

## MOLD AND LYME TOXINS

Richard Loyd, Ph.D.

Mold toxins are found in foods such as grains and peanuts. Far more serious are the mold toxins found in buildings and vehicles with water leaks. Buildings with flat roofs and buildings on a concrete slab are ready-made for mold problems. Mold toxins are the most common of the biotoxins and are responsible for many if not most of the symptoms of many Lyme disease patients.

When a building has a water leak or water damage that is not immediately corrected, molds such as *Stachybotrys*, *Aspergillus*, *Acremonium*, *Actinomyces*, *Penicillium* and *Chaetomium* are likely to start colonies. The colonies may be visible or they may be hidden in places such as the tops of ceiling tiles or the bottoms of carpets. The molds send out spores which contain powerful biotoxins that are nerve toxins or neurotoxins. A study by Harvard University found that fully half of the homes studied had enough mold to cause symptoms. And we have found that many cars are contaminated.

When these spores with their neurotoxins are inhaled, about 76% of the population can make antibodies to the toxins and quickly eliminate them. They may sneeze, have a sore throat or have other minor symptoms, but symptoms are temporary. If they spend several days in a moldy building, they may begin to feel sick, but when they are away for a few days they recover.

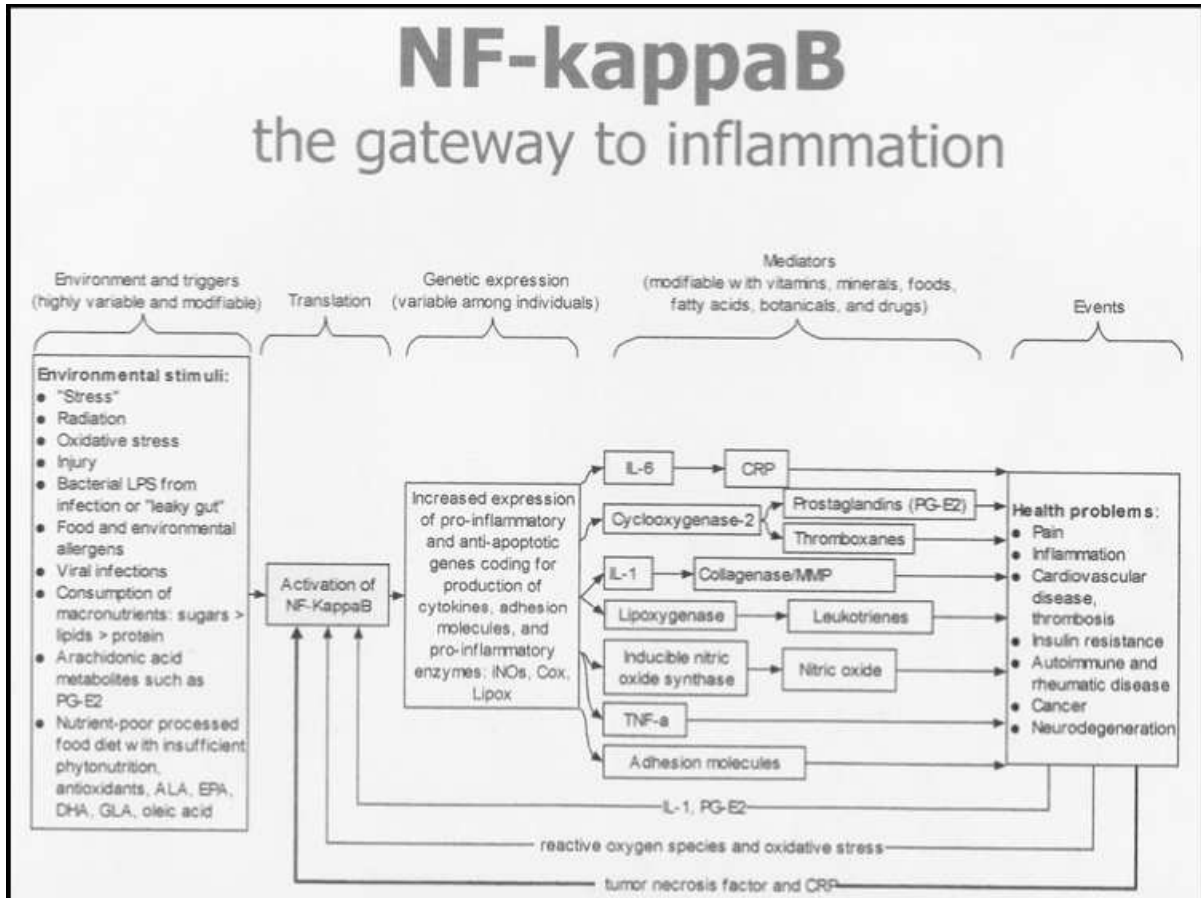
About 24% of the population have a genetic makeup that makes them unable to produce the needed antibodies for mold toxins. The body simply does not adequately tag the toxins as invaders and it does not eliminate them. The liver can send them to the digestive tract via the bile, but they are quickly reabsorbed back into the blood. The result is that continual or repeated exposures to mold toxins result in an ever increasing amount of these toxins in the body. Those who can actually smell musty odors where they live or work usually have the worst mold toxin problems. It is estimated that 10 million American children are being exposed to mold toxins (many are medicated with Ritalin as a result) and around 25 million Americans have some degree of mold toxin illness.

It is also common to have a genetic makeup that does not detoxify Lyme toxins and many cannot detoxify either mold or Lyme toxins. If they have Lyme disease, Lyme toxins also build up in the body. These are the people that get very sick and stay sick when they do frequency treatments for Lyme. **FOR THOSE WHO GET MAJOR PROLONGED DIE-OFF REACTIONS, FREQUENCY TREATMENTS FOR LYME ARE NOT RECOMMENDED UNTIL THE TOXIN ISSUE IS ADDRESSED.**

These mold and Lyme toxins attach to fat cells and cause the fat cells to continually release inflammatory cytokines. The result is chronic inflammation with symptoms such as fatigue, pain, brain fog, out of control weight gain and loss of sex drive. When a person has the flu, symptoms are not caused directly by the viruses. The symptoms are

caused by the resulting cytokines. So mold and Lyme toxins can cause symptoms similar to a permanent case of flu.

An inflammatory reaction is very useful to help deal with an infection. It is devastating when it goes on and on.



This chart from Abbas Qutab, M.D. illustrates what happens. The mold and Lyme toxins cause the fat cells to make a material called NF-kappaB. NF-kappaB causes all kinds of inflammatory chemicals to be released. And these chemicals have serious adverse effects if they are produced over a long period of time. You can see the listed results such as pain, inflammation, heart disease, blood sugar problems, autoimmune diseases, cancer and nerve damage.

Another thing that happens is that some of these chemicals actually cause another increase in NF-kappaB! It is like when they turn a PA system up too high and the mike and speaker feedback and you get a very loud and unpleasant squeal. So the body can get stuck in a feedback loop where NF-kappaB increases inflammatory chemicals which increase NF-kappaB which increases inflammatory chemicals....

Cytokines also cause the release of a material called MMP9 that makes people feel terrible.

Cytokines also cause reduced circulation in small blood vessels with greatly reduced oxygen and nutrients to the cells. This acts similarly to advanced heart disease and any exercise can result in a crash that lasts for days.

Excess cytokines are also related to autoimmune problems. And autoimmune reactions are much more common in people with long arms – "wingspan" longer than their height.

Mold and Lyme toxin patients may make antibodies to myelin with resulting nerve damage. MS patients should be checked for mold and Lyme toxins.

The body may make antibodies to a material called cardiolipin. This causes blood to sludge. Hands and feet are often cold.

More commonly they make antibodies to gliadin which is a protein found in gluten. The result is an inability to tolerate gluten grains (wheat, rye, barley and possibly even oats).

A diet high in sugar and in the starch amylose (wheat, rye, oats, barley, rice, root vegetables, bananas) causes rapid blood sugar and insulin spikes making things worse.

Some materials like dopamine and serotonin cannot cross the blood brain barrier (BBB). But the BBB does not slow down inflammatory cytokines at all, so they enter the brain and block various receptor sites. When the leptin receptor sites are blocked, leptin levels increase and leptin resistance is produced. The excess leptin packs fat into fat cells where it stays until the toxins are removed. People with high leptin can gain weight on 1000 calories or less.

When leptin receptors are blocked, the production of a chemical called MSH is blocked.

If MSH is low, melatonin production will be low, resulting in sleep problems.

If MSH is low, endorphins will be low resulting in excess chronic pain.

MSH also controls pituitary hormone production and if MSH is low, there will be a loss of hormonal control. If cortisol is low, treatment should be to remove the neurotoxins. If cortisol is given, that depresses ACTH production and this can make the person's health much worse. Taking cortisol or steroid drugs while biotoxins levels are high can result in serious permanent injury.

Low MSH can also result in low androgens in both men and women. If androgens are low, symptoms will be much worse. That appears to be why most chronic fatigue patients are women.

Anti-diuretic hormone production by the pituitary is often disrupted resulting in excess urination even to the point of dehydration and excess thirst and excess salt remaining in the blood. There may also be a layer of salt on the skin. When that happens, the person is a good conductor of electricity and many patients have problems with static electricity shocks. They may damage electronic equipment by touching it.

People who are low in MSH often have leaky gut which lets in gliadin which causes more inflammation and further reduces MSH which causes more leaky gut which lets in more gliadin.... In any case of bowel disease, mold and Lyme toxins should be checked.

Eighty percent of low MSH patients have colonization in their sinuses by a variety of bacteria called "multiply antibiotic-resistant coagulase negative staph." (Yes, that is the correct spelling!) In most people, this organism is fairly benign, but in low MSH patients it must be taken care of before they can feel good. Colloidal silver nose drops are a possibility.

Dr. Ritchie Shoemaker, M.D. puts his patients on a low amylose diet and uses Cholestyramine to remove the toxins. Cholestyramine causes bloating, digestive discomfort and constipation in most patients. The most effective material that I have found for mold toxin removal is a peach tree extract. Start with 2 drops, four times a day. After a week, increase to 3 drops four times a day and so on. If possible, muscle test for to see if you can tolerate a higher dose. We have experimented with plant sterols in the form of Cholestepure with very good results and little or no negative effects. Start with 1 per day for a week, 2 a day for the second week, and so on, working up to 2 X 3 or even more. If 1 seem to be too much, start with a fraction of a capsule. Plan on taking one to two months for toxin removal using supplements. Stay away from moldy places and moldy foods.

We have found two ways to speed up mold and Lyme toxin removal. At least one type of Japanese foot detox patch pulls out mold toxins very quickly with no apparent adverse effects. We are seeing amazing improvements in as little as a week.

Also, an "ionic foot detox" setup where the feet are in separate tubs is very effective and works quickly. This is most effective when the Multi-Zap is used as the voltage source so pathogens can be removed during detox sessions. It is also possible to use a 9 volt battery. Please note that the feet must be in separate tubs with an electrode each side for best results.

Here is a case where both kinds of foot detox were used.

In late March of 2008, KR reported that he had chronic fatigue along with severe joint and muscle pain for which he took Prednisone and Vicodin without much apparent relief. He also said that his muscles where so weak that he could not open a vitamin bottle.

Muscle testing indicated that he had very high levels of mold toxins and even higher levels of Lyme toxins. The source of the mold appeared to be their home and his wife's

car.

KR decided not to get a Multi-Zap (zapper that makes 4 frequencies at the same time) and the ionic foot detox tub assembly that it plugs into. This unit has separate tubs for each foot so it could have helped with infections and toxins at the same time. Instead he would try to eliminate the toxins from his body with 10 foot detox pads, just enough for 5 treatments.

He also decided to not get the diffuser and Detox Oil that could have eliminated the mold from his home and the car.

By early April he was feeling much better. One day he mowed the church lawn and fertilized it and then mowed the lawn at home. Quite a change from having a very hard time walking at all.

In the middle of April, his wife called to say that he was in extreme pain and he had been in the emergency room again. For him to stand up at all required great effort. He had run out of the foot pads and he was still living in a mold contaminated house where he inhaled mold spores daily.

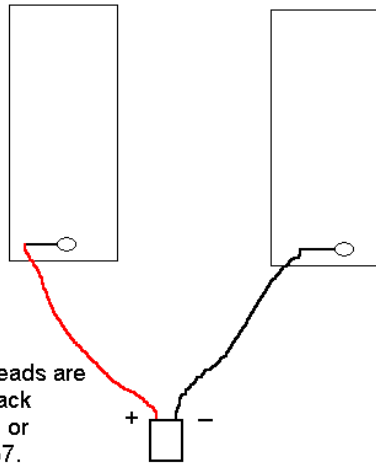
This time KR decided to use the diffuser and detox oil to kill mold in his home. For rapid detox he decided on the ionic foot tub. Instead of the Multi-Zap he would use alligator test leads from Radio Shack to attach a 9 volt battery. The positive went to the side with the left foot and the negative side went to the right foot. Each side would have ½ teaspoon of Celtic or Real Salt and 3 inches of warm water. Treatment time would be 30 minutes a day. It is possible that this setup would kill some pathogens in addition to helping with detox, though not as many as if using the zapper.

I called him a week later to see if he had been able to make any progress. "Sure," he said, "I used the elliptical trainer for an hour yesterday and used it again today." He reported that he was symptom free except for slight dizziness left over from a previous stroke. So in his case, he was able to get good results in just a week. Twice.

We are finding the ionic foot detox with the feet in separate containers works much faster than with both feet in the same tub. Any fully DC offset frequency source (pulsed DC) can be used for this. Frequency generators like the F-Scan, F165 or any function generator can be used. The GB-4000, Astropulse, BioSolutions and Global Wellness, BioSolutions and other equipment that produces alternating current require a diode in the circuit for foot detox purposes.

The voltage should be just high enough to be felt. Most any frequency can be used, but most people have used frequencies below 10000 Hz.

Economical but very effective ionic foot detox setup. It works better than most \$1000 units but it does not have a built in "color generator" so you will not see much color in the water.



These are two plastic tubs the size of shoe boxes. Into each one goes 1/4 to 1/2 teaspoon of Real Salt, Celtic Salt or other quality salt and about 3 inches of warm water.

You can use a couple of old stainless spoons for contacts, one spoon in each tub. Connect the spoons to a 9 volt battery with alligator clip leads. The + side of the battery goes to the tub where your left foot will be, and the - side to the right.

For even better results, use a Multi-Zap instead of the battery.

Start with 5 minutes a day and work up to 30 minutes. Avoid mold exposure.

Dr. Shoemaker reports that about 1-2% of the population do not get adequate improvement just by reducing mold and Lyme toxins. Reducing Lyme toxins with Cholestyramine can even cause an increase of symptoms. In these cases he uses Actos to lower inflammatory cytokines, leptin and MMP9. On the other hand, Actos will make patients who are underweight with low leptin worse.

To reduce inflammation we have used a number of products such as Metagenics UltraInflamX, Kaprex, and Kaprex AI, and Biotics KappArrest. The supplements with "kap" in their names inhibit NF-kappaB. If you take another look at the NF-kappaB chart you will see why this is a good idea. Homeopathics for mold and Lyme also help.

When the cytokine TNF-a is reduced, MSH increases (this is good).

Precision Herbs makes a product that increases MSH and another product that balances Leptin.

If the molds are actually causing infection, Nano+ or Immune Yeast and Fungus can be used along with a good flora product AFTER toxin levels are reduced. We find that people cannot easily tolerate killing parasites or fungi while mold toxins are high.

For much more detailed information, see the book *Mold Warriors* by Dr. Shoemaker.