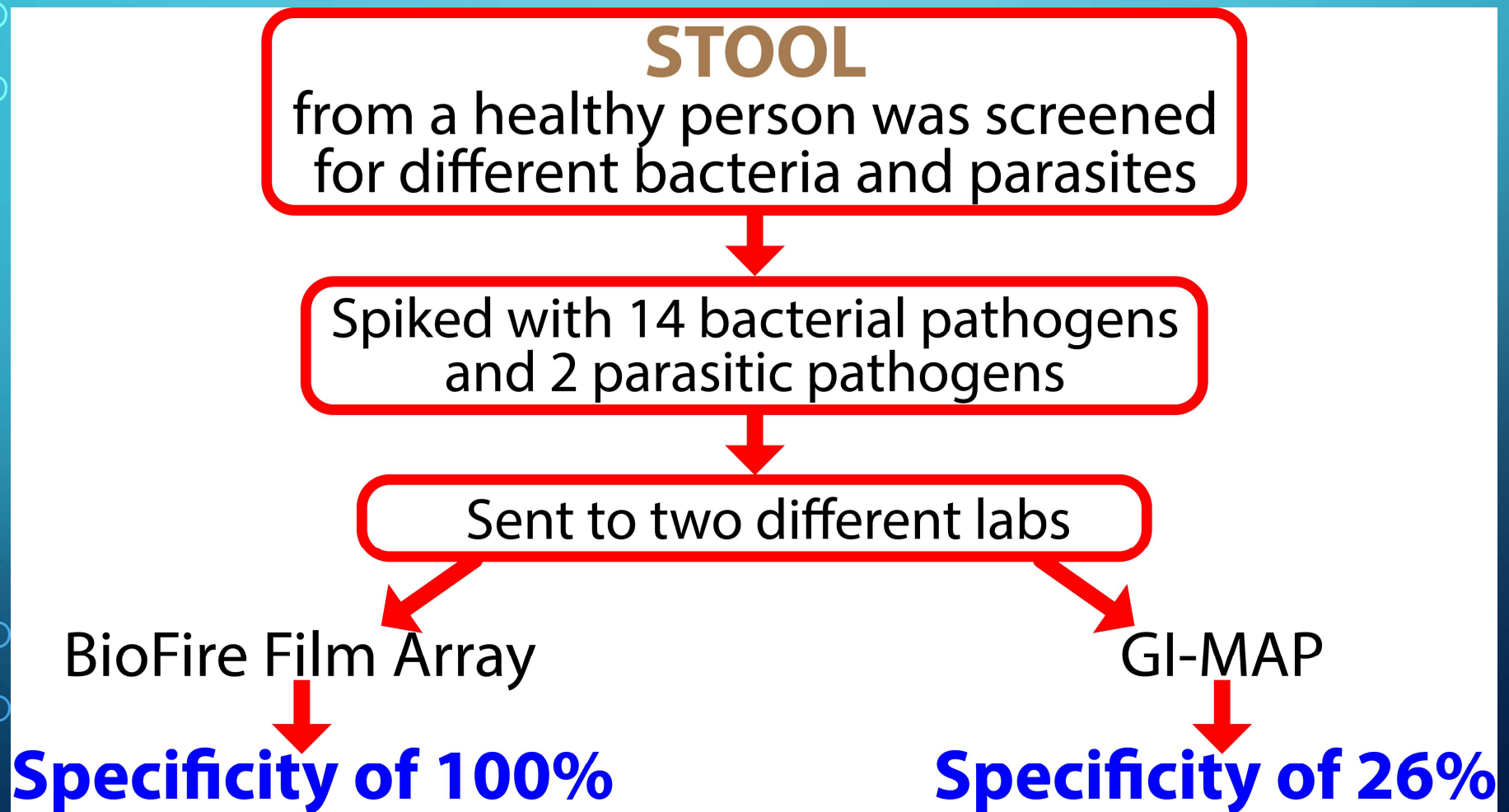
“The variability of mycotoxins concentration in urine and its volume based on daily intake demands urine sampling at different time points during the day and the normalization of results with creatinine concentration. The inter-individual comparison of mycotoxins is challenging because various factors, such as gender, age, diet, and muscle mass, can influence creatinine secretion.”

Garg K, Villavicencio-Aguilar F, Solano-Rivera F, Gilbert L. Analytical Validation of a Direct Competitive ELISA for Multiple Mycotoxin Detection in Human Serum. Toxins (Basel). 2022 Oct 25;14(11):727.

KŐSZEGI T, POÓR M. OCHRATOXIN A: MOLECULAR INTERACTIONS, MECHANISMS OF TOXICITY AND PREVENTION AT THE MOLECULAR LEVEL. TOXINS (BASEL). 2016 APR 15;8(4):111.

- **Renal Excretion**

- Albumin is the most abundant plasma protein in the circulatory system. Albumin binds Ochratoxin with unusually high affinity; therefore, 99.8% of Ochratoxin is in albumin-bound form in the human.
- Due to the strong albumin binding of Ochratoxin, its elimination by glomerular filtration is negligible.
- Studies verify that the toxin is able to be reabsorbed from practically any part of the nephron both by active transport and by passive diffusion in a pH-dependent fashion.



MYCOTOXINS AND AUTOIMMUNITY

Hindawi Publishing Corporation
Autoimmune Diseases
Volume 2014, Article ID 152428, 12 pages
<http://dx.doi.org/10.1155/2014/152428>



Review Article **Autoimmunity and the Gut**

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INFLAMMATORY BOWEL DISEASE

- Strong evidence is provided by a well-designed study showing that the mycotoxins Deoxynivalenol has the potential to induce the onset of Inflammatory Bowel Disease and ulcerative colitis.

The Use and Limitations of Organic Acids Tests for Gut Health: A Complete Guide

By Jonah Udall and Lucy Mailing

Several popular organic acid tests claim to detect imbalances in gut bacteria and fungi, but most of the “microbial” markers on these tests do not measure what they claim to.

<https://www.lucymailing.com/the-uses-and-limitations-of-organic-acids-testing-for-gut-health-a-complete-guide/>

Chemical Antibodies in Blood vs Chemical Presence in Urine

- Many labs focus on levels of chemicals measured in urine, but this is an indication of chemicals that have already passed out of the body.
- We should measure immune response to the chemicals, emphasizing the importance of neo-antigen formation and chemical body burden.

LOOK FOR
BODY
BURDEN OF
CHEMICALS
...

**Mycotoxin
antibody**



...not
chemicals
coming out
of my urine!

**Mycotoxin
in urine**

DEBUNKING USELESS TESTS WITH NO MEDICAL EVIDENCE

- MMP-9
- HLA-DR
- TGF-beta
- MSH
- VEGF
- Visual Contrast Test
- MARCoNS

DEBUNKING USELESS TESTS

- VEGF a major player in leukemias and lymphomas.
- Visual Contrast Test: there are no studies linking this to molds or mycotoxins.
- MARCoNS has not one single study showing this even exists in medicine.

ANOTHER SHAM TEST FOR MOLDS AND MYCOTOXINS: HLA-DR

- There are some who claim that this genetic testing is significant in patients affected by molds and mycotoxins. It is supposed to affect 25% of the population.
- 25% of 330 million Americans (U.S. Population) = 82.5 million Americans who are supposed to be affected by this.
- There are no published studies relating HLA-DR to anything with molds/mycotoxins.
- There is no research, it is not taught in any medical institution and has no basis in medical science.

FLUCONAZOLE

- Fluconazole has a limited spectrum of activity, for example, it is not active against Aspergillus and several species of non-albicans Candida.



Fluconazole vs. Itraconazole

There are two types of mold: single cell and multiple cell. Single cell are yeasts, like Candida, and the effective treatment is Fluconazole (Diflucan). Fluconazole (Diflucan) does not affect multiple cell molds. Itraconazole (Sporanox) is effective against both single cell and multiple cell molds, such as Aspergillus, Stachybotrys, Penicillium, etc.

Yeasts (Candida)



Aspergillus



Stachybotrys



Penicillium



Cladosporium




Fusarium



TREATMENT FOR CHRONIC SINUSITIS

- Amphotericin B nasal spray 0.03% solution.
- Itraconazole 100mg twice a day with food.



ITRACONAZOLE ORAL SOLUTION AND INTRAVENOUS FORMULATIONS: A REVIEW OF PHARMACOKINETICS AND PHARMACODYNAMICS

L. WILLEMS, R. VAN DER GEEST, AND K. DE BEULE

**JOURNAL OF CLINICAL PHARMACY AND THERAPEUTICS/ VOLUME
26, ISSUE 3. PUBLISHED DECEMBER 21ST, 2001**

ITRACONAZOLE TREATMENT

- Itraconazole is an antifungal agent with a broad spectrum of activity. It is well tolerated and highly efficacious.
- Itraconazole produce consistent plasma concentrations and are ideal for the treatment of systemic fungal infections in a wide range of patient populations.
- Itraconazole treatment can be specifically tailored for use in all patients, including children and those requiring intensive care.

HOW TO DOSE ITRACONAZOLE

- The standard dose for adults is 100mg twice daily for 6 months if you have tested positive.
- This is the dose from start to finish.
- Do not use the pulse method: this is only for toenail fungus.

SAFETY OF ITRACONAZOLE

- Itraconazole, also known as Sporanox, is a common anti-fungal agent that was developed in the 1980's. It has been in clinical use for 35 years with an established safety record.
- Tsubamoto H, Ueda T, Inoue K, Sakata K, Shibahara H, Sonoda T. Repurposing itraconazole as an anticancer agent. *Oncol Lett.* 2017 Aug;14(2):1240-1246.

SAFETY OF ITRACONAZOLE

- “Itraconazole is a broad spectrum triazole antifungal agent. It has favorable pharmacodynamic and pharmacokinetic profiles and is available as both oral and I.V. formulations.

Itraconazole has proven to be a valuable addition to the antifungal drugs currently available for treatment. Itraconazole has been well-tolerated with doses of up to 400 mg/day being generally free of serious adverse effects.”

- Piérard GE, Arrese JE, Piérard-Franchimont C. Itraconazole. Expert Opin Pharmacother. 2000 Jan;1(2):287-304.

TREATMENT

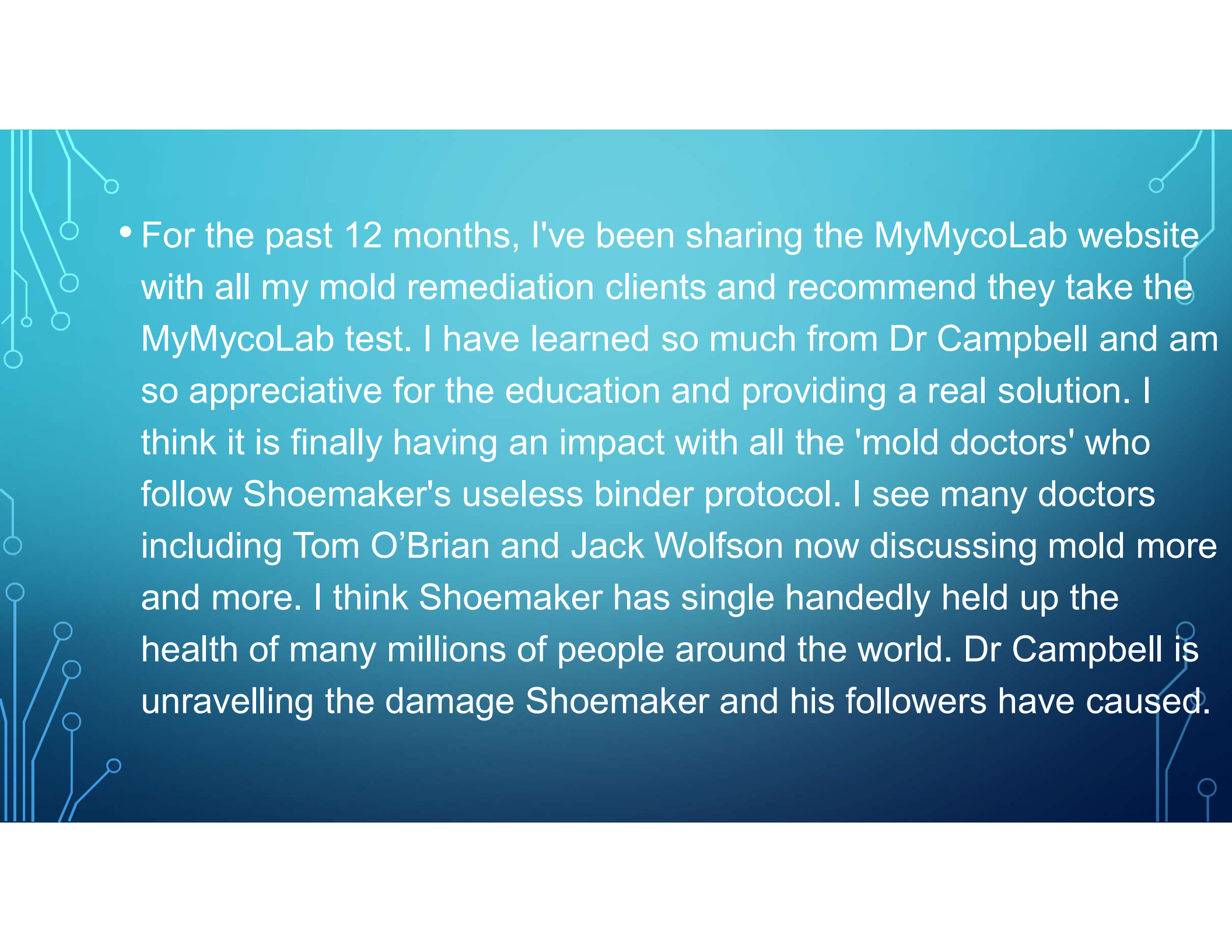
- 1. Get the patient away from the toxin or the toxin away from the patient.
- 2. Itraconazole 100 mg bid with food.
- 3. Take 8 specific supplements and vitamins at specific doses.
- 4. A low histamine anti-inflammatory nutritional diet.

HEALTH CARE PRACTITIONER

I have never had the desire to study treatment for mold because the treatment and testing out there from Shoemaker, etc, have never convinced me. In my 9 years of practice, I have never really seen a patient go through that style of treatment and come out the other side feeling better. I have been watching your videos on YouTube and am excited to get rolling treating a few patients with your paradigm.

FROM A CLINICIAN

- Dr Campbell, I am simply blown away with your knowledge base. After hearing you at A4M, I dove into your videos and I wish I had met you years ago after getting sucked into the Shoemaker/Nathan vortex. At least going forward with your direction I will be able to truly help my complicated patients.

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- The background is a blue gradient with decorative white circuit-like lines and nodes. The lines are thin and connect small circles, resembling a network or a circuit board. They are scattered across the image, with some forming more complex shapes and others being simple lines.
- For the past 12 months, I've been sharing the MyMycoLab website with all my mold remediation clients and recommend they take the MyMycoLab test. I have learned so much from Dr Campbell and am so appreciative for the education and providing a real solution. I think it is finally having an impact with all the 'mold doctors' who follow Shoemaker's useless binder protocol. I see many doctors including Tom O'Brian and Jack Wolfson now discussing mold more and more. I think Shoemaker has single handedly held up the health of many millions of people around the world. Dr Campbell is unravelling the damage Shoemaker and his followers have caused.

HEALTHCARE PROVIDER

I am a healthcare provider and have recently come across Mymycolab's information. Thanks so much for the help you provide! I do really appreciate all of the great information on the website, especially the YouTube videos! Knowing that my own family has been exposed we all just recently had our blood serum tested and are waiting on those results. As someone who has previously tried the holistic route I can say for certain that it does not work.

PATIENT TESTIMONIAL

- I have watched most of Dr Campbell's webinars on the MyMycoLab website 3 times each. I am a health coach and was working for a US group that had a Shoemaker mold protocol which was useless. I stopped health coaching at that program and focused on mold remediation in people's homes as I think so many of my sick clients had mold in their homes without realizing.

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