

Revised 2nd Edition

Parents are calling this book "Miraculous" because it works...when all else has failed.

When Traditional Medicine Fails...

Your Guide to

MOLD TOXINS

- What they are.
- Who they hurt.
- And what you can do to reclaim your child's health, learning and behavior.



Gary Rosen, Ph.D., C.I.E.

James Schaller, M.D., C.M.R.

**Includes Home
Detox Program**

Restore Your Child to Health Starting Today!

In 2004, the EPA warned physicians to be on the lookout for both respiratory and *neurological* symptoms from mold contaminated schools and homes.

The latest medical science shows 1 in 4 children are sensitive to low levels of mold toxins. Is your child one of these? Now a “top gun” physician & medical innovator teams up with an accomplished scientist & master builder to clearly explain how even small amounts of hidden indoor mold-produced biotoxins can subtly impact youth behavior, emotions, health and learning. In their easy-to-read prophetic book, they offer solutions based on the latest medical and scientific research that work for both bodies and buildings...restoring quality of life to children and parents.

HOME DETOX PROGRAM

- ✓ **Remove obstacles to health**
- ✓ **Enhance the body's natural toxin elimination ability**
- ✓ **Control inflammation and its impact on all body organs, including the brain**
- ✓ **Most children start to show almost immediate improvements in health, behavior, emotions, and learning.**

Program based on up-to-date scientific and medical principals. We don't reject traditional medicine ... we expand on it!

Similar to an oil change for your car, our mold toxin Detox program cleans away contaminants in internal fluids in a way that quickly restores children, adolescents, and even adults to health and contentment.



Gary Rosen, Ph.D., C.I.E. (left) A biochemist, trained under a Nobel Prize winner, who has authored numerous advanced text books on mold. Dr. Rosen has performed over 1000 mold inspections.

James Schaller, M.D., C.M.R. (right) A prolific clinical and research physician publishing in 16 areas of medicine, with three books on mold illness including *Mold Warriors: Fighting America's Hidden Health Threat*.



Ft. Lauderdale, FL
www.Mold-Free.org



When Traditional Medicine Fails ... answers your questions on mold toxins and their impact on youth health, behavior and emotions.

- ☑ Is your child struggling with his or her health, behavior, mood, or schoolwork?
- ☑ Do you feel medications, counseling or tutoring are not hitting a "home run" with fixing your child's problem?
- ☑ If the EPA says 30% of all U.S. structures have significant indoor mold, and we know 10% of homes leak each year, what are the odds your child has dodged an indoor mold problem?
- ☑ Are you sure your family's allergy-like symptoms are just routine "allergies" or are you also feeling fogginess, fatigue or moodiness?
- ☑ If mold toxin illness training is absent from virtually ALL medical schools and residency programs, what are the odds that smart and sincere doctors will diagnose it?
- ☑ Biotoxins from hidden indoor mold can hurt your child in over 200 possible ways. How will your child's pediatrician diagnose these in a five-minute office visit?
- ☑ We will help YOU heal your child with our simple, powerful and cutting-edge options. We include clear legal pointers to beat the games of insurance companies, builders and school officials.
- ☑ Don't play Russian roulette with your child's (and your own) health. Read this book!

When Traditional Medicine Fails: Your Guide to MOLD TOXINS

Revised 2nd Edition

Gary Rosen, Ph.D.
James Schaller, M.D.

Hope Academic Press

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Forward

by James Schaller, M.D.

Take Back Your Children from Indoor Mold

I routinely treat children and adolescents who have problems with behavior and learning, and I treat over a hundred common causes for these youth problems. Want to be shocked? The most common cause for their problems is indoor mold contamination. This problem, often called Sick School Syndrome or Sick Building Syndrome (SBS), is caused by water leaks and excessive humidity inside a sealed building.

Until recently, few physicians had any understanding of SBS. Few understood that mold toxins from Sick Schools and Buildings can undermine child health, learning and behavior.

The recent EPA-funded study¹ *Guidance for Clinicians on the Recognition and Management of Health Effects Related to Mold Exposure and Moisture Indoors* has started to turn a few physicians around. The study advises medical clinicians to be on the lookout for neurological affects from indoor mold.

Now a few pediatricians and allergists are starting to recommend mold testing to confirm indoor mold exposure, followed by a “prescription” for mold remediation as part of a cure. But most physicians still don’t get it.

Most have not read this important EPA-funded study and other recent research showing mold as a common cause of illness.

New breakthroughs in scientific techniques are quickly changing the face of medicine—including the field of mold-related illnesses. But most sincere physicians are just not able to keep up.

Fortunately, we can help. We are specialists in the field of mold toxins and their impact on human health. In this second edition of *When Traditional Medicine Fails*, we include critical new information to help you and your physician cure mold related ailments.

Mold DNA Profiling of Sick Buildings

Just a few years ago, no one had access to powerful DNA profiling technology, which became a household term during the O.J. Simpson case when it was used to profile human DNA. Now DNA profiling is used to characterize mold growth both in sick buildings and sick people. Its use and development was funded by the United States EPA.

New EPA research^{2,3,4,5} shows that:

- ☑ 34 million Americans or 1 in 9 people have ongoing severe nasal and sinus infections or Chronic Rhinosinusitis (C.R.);
- ☑ C.R. is a direct result of molds that produce toxins growing in the sinuses of ill individuals, causing massive inflammation of the sinuses;
- ☑ The DNA profile of mold colonizing the sinuses of sick individuals **matches** the DNA profile of toxin-producing molds found in “sick” homes;
- ☑ The DNA profile of mold found in healthy homes was completely **different** from the mold found in C.R. patients’ sinuses. Non-toxic molds were found in healthy homes;
- ☑ This U.S. study was repeated in the U.K. and had the same results.

Unfortunately for you and your loved ones, traditional medicine often does not keep up with the latest technology. Most physicians do not know about DNA profiling for mold or how to use it to help you.

In a similar fashion, new breakthroughs by numerous medical research groups in the United States and Europe show that many neu-

rological symptoms are a direct result of “breathing” toxins produced by the same toxin-producing molds found in Sick Buildings.

In Chapter 3, we discuss the latest report published by the U.S. Surgeon General on recently declassified Army research revealing that mold neurotoxins have been used in biowarfare.

The research includes studies on human subjects showing that neurological disorders from exposures to mold biowarfare agents correlate with neurological disorders from Sick Buildings.

U.S. Army research also discusses toxin-binding treatments to cure neurotoxin exposure. These treatments are very much in line with the treatments developed by Ritchie Shoemaker, a prolific physician, and Kenneth Hudnell, an EPA scientist. Toxin-binding treatments are discussed further in Chapter 12.

We recommend that you review the 2004 publication by the National Academy of Science, *Damp Indoor Spaces*, starting with the section on Neurotoxic Affects of Mold on page 157.

Here is an excerpt:

Neurotoxic mycotoxins tend to fall into three general classes: tremor-genic toxins, paralytic toxins, and toxins that interfere with neurotransmitters or receptors either centrally or at the target organ.

Many of the toxins are very potent and have immediate effects on animals exposed to a single dose by various routes. (page 160)

While mold toxins cause dozens of common problems to the brain beyond these three basic categories, the quote confirms that indoor mold can cause much more than a *runny nose*.

Unlike typical bacterial and viral infections, mold toxins harm a very wide range of body functions and can make the diagnosis a bit tricky to the untrained eye.

What We Now Know About Mold and Neurotoxicity

Some people come to me (Schaller) after months or even years of traditional allergy testing, child psychiatry or pediatric drug treatments, yeast-free diets, gluten-free diets, fad diets for this and that, brain scans, numerous psychological and neurological tests, blood tests, and urine tests ... none of them helped!

Routinely, because of a lack of knowledge, sincere parents, teachers, schools, aunts, uncles, grandparents, clergy, pediatricians, and counselors will miss SBS as a cause for numerous youth troubles including both learning and behavioral problems. They simply do not know the impact that indoor mold can have on youth health. This book unravels the mysteries of mold biotoxin illness, and will guide you and your child to a path of recovery.

We now know ...

- That the billions of dollars being spent on prescription drugs to treat illnesses from Sick Buildings NEVER WILL BE effective. Traditional drug therapies only treat the symptoms and do not cure. These make drug companies rich, but keep your child sick.**
- When children suffer from multiple symptoms involving several organ groups, and when traditional medical testing does not find the problem, biotoxin exposure from indoor mold growth is often the source of the illness. While the symptoms can seem somewhat mysterious to the untrained, mold biotoxin illness can be treated successfully.**

Do You See Andrew's Problem?

Andrew transferred to a respected private school. At the beginning of the school year, he had trouble following directions and had an "ill mood" according to his strict teacher. His parents also noticed that Andrew seemed to be moodier. He was complaining that the classroom was "too loud" and he seemed to exaggerate physical contact with sib-

lings and friends. His sleep was restless. Andrew wanted to have more time with his mother and to sleep in his parent's bed (even though he had stopped this behavior three years ago).

He was found to have both depressed alpha MSH, a critical hormone with over twenty functions, and increased blood inflammation (high MMP-9 and C3a). Plus, DNA studies showed that his genetic make-up included a vulnerability to mold toxins. Furthermore, his school had documented mold problems.

All these indicators strongly pointed toward
mold toxins as the cause of illness.

After he was removed from the moldy school and given treatment for mold toxins, Andrew started getting better immediately. He was home schooled for 6 weeks and now is in a new school. Leaving the school certainly was an extreme solution and is not always needed. But after his mother tested two of the school's fan blades and the school's crusty, old AC filters, she found high levels of illness-promoting mold—not just the routine molds usually found indoors. She insisted on a new, mold-free school.

The parents spoke with their pediatrician and allergist about the mold sampling results along with the blood test findings from our lab. They also discussed Andrew's improvements. The pediatrician and allergist apparently had no real reply. These physicians had no idea what any of these tests meant. They admitted that they had neither read any of the latest research on the treatment of mold-related illnesses nor been trained in this type of illness.

But what is important is that Andrew is improving—his behavior is returning to normal. I just saw a picture of him, and he was clearly happy in the photo. Good for him and his loving sacrificial parents!

Behavior and Learning Challenges

In the outdoors, there are tens of thousands of competing species of mold. Living outdoors is tough for molds. Most can barely survive outdoors with the thousands of competitors, UV radiation, rain, temperature fluctuations, and wind. A home or school with a moist indoors

offers molds a much easier life. And as a result, when living indoors, their ability to make biotoxins, which they use to kill other molds and bacteria, is greatly enhanced.

Low levels of indoor mold growth can adversely affect sensitive children.

Today's common household materials such as wallboard, carpet and wood—along with today's tighter, more energy-efficient buildings that keep out fresh, outside air—are what most toxin-producing molds thrive on. Just add water.

After two to three days, a wet indoor setting can start producing mold. Once the mold starts, it will continue to grow with only humidity. Mold spreads fast, and the biotoxins they produce to kill other molds and bacteria can make people ill. Initially, most people are entirely clueless that they are being affected. Sickness can come on gradually as mold biotoxins pass from cell to cell with great ease—altering DNA and hurting children and their parents.

Unlike typical viral or bacterial infections, mold toxins can be active throughout virtually the entire body and can cause a diverse array of child health problems. That is why they can be hard to diagnose. While mold-related health problems affect people of all ages and both sexes, research shows that children are particularly vulnerable. Common symptoms include:

- | | |
|-----------------------|--------------------------------|
| ✓ Poor attention span | ✓ Limited ability to focus |
| ✓ Irritability | ✓ Headaches |
| ✓ Mood swings | ✓ Disobedience |
| ✓ Homework difficulty | ✓ Difficulty in learning |
| ✓ Anxiety | ✓ Agitation |
| ✓ Excess aggression | ✓ Difficulty relating to peers |

Do you think mold problems are rare? The EPA reports that 30% of all U.S. structures have indoor mold. And how often do you hear of a roof leak in a home or a school? I routinely hear of homes or offices

having a “small leak” or a “little water in the basement.” People calmly mention an annoying little leak, and talk about having a plumber come “in a few days.” They mention this “leak” casually. But indoor mold is not a casual topic. Every year one in ten homes has an indoor leak.

And every year, schools turn off their air conditioning during August, inadvertently creating a highly humid and stale indoor environment that is perfect for mold growth. Hidden mold growth in water-damaged schools and in homes is a major child issue.

With these facts in mind, I am delighted to introduce *When Traditional Medicine Fails: Your Guide to Mold Toxins ...* a new weapon to protect the children you love.

In *When Traditional Medicine Fails*, we provide fresh insight into the four critical areas concerning mold toxin exposure:

Diagnosis: We fully and clearly explain mold toxin symptoms and explain which children are most likely to become ill from mold. Specifically, we offer material and cases showing how mold toxins affect behavior, insight, mood, concentration, memory, personality, and achievement. You won’t find this material anywhere else.

Mold Clean-Up: We show you the proper way to remove mold and mold toxins from both homes and schools. Curing your child includes carefully removing mold and toxins without further contaminating the building. We explain how you can make your home “as good as new.”

Ongoing Healthy Environment: Humidity control and air filtration are powerful tools to continually eliminate from indoor air even trace amounts of not only mold spores and their toxins, but also bacteria, viruses, and other pollutants. We explain in detail what you need to know to provide a healthy indoor environment for your children and entire family.

Treatment Options: We offer many specific ways to restore your child to full health, including the use of mold toxin binders to cure mold toxin exposure before it seriously alters your child’s body chemistry. You will be given many tools and options to obtain the best treatment for your child.

Forward

I am deeply honored to co-author this expanded and fully revised version with Dr. Rosen. I think you will find it a mix of clear writing, cutting-edge medicine, and practical advice on how to fix mold-related problems.

We feel this short book is the simplest and fastest way to reclaim your child's life from environmental illness caused by indoor mold growth.

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Director, Professional Medical Services of Naples

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Co-author of *Mold Warriors: Fighting America's Hidden Health Threat*

Author of *Mold Illness Made Simple*

The next few pages depict several sample images of common toxin-producing molds, along with descriptions of just some of their adverse effects on human health.

PENICILLIUM sp.



ALLERGENICITY: Allergenic.

MYCOTOXINS PRODUCED:

Various toxins by different species: Anacine, Arisugacins A&B, Auranthine(sclerotigenin), Aurantiamine, Belfedrin A, Botryodiplodin, Brevianamid A, Chaetoglobosin A, B&C, Chlororugulovasines A&B, Chrysogine, Citromycesin, Citreoisocoumarinol, Citreoviridin, Citrinin, Communensins A&B, Compactin, Curvularin, Cyanein, Cyclochlorotine, Cyclophenin, Cyclophenol, Cyclopiasonic acid, Cytostipin, etc. Complete list available at reference below.

HUMAN PATHOGENICITY:

Bronchopulmonary, nail, (sub)cutaneous, ear infections; systemic disease; osteomyelitis; endophthalmitis; keratitis; esophagitis; pericarditis; endocarditis. Effects found mostly in immunocompromised patients.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

ASPERGILLUS ochraceus



ALLERGENICITY: Allergenic.

**MYCOTOXINS
PRODUCED:** Ochratoxin, Penicillic acid.

**HUMAN
PATHOGENICITY:** Antromycosis; mycotoxin-induced tubulonephritis; chronic interstitial nephropathy.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

STACHYBOTRYS sp.



ALLERGENICITY: Can be allergenic.

**MYCOTOXINS
PRODUCED:**

3-Acetyl-deoxynivalenol , Atranones A-G, Cyclosporins, Diacetoxyscirpenol, Deoxynivalenol or Vomitoxin, Epoxytrichothecene, Isosatratoxins F, G & H, Phenylspirodrimanones, Roridins A, E, Satratoxins F, G & H, Stachylysin, Trichoverrols A, B, Verrucarins A,J, Verrucarol (T-2-tetraol).

**HUMAN
PATHOGENICITY:**

Mycotoxin-caused pulmonary hemorrhage/hemosiderosis in infants; dermatitis; cough; rhinitis; itching or burning sensation in mouth, throat, nasal passages, and eyes.

REFERENCE:

<http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

ASPERGILLUS clavatus



ALLERGENICITY: Allergenic.

MYCOTOXINS PRODUCED: Ascladiol, Brefeldin A, Cytochalasin E, Ribotoxins, Patulin, Triptoquivalins.

HUMAN PATHOGENICITY: Agent of allergic aspergillosis, pulmonary infection, and endocarditis.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

ASPERGILLUS niger



ALLERGENICITY: Allergenic.

MYCOTOXINS PRODUCED: Malformins B&C, Naphtho-gamma-pyrones, Ochratoxin A, Oxalic acid.

HUMAN PATHOGENICITY: Etiologic agent of otomycosis; "Swimmer's ear;" onychomycosis; can cause bronchopulmonary, pulmonary, nasosinus aspergillosis; pneumonia; eye infections; invasive lung, heart and other disease.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

SCOPULARIOPSIS sp.



ALLERGENICITY: Allergenic.

**MYCOTOXINS
PRODUCED:** Unknown.

**HUMAN
PATHOGENICITY:** Onychomycosis; pulmonary mycosis; invasive human infections; sub-cutaneous infections, keratitis, endophthalmitis, mycetoma; cerebral infections.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

FUSARIUM sp.



ALLERGENICITY: Allergenic.

**MYCOTOXINS
PRODUCED:**

Acetoxyscirpenol, Acetoxyscirpentriol, Acetyldeoxynivalenol, 3-Acetyl-neosolaniol, 15-Acetyl-nivalenol, 3-Acetyl-HT-2 toxin, Acetyl-T-2-tetraol, Acetyl-T-2 toxin, Acuminatopyrone, Antibiotic Y, Apotrichothecenes, Beauvericin, Butenolide, Calonectrin, Chlamydo-spordioli, Chlamydo-sporeli, Culmorin, Deacylcalonectrin, Deoxy-fusapyrone, Deoxynivalenol (Vomitoxin), Diacetyl-nivalenol, Diace-toxyscirpenol, etc. Complete list available at reference below.

**HUMAN
PATHOGENICITY:**

Causes eye, (sub)cutaneous, nail, pulmonary, and heart infec-tions; mycetomas; arthritis; peritonitis; cerebral, disseminated, or systemic opportunistic infections in immunocompromised patients.

REFERENCE: <http://www.ttuhsu.edu/SOM/Microbiology/mainweb/aiaq/Glossary.html>

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Introduction

Do you know what some species of spiders, snakes, scorpions, bees, and ticks have in common with mold and mushrooms? They make biotoxin poisons. Biotoxins are toxins made by living organisms. The table below lists just a few of the species that produce biotoxins along with the names of the toxins.

Name of Toxin	Source	Name of Toxin	Source
Agitoxin	Scorpion	Ergot Alkaloids	Aspergillus Mold
Alpha-bungarotoxin	Krait (snake)	Grammotoxin SIA	Rose Tarantula
Anatoxin	Algae	Holocyclotoxin	Paralysis Tick
Apamin	Honey Bee	Kaliotoxin	Scorpion
Batrachotoxin	Arrow Frog	Latrotoxin	Black Widow Spider
Botulinum toxin	Bacteria	LSD	Toxic Fungi
Brevetoxin	Red Tide	Maculotoxin	Blue-Ringed Octopus
Cobrotoxin	Cobra Snake	Ochratoxin	Penicillium Mold
Conotoxin	Marine Snail	Philanthotoxin	Predaceous Wasp
Crotoxin	Rattlesnake	SNX-482	African Tarantula
Erabutoxin	Sea Snake	Tricothecene	Stachybotrys Mold

Biotoxins are produced as powerful defensive or offensive chemicals, used to crowd out or capture prey. In the case of mold, biotoxins are meant to kill bacteria, other molds and various mites. But just like biotoxins from poisonous snakes and scorpions, mold-produced biotoxins can definitely hurt humans.

So, what happens to children in a mold-contaminated school or moldy home filled with biotoxins? How do mold biotoxins affect them? The answer is ... it depends. It depends on the amount of exposure and

how well a particular child can remove biotoxins from their body—a function that is highly variable from child to child.

When a bee stings you, you know what is making you sick. But with slow-acting mold biotoxin exposure from a Sick Building, it is not so easy to tell exactly what is causing the illness.

Indoor mold growth is a problem that affects millions of children and adults. Chronically breathing mold toxins over extended periods of time can cause subtle and diverse symptoms. As the duration and amount of exposure increase, serious child or adult emotional and behavior problems can occur. Because the biotoxins are flowing through the blood stream for extended periods of time, they can target most of the organs in the body—including the brain. Resulting symptoms can affect virtually all body organs and systems. However ...

Did you know?

Approximately 1 in 4 children does not remove mold biotoxins well and will be affected by even moderately elevated levels of indoor mold growth.

The amazing thing about mold toxin exposure is that it can often be quickly and easily cured when:

- Properly diagnosed;
- Some select interventions are used;
- And further toxin exposure is eliminated or minimized.

This book started out about Johnny. He lives next door. He had been cured of serious learning troubles along with many physical ailments, seemingly miraculously, after only one visit to Dr. Ritchie Shoemaker and aggressive treatment with Cholestyramine (CSM), a mold toxin binder.

The CSM toxin binder works naturally by helping the body more efficiently eliminate toxins.

Millions of Johnnys

Then I met Dr. James Schaller, a well-respected Florida physician and child psychiatrist, who also treats patients nationwide for biotoxin exposure. Through discussions with Dr. Schaller, it became apparent to me that Johnny's biotoxin-related environmental illness is being played out with millions of children all over the country.

Until Johnny was in the seventh grade, his reading ability was normal. Over the next several years, his reading and math skills remained stuck at a seventh-grade level. What happened?

The library had a leaky roof. We now know that toxic mold contaminated the entire library. The teachers and children just thought the library was "a little musty." But that smell was from living mold that was actively producing toxins! So Johnny sat in the library during study hall inhaling toxins. These caused him to develop neurological symptoms that affected his concentration and overall mental ability. He was diagnosed with Attention Deficit Disorder (ADD) and his reading and math grades fell.

After several years of exposure, his subtle learning limitations became severe. He then left school due to overwhelming academic problems. At the same time, he had headaches, sinus infections, low energy, stomach aches, reduced coordination, and body rashes.

He tested negative for every kind of allergy. He had numerous courses of antibiotics for sinus infections; he had a brain scan; he had his lungs X-rayed. He tested negative for Lyme, even from the elite tick lab, IGeneX. He even went to a psychologist. Maybe he just could not cope with school stress and all the problems were psychosomatic?

Doctors were baffled. No one had any idea what would cause these problems much less how to treat them. Why would an excellent student like Johnny suddenly develop ADD in the *seventh grade*? Kids do not develop ADD in middle school. And what about his other symptoms? What no one knew at the time was that all of his problems were typical of Sick School Syndrome.

Biotoxins in the Air our Children Breathe

While the majority of children in Johnny's school showed no symptoms of toxic mold exposure, medical tests showed that Johnny's genetics cause him to take longer to clear toxins from his body than most other kids. If he is in a sick school or home, toxins will build up in his body and Johnny will get sick. In all other respects, he is like other healthy kids. He was rarely ill before the library exposure.

Johnny's experience and symptoms are not unique. We know schools are notoriously under-funded and that water damage and the resulting mold growth is common. ACs are often turned off to save money, allowing humidity to climb to mold-producing levels. In humid or water-damaged schools, illness from hidden toxic mold is often the single biggest cause of childhood medical, emotional, behavioral, and learning disorders.

- ☑ The problems start with water or excess indoor humidity from leaky roofs, faulty AC systems or AC systems turned off for days to "save money." Any of these can give rise to indoor mold growth.
- ☑ The problems expand as school officials deny the latest scientific evidence that shows common *Penicillium* and *Aspergillus* molds, routinely growing in water-damaged buildings, produce harmful toxins. When our kids inhale these toxins daily, some can become emotionally and physically troubled.
- ☑ The medical problems reach epidemic proportions when school officials ignore laws that require classrooms to be ventilated with clean outside air that "washes away" mold toxins and other indoor-air pollutants. To save on heating and air conditioning costs, windows and vents remain closed and indoor air is recycled. Kids remain bottled up in classrooms with contaminated air as hidden mold growing in water-damaged walls, ceilings and air ducts releases toxins.

Nationally, millions of children need to have complex educational plans, attend special schools, or stay at home. Many of these children are sick from mold-related illnesses that are often labeled as emotional or behavioral problems and learning disorders.

These disorders often decrease and or are eliminated when the students no longer attend water-damaged schools. But no one seems to understand why. School officials and physicians miss the obvious cause: illness from toxins in the sick school they attended.

School officials, parents, and the public in general need to face some clear facts:

- ☑ Humidity in excess of 65% in a school, home or office will foster mold growth and biotoxin production. This scenario is very common and routinely missed.
- ☑ Symptoms from water-damaged schools go far beyond asthma, nasal allergies or a runny nose.
- ☑ You do not need to be diagnosed with a mold allergy to become sick from mold toxins. Mold toxin poisoning has nothing to do with allergic reactions to mold.
- ☑ Mold-contaminated schools or homes often cause neurological and psychiatric problems in children as well as teachers and parents.
- ☑ Psychiatric problems can include mild or severe anxiety, irritability, boredom, agitation, anger, decreased focusing ability, obsession, depression, panic attacks, impulsivity, attention troubles, fighting, and eccentric behavior.
- ☑ Neurological and medical disorders can include fatigue, muscle aches, headaches, sinus congestion, and asthma. These disorders do not fully respond to normal treatments. In addition, there can be memory loss, lack of concentration, metallic taste, sensitivity to bright light, and subtle vision abnormalities.

Despite clear information on the adverse health affects from mold toxins, including data from EPA studies, school officials continue to ignore the hazards of indoor mold growth ... including the need to be on the lookout for neurological disorders from indoor mold. Schools con-

tinue to deny, trivialize and cover up toxic mold problems in their sick schools. But by covering up the problems, the proper diagnosis is not made, sick students are not treated, and the problems become much bigger. In the private sector, facilities managers are put in jail for covering up hazardous environments. But in schools, the cover-ups continue even in light of government research about the many neurotoxins from mold found in water-damaged buildings.

School officials cling to an old pathetic defense: “Since not every child is sick, the cause of illness must lie outside the school.”

But we have known for decades that drugs and poisons affect everyone at a *different* dose. And we now know that approximately 1 out of 4 children are genetically vulnerable to mold. Their bodies cannot effectively remove mold toxins.

Medical Diagnosis

What is necessary for the diagnosis of Sick Building Syndrome due to indoor mold toxin exposure is:

- ☑ Exposure to a school or home with visible or musty smelling indoor mold.
- ☑ Chronic symptoms that fail routine treatment.
- ☑ The presence of mold-specific blood results easily seen in certain lab tests.
- ☑ Finally, most children feel better when they are away from a moldy home or school. But if a child has been exposed to mold toxins too long or too intensely, they may not improve without treatment even when away from the problem building.

Mold toxins are usually misdiagnosed and treated with extensive antibiotics, antihistamines, steroids, and a wide range of psychiatric medications—often making matters worse.

Just as we now know that many chronic sinus infections are from mold and not bacteria, many chronic illnesses, as well as behavior and learning struggles, are from homes or schools with mold contamination.

Our Goal and Hope

We are writing to help you and your child find a correct diagnosis and the corresponding solutions.

When Traditional Medicine Fails unravels the mysteries of toxic mold related illnesses. We clearly and concisely answer your questions:

- ☑ How do I know if mold toxins are the cause of my child's problems? What are the exact symptoms of Sick Building Syndrome?
- ☑ What about adults? Can mold toxin exposure cause such diverse symptoms as headaches, poor concentration, sleep problems, and even sexual dysfunction in adults?
- ☑ What common molds release harmful chemicals?
- ☑ What are the health treatment options? Are over-the-counter solutions available? If so, how do they compare to prescription medications?
- ☑ Do I really need to spend thousands on mold testing and/or mold remediation? How do I choose a good mold tester or mold remediator? What can I do myself?
- ☑ Are there any simple solutions to reduce my child's exposure levels in a mold-contaminated home or school?
- ☑ My doctor does not know much about mold toxins and treatments. What treatment options can I suggest to my doctor?

In short, *When Traditional Medicine Fails* is your guide to mold toxins: what they are; how they can alter your child's behavior and learning; and how to get rid of them and reclaim your child's health, learning and behavior.

CHAPTER 1



A duct leak in the attic caused this mold growth. The residents inside were getting sick because the hatch to the attic did not close well. If the house is properly sealed from the attic, moderate mold growth in the attic usually will not make people inside the home sick.

Everyday Observations of Mold-Related Problems in Students, School Staff & Parents

Mold toxins can affect sensitive children and adults in numerous ways. These toxins impact the brain directly and increase many types of inflammation chemicals. Mold toxins also alter many hormone levels. All of these anomalies are usually missed by routine medical exams unless mold toxin-related symptoms are specifically investigated. Further, mold toxins can cause subtle but serious personality changes. Do any of the people in the following case studies seem like you, your child, or your child's teacher?

Decreased Learning Capacity

Ricky has had a reading disability for the last five years. Clearly, when he started at his middle school this past September, his ability to learn dropped immensely. Previously, he was able to get Bs, but now he was failing English. Only after reading a paragraph repeatedly could he recall the general point.

Ricky's father took swab samples from the areas that he suspected might be mold. They came back positive for toxic mold. A few of the problem areas also came back showing toxin-making bacteria called "gram-negative bacilli." These "bacilli" or hot dog shaped bacteria have toxins on their outer coating and can reduce the educational ability of youth who are in contact with them.

The school would not accept the results, partly because their "expert" had tested the school earlier and had reported it was fine. Ricky was home schooled for the rest of the year. After three months away from the moldy school, Ricky started to improve academically. Legal action is still pending.

Impulsivity

"I think it is sixty four!" Anthony yelled out. His teacher forced a small smile. She was tired of his calling out even though he meant well. He did the same thing with his friends and family. He was not this way a year ago, and his mother had no idea what caused this change.

Anthony had a humidifier in his room during the winter, when his home was below 40% humidity and the low humidity would cause his skin to crack—especially if he took hot showers.

His home was inspected for mold. The worst source was the humidifier in his room, filled with thousands of mold colonies and millions of toxic bacteria, which thrive in dirty water.

Dead Creativity

Julie was a good student and enjoyed both music and pencil drawing. Yet for two years she left her flute and sketch pad sitting in her bedroom drawer. After school she seemed to be worn, as if she just finished an aggressive work-out.

Blood testing showed her VEGF and MSH labs were very low. The low levels reduced her energy and lowered her mood and enjoyment.

Her parents swore there was no mold in their home. But an infrared thermographic camera found three moisture sources in her walls. Upon further investigation, mold was found. The contaminated drywall was removed, some carpet was thrown out, and the contaminated areas were HEPA vacuumed.

It took a while, but eventually Julie's VEGF and MSH returned to normal. She is back playing her flute and drawing.

The Obvious Comes Slowly

A father and son had trouble from toxic mold exposure but neither knew it. The sixteen-year-old son was in a residential treatment facility that refused Dr. Schaller's input. After Michael was discharged, we found he had serious mold toxins in his Texas home. He showed massive inflammation in his body from many important lab tests, including a MMP-9. Generally, we like to see MMP-9 far under 250 and he had an 855! His brain was being bathed in inflammatory "gasoline" that hindered him mentally and physically.

We removed the four sources of mold in his home and "mopped up" the mold toxins in his body with the toxin-binding agent, Cholestyramine. In five months he was free of all ailments. He now has an A- average and is more sociable. Finally, after his home was remediated and tested to be free of indoor mold growth, and after our medical treatments, he yelled in amazement, "This is freaked out! After all those years of psychiatric medications and therapists, it all ended up being these environmental things and not me. This is amazing!"

The father had similar troubles, but refused to believe he was being affected by the same mold biotoxins that had been poisoning his son. Finally, after two full years of nagging, the father took my suggested lab tests, which showed massive mold biotoxin damage to his body including:

- ☑ Antibodies against the fat surrounding his nerves.
- ☑ Hormone changes resulting in high estrogen and low testosterone. This pattern may promote prostate cancer.

- ☑ A weak immune system including low natural killer cells—the ones that kill cancer every day.
- ☑ A significantly elevated risk of blood clotting.

He is getting better slowly, and now has better insight. But, the insight came only after the lab findings hit him in the face.

Common Frontal Lobe Signs of Mold Illness

Indoor mold decreases insight because of its impact on the front part of your brain, the “frontal lobe.”

When we mention frontal lobe signs, we are referring to the detrimental effects mold has on the frontal lobe and its numerous functions. Think of this part of the brain as the top of a pyramid. And if a layer of bricks is out of place, the top of the pyramid will be “off.” Similarly, if brain tissue is irritated or inflamed below the frontal lobe, it will impair the normal functions controlled by the frontal lobe.

This is why some psychiatrists, who are trained to detect subtle changes in brain chemistry, can be the first to notice mold-related illnesses. Similarly, parents generally are very tuned into their children and notice small behavioral, mood or personality changes that others might not notice. Parents’ gut instincts are often right and can help speed a child to a diagnosis of mold toxin exposure.

Look over the list and illustration cases below. Do you see any of these frontal lobe signs in your child, yourself or school staff? Are any of these changes new and associated with exposure to water damage and/or a moldy smelling home or school?

- Moodiness and irritability
- Rigidity
- Impulsivity
- Poor insight
- New distractibility
- Trouble finishing a task

- Acting eccentrically or impulsively with money, drinking, drugs, sex, unwanted pregnancy or speech content
- Decreased speech speed and smoothness
- Decreased coordination
- Stress with transitions or change
- Routine lateness
- Empathic deficits
- New immature silliness
- Social deficits—making others uncomfortable
- Poor boundary awareness
- New aggressiveness
- Increased dependence in a child or adult

“Flaky”

Jennifer is called “flaky” because she is regularly distracted. She was not that way until she moved to Long Island at the age of seventeen. During the summer when she lives in another home, she is much less distracted. The basement in her primary home was found to have three species of toxic mold. Lab tests showed she had a low MSH level, which most likely was as a result of exposure to mold toxins.

“I Can’t Get Things Done Any More”

Michele was a solid B student. After transferring into her new school, she started having trouble completing her homework. She could not go from A–Z and complete an assignment. Her mother feared she had gotten in with the “wrong crowd,” and was concerned at Michele’s red eyes and slowed thinking. Michele blamed her lower performance on her new teachers. She laughed at suspicions of drug use.

During a medical examination in my office, she challenged me to give her a drug test. I did. She handed the negative urine and blood results to her mother proudly.

Eventually, her mother learned from other parents and a few teachers that mold problems were suspected in the school. When I could not find another cause for Michele's symptoms—and her lab tests pointed toward mold—I suggested taking a few air samples at the school. A teacher confidentially handled the testing, which came back positive. The administration refused to consider the results, and so Michele transferred reluctantly to another school and is finally doing very well.

Ignorant Rigidity & Protectiveness

Mold victims can have trouble with new ideas. Learning new educational material requires a properly functioning brain. Those with mold-induced brain fog often feel uncomfortable and overwhelmed when dealing with new information.

Sometimes this shows up in reactions to my medical advice. I suggest patients get their home or school tested and, suddenly, “all knowing” relatives or friends offer their contrary opinion. Many of these naysayers live in their own moldy homes. Despite the fact that the ill children have seen five to forty previous doctors—with no success—ignorant relatives, friends and pseudosages try to save them *from me*.

I hate to say it, but sometimes the silly “sage” is a father who becomes annoyed at the mere mention of mold. When he thinks of mold he thinks of beer, old bread or the stuff in the forest. Commonly, if mold is in the father's home, the father is functioning far below his abilities, since he is breathing the toxins that the child is breathing. Even if he is very smart, his insight and other frontal lobe functions can be deficient.

Sometimes a spouse or a housemate sees a negative personality change in someone before that person can see it in himself. The wife sees her husband as too irritable and tired, while the husband sees his wife as snappy and foggy.

Narcissism or Profound Self-Centered Thinking

Alice is in high school and complains regularly. In a group session, she takes over conversations so she can talk about herself. When you talk with her, you sense she is not listening to you or connecting with you as a living person—you could just as easily be a stool. Her bed headboard was found to have *Aspergillus* and *Penicillium* molds at very high

levels. So as she sleeps she breathes in toxic mold substances. Her labs showed depressed MSH and increased blood inflammation.

After thoroughly cleaning her bedroom, fixing the moisture problem in her attic that caused the mold growth, and treating her body with toxin-binding Cholestyramine, her personality started returning to normal. Her ability to care for and connect with others is clearly improved, and her lab results are normalizing.

Eccentric Personalities

Michael is “weird.” His old friends noticed he was becoming weird when he was fourteen. Suddenly, all he would talk about was animals, guns and money. His mother brought him in for testing. His mold lab results were positive and he was also positive for Lyme and Bartonella—three conditions which impact the brain. His father said he was “just fine.” Michael dropped out of school and now works for his father.

Organization Extremes

Joe has always liked order. Yet two years ago, after he transferred into a Votech center, his parent’s noticed he was unsettled with even slight “disorder.” He became annoyed if someone moved his CDs or his clothes had a wrinkle. His Votech center turned out to be positive for mold.

EPA Definition of Mycotoxins (1994)

Another class of agents that may cause disease related to indoor airborne exposure is the mycotoxins. These agents are fungal metabolites that have toxic effects ranging from short-term irritation to immuno-suppression and cancer. Virtually all the information related to diseases caused by mycotoxins concerns ingestion of contaminated food. However, mycotoxins are contained in some kinds of fungus spores, and these can enter the body through the respiratory tract. At least one case of neurotoxic symptoms possibly related to airborne mycotoxin exposure in a heavily contaminated environment has been reported. Skin is another potential route of exposure to mycotoxins. Toxins of several fungi have caused cases of severe dermatosis. In view of the serious nature of the toxic effects reported for mycotoxins, exposure to mycotoxin-producing agents should be minimized. *Indoor Air Pollution: An Introduction for Health Professionals*, U.S. Government Printing Office Publication No. 1994-523-217/81322, 1994 [EPA 402-R-94-007, 1994] <http://www.epa.gov/iaq/pubs/hpguide.html#mycotoxins>

CHAPTER 2

To be diagnosed with ADHD, a child must have a number of symptoms for six months, including frequent failure to pay attention during schoolwork or play, frequent mistakes due to inattention to schoolwork, frequent failure to listen when spoken to directly, forgetfulness, and failure to follow up on chores.

The Centers for Disease Control conservatively estimate that health care costs associated with ADHD are about \$3.3 billion annually.

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Is part of this increase in ADHD-like symptoms due to mold in schools? You bet!

EPA Scientist Discovers Cure

Once we understand that mold biotoxins can damage the body and nervous system and are common in water-damaged schools, homes and offices, we can start asking a few hard questions. For instance, since watchdog agencies like the Environmental Protection Agency (EPA) recognize that indoor mold growth can make you sick, why isn't the government doing more about it? Further, why isn't the government involved with mold toxin treatment when one of their own scientists helped prove that the toxin binder, Cholestyramine, helps remove biotoxins like those made by indoor mold?

Who Monitors Schools for Mold Toxins?

The EPA's mission is "to protect human health and to safeguard the air, water, and land upon which life depends." They have a highly edu-

cated staff of 9,000 that include engineers and scientists. So what are they doing to fix sick schools?

Almost nothing. While EPA scientists can study toxic mold, it turns out the EPA's authority suddenly stops at the schoolhouse doors. The agency is a watchdog only over *outdoor* pollutants; it cannot regulate inside ones.

What about OSHA, the Occupational Safety and Health Administration? OSHA's mission is to "save lives, prevent injuries and protect the health of America's workers." That means employers and employees, not your kids or grandkids.

We wrack our brains for an agency to help with mold and then remember the big deal over anthrax. Who handled the anthrax-contaminated Federal Government buildings? The National Institute for Occupational Health and Safety (NIOSH). But state schools are not Federal Government buildings. NIOSH can't help.

Surprisingly, no U.S. government agency has the responsibility or the ability to regulate indoor pollutants in our schools or homes. And as of now, no U.S. government agency has any significant efforts underway to study indoor pollutants such as neurotoxins from common indoor molds. But there is some hope.

CDC, USDA Recognize the Dangers of Mycotoxins

In March, 2005, the Centers for Disease Control issued warnings about the potential biowarfare threat posed by mycotoxins (mold toxins):

- ☑ *Mycotoxins might be weaponized and dispersed through the air or mixed in food or beverages.*
- ☑ *Dermal exposure leads to burning pain, redness, and blisters, and oral exposure leads to vomiting and diarrhea.*
- ☑ *Dermal exposure leads to burning pain, redness, and blisters, and oral exposure leads to vomiting and diarrhea.*
- ☑ *Ocular exposure might result in blurred vision, and inhalational exposure might cause nasal irritation and cough.*

- ☑ *Systemic symptoms can develop with all routes of exposure and might include weakness, ataxia, hypotension, coagulopathy, and death.*

The full CDC release is located in the Appendix. In Chapter 3, we discuss mycotoxins in biowarfare in greater detail. We cover research on mold toxins in biowarfare recently published by the U.S. Surgeon General.

The USDA has also conducted a tremendous amount of research on the dangers of food tainted with mycotoxins. The Appendix also includes a 2005 report on mycotoxin contamination in cattle and milk products.

Symptoms from mycotoxin exposure in cattle may include: “reduced production, reduced feed consumption, intermittent diarrhea (sometimes with bloody or dark manure), reduced feed intake, rough hair coat, reduced reproductive performance including irregular estrus cycles, embryonic mortalities, pregnant cows showing estrus, and decreased conception rates.”

The report is a serious concern to the numerous cattle and dairy farmers in North America that supply our meat and milk. Both the USDA and the CDC reports should silence any skeptics who dare say that mold only causes runny noses. However, the reports are not directly related to mold in schools. Research in the U.S. on adverse health effects from mold-contaminated schools and Sick Buildings simply pales in comparison to the work being done in Europe and Canada.

Healthy Schools in Europe and Canada

Many European countries know that indoor molds in sick buildings are toxic to the nervous system and brain. So they have very strict guidelines for exposure to indoor mold in Europe and Canada.

European governments take sick buildings *seriously*. For example, their procedures for removing material contaminated by indoor mold are similar to the procedures for removing cancer-producing asbestos.

Canadian researchers consider mold in homes second only to the dangers of parents' secondhand cigarette smoke. In Canada, the provincial governments employ occupational mycologists (health pro-

professionals with extensive training in molds) to inspect public and private buildings for mold infestation. Canada also has official mold exposure guidelines.

Buildings are required to be evacuated if elevated levels of toxic fungi are detected in the air. Canada has spent tens of millions of dollars on reducing mold in sick buildings, particularly in schools.

In Germany, government researchers have been studying the effects of toxic molds on animal foods and farmers for more than thirty years. They now have turned their significant research skills to studying Indoor Air Quality and the effect mold toxins have on people who live, work, or go to school in sick buildings.

German scientists have learned that:

- ☑ A significant number of people exposed to toxins in mold-contaminated buildings will develop acute neurotoxicity (their nervous systems will be poisoned);
- ☑ Common indoor molds found in water-damaged environments produce toxins that include neurotoxins. Dangerous molds are not limited to the less commonly found *Stachybotrys* (black mold); and
- ☑ No other common sources of neurotoxins exist in the sick person's environment besides those produced by molds.

German scientists have concluded that molds commonly found in Sick Buildings can and do cause brain trauma and brain disorders.

In other words, respiratory and immuno-suppressive disorders are not the only harmful effects of mold.

EPA Scientist's Cure Covered-Up in the U.S.!

At the EPA, Dr. Kenneth Hudnell is a lead scientist studying biotoxins. Dr. Hudnell was in the news in the 1990s for discovering why so many people were getting very sick when swimming in lakes and streams in Maryland. He found the water was contaminated with neurotoxins produced by algae-like *Pfiesteria*.

Dr. Hudnell and his prolific colleague, Dr. Ritchie Shoemaker, cured people suffering from acute neurotoxicity and dozens of other symptoms resulting from contact with *Pfiesteria* biotoxins. Hudnell and Shoemaker proved that patients' neurological symptoms can be reversed with the toxin-binding medicine called Cholestyramine (CSM).

Cholestyramine binds mold toxins in the bowels, which allows them to be permanently excreted from the body.

CSM was already an established FDA-approved treatment for reducing high levels of cholesterol. CSM was known to bind cholesterol in the bowels so it could be excreted in the stool.

Neurotoxins from mold and *Pfiesteria*, it turns out, have binding properties similar to cholesterol. Cholestyramine will also bind to *Pfiesteria*-produced toxins in a person's digestive system and, as with cholesterol, such toxins will be excreted and permanently removed.

Dr. Hudnell reported that some people who got sick from exposure to *Pfiesteria* quickly recovered without treatment. Many did not get sick at all. However, a significant percent of sick people could not recover without receiving the Cholestyramine toxin-binding treatment. Most of the people recovered quickly once the toxin-binding treatment started.

People with mold biotoxin-related illness from homes or schools, according to Dr. Hudnell, also had success with Cholestyramine.

The latest scientific evidence from these researchers now tells us why some people exposed to toxic indoor mold or *Pfiesteria* get sick and some do not. Some people (approximately 1 in 4) have a genetic predisposition to such toxicity; that is, their genes make them more susceptible to the poisons.

The people who don't get sick are able to quickly remove these biotoxins from their systems. Toxins are removed from the blood by the liver, kidney or antibodies. So as long as someone is not exposed to *high* mold toxin levels, their bodies can function properly. However, people who are susceptible to the toxins cannot remove even *moderate* amounts of toxins efficiently.

You might ask yourself why we don't we hear more about this EPA toxin-binding cure. The reason is simple: to promote the cure, you need to accept that indoor mold causes more than a runny nose and red eyes. There is wide-spread reluctance by many businesses, school boards, drug companies, insurance companies, and government entities to accept that such mold toxins exist and can make people sick.

Arm Yourself With Research

While there have been hundreds of medical and scientific studies linking mold toxins to ill human health, two recent studies, one funded by the EPA and one funded by the National Academy of Science, are really starting to turn heads. The EPA publication is the first government-funded research that warns clinicians to be on the lookout for kids that may be suffering from neurological illnesses due to mold toxins. The entire work may be downloaded for free from the EPA web site:

<http://oehc.uchc.edu/clinser/MOLD%20GUIDE.pdf>

The National Academy of Science book, *Damp Indoor Spaces*⁶, details numerous studies showing that molds common in water-damaged homes can produce biotoxins, including neurotoxins. The animal studies report that the toxins can even cause death.

Mold Professional Recommendations

While most Americans may not have heard about this toxin-binding cure, if you are in the mold remediation business, you most likely are aware of toxin-binding therapy.

Mold testers and remediators get exposed to mold biotoxins regularly and many "swear by" toxin-binders to keep them healthy.

Prescription Treatment

Mold professionals often take Cholestyramine (CSM) before and after mold jobs. And since toxic mold exposure can be accompanied by fun-

gal growth in the sinuses, as well as fungal infections in the throat, an antifungal agent such as Diflucan is occasionally taken by mold remediators only if sinus or throat symptoms persist in a mold-free environment.

Many other treatment options are used for people who have had long-term exposure to mold that causes a domino effect in the body including: increased inflammation, autoimmunity, hormonal abnormalities, and blood thickening.

Another possible prescription treatment is the use of Actos, which is a diabetes medication. The *New England Journal of Medicine* shows Actos has the ability to turn off inflammation chemicals. Dr. Ritchie Shoemaker, the author of *Mold Warriors*, has been successfully using this treatment for many years.

Non-Prescription Treatment

Whether or not the following treatments are as effective as prescription treatments is unknown. But some mold remediation contractors use these non-prescription treatments both for prevention and for treatment. Use these at your own risk. None of these are FDA-approved and it is considered legally improper to make an exact health claim. Dr. Rosen is merely sharing his experience in conjunction with information from veteran mold inspectors and remediators.

A few studies seem to show Chitosan has potential as a mold toxin binder. Chitosan is commonly known as a “fat binder” and is found in many weight-loss formulas. While some mold remediators use Chitosan, Dr. Shoemaker has not found it effective and only recommends Cholestyramine (or rarely, a weaker medication, Welchol). Activated pharmaceutical-grade charcoal capsules also may have some use as a toxin binder. Studies show that charcoal binds some mold toxins but is poor at binding others. Both Chitosan and activated charcoal are available at most health food stores.

The inflammation that always accompanies chronic mold toxin exposure is occasionally treated with over-the-counter products such as Advil and Nuprin. Yet be aware these may have side effects on the stomach, intestines and kidneys. If you need them routinely, remove all mold exposures and seek out a mold knowledgeable physician, since it

is unwise to use a Band-Aid to hide ongoing mold toxin inflammation damage.

Some studies also report Omega-3 fatty acid fish oil supplements and I.V. magnesium are useful in reducing inflammation when taken at high doses.

Since Dr. Schaller has over fifty treatment innovations, throughout this book we will discuss a wide range of treatment options utilizing both traditional and progressive medicine. These include new medications, old medications with new uses, herbal options, special delivery options for anti-inflammatory nutrients, and many other healing tools.

Fixing Mold in your Home

The first medical treatment for mold illness is finding and removing the mold. Period.

The EPA guide to mold in your home is clearly written and a good reference. See “A Brief Guide to Mold, Moisture, and Your Home” at www.epa.gov/mold.

It is important to understand that visible mold is more of a problem to people's health than mold *fully sealed* inside of walls. Regardless of the mold's location, the first thing to do when people are sick is to eliminate the water source so that mold growth stops. After that, eliminate all visible and easily accessible mold. Mold spores and mold toxin-containing dust become air-borne when disturbed, so you want to be careful not to disturb mold. Never brush or sweep mold or direct a fan or AC duct toward mold growth.

After removing all visible mold, there may still be some mold inside the wall or ceiling.

- Make sure that all openings to the ceiling and wall cavities are sealed.
- Make sure you put a MERV 11 air filter in your AC.
- Make sure to turn the AC FAN ON (not AUTO) to continuously filter the air.

If you follow this procedure and have eliminated the water source—even though you don't eliminate all hidden mold—the airborne mold (mold in the air your breath that makes you sick) will usually be reduced to such an extent that most people will no longer get sick.

CHAPTER 3



See the next page to find out what was hidden behind this wall with a small water stain.

Sick Buildings and Sick People: What We Can Learn from U.S. Army Biowarfare Research^{7,8}

While the focus of U.S. Army research on mold toxins is in regard to Biowarfare, much of the findings are directly applicable to Sick Building Syndrome. Army Biowarfare research helps us answer the following questions:

- ☑ How can mold toxin exposures make someone sick beyond allergic and asthma problems?
- ☑ How people can be treated for such exposures?

Introduction to Mold Neurotoxins

People are still surprised to learn that many mold biotoxins are actually neurotoxic. In other words, chemicals produced by indoor molds can directly harm brain cells. Perhaps the most well-known neurotoxins are released by marine bacteria. During the warm summer months, algae-like organisms “bloom” or reproduce in large numbers, creating a “red tide.” The huge quantities of neurotoxins released by these organisms make the waters unsafe for humans and kill tons of fish as well as mammals like manatees and dolphins.



Hidden mold may be extensive even though only a slight glimpse is indicated on the outer wall. This was caused by a leaking sink. Indoor levels of toxic mold were **100,000** times higher than the outdoor levels.

See the EPA web site at http://www.epa.gov/cyano_habs_symposium/ for additional information on neurotoxin-producing bacteria.

Mushrooms, a close relative to mold, produce the well-known neurotoxin, LSD or “acid.”

It should not be surprising then that mold, again a close relative to mushrooms, also can produce certain toxins. And though these mold toxins may be directed at molds’ competitors (bacteria and other molds), many are very potent and can affect people.

The mold toxin trichothecene is often found in water-damaged homes, schools and offices (Sick Buildings). Trichothecene is a known neurotoxin and produced by *Stachybotrys* (The “Black Mold”), *Fusaria*, and *Trichoderma*—some sixty molds in total.

The Use of Mold Toxins in War

The Army reports that trichothecene was a biological warfare agent in the “yellow rain” attacks in Southeast Asia. This resulted in a great deal of Army-funded research on trichothecene and its effects on humans. The research is now declassified and available from the Surgeon General’s office.³

This Army research is very important because it documents that mycotoxin exposures:

- ☑ Were tested on laboratory animals and, surprisingly, humans as well; and
 - ☑ Cause not only respiratory damage from inhalation, but also neurological damage to humans.
-

Human Guinea Pigs

Army research reports that in the late 1970s and early 1980s, a form of trichothecene was tested on humans! Due to the debilitating effects of trichothecene on rapidly proliferating cells, researchers thought the toxins might stall tumor growth. As a result, a test group of cancer patients were given intravenous doses of trichothecene. According to researchers, the patients experienced the common symptoms of neurotoxin poisoning: nausea, burning erythema (red skin), confusion, coordination trouble, and low blood pressure. Testing of trichothecene as an anticancer drug was abandoned due the life-threatening symptoms and insignificant anti-tumor activity.

The Army’s research helps dispel some common myths.

Myth #1: Mold poisoning is a “fad” or scare tactic used by the mold industry to generate business.

Myth #2: Mycotoxins affect only the respiratory system and there is no evidence that mycotoxins affect other parts of the body, such as the human brain.

Myth #3: There is no cure.

Exposure through Eating, Breathing or Touching Mold Toxins

Mycotoxins can enter your body through the skin, mouth or lungs. Army researchers were very interested in studying how the routes of exposure determine toxicity levels. Routes of exposure in Sick Buildings are similar to exposure routes from Biowarfare attacks and can include:

- Swallowing via nasal mucous or saliva as a result of being in mold-contaminated air;
- Absorption through the skin (e.g., sitting in a chair covered with mycotoxins); or
- Breathing toxin-contaminated air.

Army Biowarfare research found that any of these routes of mycotoxin exposure can cause severe effects such as vomiting, nausea, diarrhea, dizziness, and central nervous system toxicity, which can lead to memory loss, lassitude, sexual dysfunction, vision impairment, and low blood pressure.

However, some symptoms are route-dependent. For instance, skin exposure can lead to painful inflammation, rashes and even skin death.

Route-specific symptoms also can occur from inhalation. In fact, aerosolized trichothecenes can lead to severe respiratory disease and even death.

Cleaning the Body of Mold Toxins

The healthy human body will begin detoxifying itself soon after mycotoxin exposure, unless the exposure is high enough to cause immediate death. Mycotoxins are rapidly metabolized by the kidney and liver and then excreted in urine and feces.

Army recommended treatments are as follows:

- Wash contaminated skin within 4 to 6 hours of exposure. This can remove up to 98% of the toxins residing on the skin;
- Take activated charcoal pills, which are stocked in military hospitals worldwide. Activated charcoal binds to the toxins in bile and helps flush them out of the body.

Currently, a significant amount of work is being done in Europe on toxin-binding therapy for curing farm animals poisoned by mold toxins in their feeds.^{9,10,11,12,13}

Toxin binders such as Cholestyramine are now being prescribed by physicians (not just veterinarians) involved in treating mold-related illnesses. Plus, some mold remediators routinely take a wide range of toxin binders to prevent health problems from mold toxin exposure.

Conclusions

In conclusion, Army Biowarfare research can shed light on several important topics related to mold toxin contamination:

- ☑ Mold toxin exposure can produce neurotoxic affects in people.
- ☑ Toxin binders can help people exposed to mold toxins return to health.

Dr. Schaller is working on a book that compares dozens of mold binders, mold toxin denaturing options, and ways to enhance the body's own toxin-removal mechanisms.

The complete Chapter 34 of the U.S. Army Research on Mycotoxins can be found in the Surgeon General's report on Mycotoxins at:

<http://www.nbe-ced.org/SiteContent/HomePage/WhatsNew/MedAspects/Ch-34electrv699.pdf>

CHAPTER 4



This photo shows a problem air-handler in a garage. A cabinet up against the AC unit base (return air plenum) hid the mold and water stains from sight. Everyone in the house was sick. The inside of the AC return air compartment was black with toxic mold. This was easily replaced with new by the AC service. Within weeks, everyone returned to health without the need for toxin-binding therapy.

Mold's Effect on Emotions

The emotions coming from the brain are very closely tied to the functioning of the body. Any abnormality in the long-term health of the body will have an effect on the brain, particularly on the emotional state of a child or parent. A very common manifestation of mold toxin exposure is emotional struggles.

Day in and day out you may be seeing the effects of indoor mold on people you know without even realizing it. You might think that your spouse, significant other, child, relatives, siblings, friends, boss, co-workers, or neighbors do not "seem right" to you.

Since indoor mold growth is so common, mold toxin exposure should be considered as a possible cause of any unexplained emotional or personality change.

Traditional physicians have little time to discuss subtle personality changes, but they now have access to many analytical tools to help diagnose the impact of mold toxins on the body. These tests measure mold

toxin exposure and have nothing to do with allergic reactions to mold. Since allergic reactions to mold are reasonably well understood by traditional medicine, they are not covered in this book.

A small sample of important lab tests available for any physician to order would include: MSH, VIP, VEGF, C3a, and leptin (all discussed in detail in Ch. 16); the visual contrast sensitivity test (Ch. 11); DNA profiling of nasal fluids (showing the DNA of molds breathed in, as studied in recent EPA research and discussed earlier on page ii); and many others discussed throughout this book.

Many readily measurable indicators become abnormal with mold exposure. These indicators return to normal following treatment and mold remediation (Ch. 15) and/or the use of special MERV 11 air filters (Ch. 14), which continuously reduce the level of mold spores in a contaminated environment.

For example, MSH is one hormone that is commonly abnormal in people ill from mold toxin exposure. Abnormal MSH levels can cause personality changes such as irritability, restlessness, boredom, and slow cognition. This should be no surprise since MSH is involved in many functions, including keeping nerves healthy, controlling inflammation, producing natural mood enhancers, and reducing pain.

A physician examining a patient for possible mold illness should not only measure levels of important blood indicators, but also ask if there have been any changes in the patient's emotional state.

Boredom

John was not enjoying his recent move. He did not like his new home or his new school. When he admitted to feeling intensely bored and hopeless, his mother, whose aunt had committed suicide, jumped into action. She signed him up for two kinds of traditional therapy, but this did not help much. She next requested a medication trial, and he was very sensitive to 1/8th of the smallest recommended dose. Such extreme sensitivity is a flag for something besides basic major depression. It is a sign that the patient may have excess inflammation, infections such as Lyme or Bartonella (which are rarely detected by lab testing), poor detoxification by the liver, and/or mold biotoxin exposure.

Processing Trauma

Emily's boyfriend cheated on her about nine months ago. She talks about it like it was yesterday. They had only been dating for two months. Her MSH hormone was zero. MSH helps with coping, handling stress, and decreasing pain. Mold toxins are often the cause of this problem as they turn off MSH.

LabCorp of America has a special kit for measuring MSH. It is common to find the critical hormone MSH, with over twenty key body functions, at very low levels when mold contaminates the patient's home or school. Probably millions of Americans have abnormally low MSH due to mold biotoxin poisoning.

The fact that many doctors do not test for this critical hormone is amazing. Instead, they unsuccessfully treat mold symptoms—but not the cause—with new or different drugs or order a string of different allergy tests.

Excess Irritability

Evan is a GYM teacher at a local public school. He has slowly become more hostile over the last six years. He scares his wife with his temper. She reports at times he “shorts out.” He is unsettled when trying to deal with more than one topic or activity at a time. Occasionally, modest sounds, bright lights, or people talking loudly make him very angry. If his children speak simultaneously, it seems to cut him with an invisible knife. Sometimes he yells at them so loudly that he can be heard outside the house fifty feet away.

Evan is very hostile at the end of a workweek and seems “thin skinned” with little emotional reserve for the weekend. He improved fifty percent with an antidepressant, but further dose increases did not result in further improvements. A few parents have complained about his belittling comments toward their children.

He was better during the summer when school was not in session. When he returned to school in late August, his mood worsened. His

wife's diary noted the change. Was the problem related to job stress? But this made little sense since Evan really loved his job.

His wife went to Evan's job one weekend and took seven swab samples from moisture-damaged walls and cabinets in her husband's work area. He was literally working in a leaky greenhouse full of mold! Further, since the school could not afford to run and maintain the AC units, it had weeks and months at well over 65% indoor humidity, which is the threshold over which molds will thrive. Evan is currently in litigation with the school district to have the school building fixed.

Regressed Feelings & Thoughts

Mary feels a new, strong need to be closer to her family, especially her mother, for unknown reasons. She is "clingy" with her family and needs more affection and time alone with her mother. Nothing in her life circumstances can adequately explain this change. The cause is routinely missed by sincere therapists. Mary's roof leak led to moisture and mold under her floral wallpaper. The inflammation from the mold toxins caused regression and immaturity.

Kevin used to be moderately open-minded, but now he seems to think in the black or white manner of a child. This is a type of regressed thinking resulting from mold toxin exposure. Specifically, people are smart or stupid, good or bad, mature or childish, generous or stingy. People are either for him or against him, supportive or drags. But as we know, people usually do not fit these black or white labels. Kevin's basement has regularly leaked, and he is casual about the mold in his basement. His thinking is simplistic: "Mold is just mold," he says. But his lab results point to mold toxin exposure as the most likely reason for his emotional distress as well as his recent weight gain.

New Anxiety

Adam has attended the same parochial school for five years. He knows the location of every class, as well as the names of all the teachers and staff. It has felt like a second home for years. Recently, it has started to feel uncomfortable to him. Although he is in the sixth grade, and is used to feeling like a "big kid" at school, he has a new shyness.

He did not go out for the school play or track because he did not want to be “watched.” This was new.

His home has moderate mold, and his blood tests showed he is part of the twenty-five percent of Americans with genes that prevent his body from effectively removing mold biotoxins.

Agitation and Panic

“When I stand before my class,” Mr. Jenkins said, “I feel like I could jump out of my skin.” Mr. Jenkins had been teaching high school successfully for almost twenty years, so this was unusual.

“I must be burned out,” he said. “I likely need a vacation.”

He had been transferred to another school, and he reported having panic attacks when he was asked to talk with parents at parent-teacher meetings.

“The parents expect perfect teaching in this district. I fear I just will not be able to cut it.”

Mr. Jenkins had been well received every year by faculty, administration, students, and parents. He was an exceptional teacher.

One of the school employees recently finished a short class on mold in schools. He took a few samples for Mr. Jenkins. He cut a piece from an air filter, took a dust sample from the AC duct, and took three air samples from suspicious locations. Instead of finding a mix of typical outdoor molds, sample results showed high numbers of several biotoxin-producing molds. Seven other teachers also reported symptoms common to mold toxin exposure, and eventually the school had some modest remediation and special mold spore cleaning done.

After the remediation, Mr. Jenkins had about a sixty percent decrease in his panic and agitation, but transferred to a new charter school the following year. He had no hope the school would fully repair the mold problem and tried charcoal capsules that he was able to buy without a prescription. They did not have much effect.

He read about how Cholestyramine capsules bind to mold toxins and, during the summer, started on an aggressive dose of Cholestyramine

under a doctor's supervision. He has not had any symptoms at the new school.