

The Two Faces of Mycotoxicosis. The face presented solely depends on who's liable.

By Sharon Kramer

Two distinct definitions have emerged for the term: Mycotoxicosis. The scientific definition is poisoning resulting from exposure to fungal toxins.

Date of origin 1948

The litigation definition is poisoning resulting from exposure to fungal toxins - except if exposure occurred in one's home, school or office. If one is exhibiting symptoms of mycotoxicosis, after exposure to fungal toxins within homes, schools or offices, then their illnesses are psychological in origin or they are liars who want to scam money from the insurance industry.

Date of origin October 27, 2002



Welcome to the age of the NEW junk science. Defense attorneys and their clients are quick to claim that a legitimate scientific disease is junk if their client may be liable.

Mycotoxicosis has long been known to be a serious illness within human beings. The foods we eat are regu-

lated to limit mycotoxins in order to stave off illness. Workers, who handle the substance, must wear Tyvek suits to protect them from inhalation or contact with the skin. Mycotoxins are so harmful to humans that they have been used as biological weapons in wars. It is well documented thru countless studies that mycotoxins are a gravely serious source of human illness when they enter the body via ingestion, inhalation or dermal contact.

Yet, in October, 2002, it became mainstream medical understanding that although much was known of illnesses caused by mycotoxins, these illnesses could not plausibly happen if one was exposed to an excessive amount of mold within their homes, schools or offices. These designated locations could also be described as locations of potential liability for those with financial interest in moldy buildings should mycotoxicosis be recognized as being caused from exposure within the moldy building.

On October 27, 2002, the Board of Directors of the American College of Occupational and Environmental Medicine (ACOEM) accepted a paper entitled "Adverse Human Health Effects Associated with Molds in the Indoor Environment" to be the medical trade organization's official position regarding ill-

nesses caused by mold exposure within the indoor environment. The position statement was represented to be a review of the state of the art, scientific literature regarding mold induced illnesses. By being portrayed to be the official understanding of 7000 physicians who specialize in environmental medicine, it carried much weight within the medical community and the courts.

ACOEM specifically brought into their organization for the purpose of writing the toxicity section of their mold position statement, two PhDs with no experience examining humans and no lab experience with mycotoxins. One, was a known expert defense witness for Phillip Morris Tobacco. The other was his business partner in a relatively new mold litigation defense support corporation.

The concept being promoted is that these experienced scholars were able to scientifically deduce the implausibility that mycotoxin exposure within an indoor environment could ever reach a threshold level that would cause human illness. "Highly unlikely at best, even for the most vulnerable of subpopulations" is what they wrote.

This significant scientific finding was, and continues to be, extensively pro-

moted throughout the medical community and within courtrooms. Even the US Chamber of Commerce helped to promote the concept to key stakeholder industries. In July of 2003, the Chamber held a fanfare event with the real estate industry, mortgage industry, building industry and insurance industry all present just to discuss the significant finding.

This ACOEM scientific finding that humans could not plausibly become ill from indoor mycotoxin exposure, caused and continues to cause, many a physician to deny treatment for mold induced illness to those who are sick after excessive mold exposure. The significant finding was used, and continues to be used to deny liability within courtroom for stakeholders of moldy buildings. If people are unable to prove they are ill from a particular moldy building, then they also are unable to be compensated for their illnesses being caused by the negligence or bad faith of the stakeholder of the moldy building.

But what is this ACOEM endorsed, significant finding of the implausibility of human mycotoxicosis from an indoor exposure, scientifically founded upon? None of the 40 papers cited within the toxicity section of the ACOEM mold statement make this conclusion. No other document before or since the ACOEM mold statement purports to be able to make this conclusion. (Except for one. It was also

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penned by the same ACOEM authors who are the principals in a litigation defense support corporation and in the year of 2004).

If none of the papers purportedly being reviewed within the ACOEM Mold Statement, make the finding of implausibility of human illness from mycotoxin exposure indoors, then where within the ACOEM document is this conclusion made? What is the basis for this conclusion?

There are six papers referenced within the toxicity section that discuss human toxicity from an indoor environmental exposure. They are all rodent studies and make no conclusions themselves regarding a human threshold level/dose response.

They are:

74. Creasia DA, et al. Acute inhalation toxicity of T-2 mycotoxin in mice. *Fundam Appl Toxicol.* 1987;8:230-5.

75. Creasia DA, et al. Acute inhalation toxicity of T-2 mycotoxin in the rat and guinea pig. *Fundam Appl Toxicol.* 1990;14:54-9.

31. Nikulin M, et al. Experimental lung mycotoxicosis in mice induced by *Stachybotrys atra*. *Int J Exp Pathol.* 1996;77:213-8.

76. Rao CY, Brain JD, Burge HA. Reduction of pulmonary toxicity of *Stachybotrys chartarum* spores by methanol extraction of mycotoxins. *Appl Environ Microbiol.* 2000;66:2817-21.

77. Rao CY, Burge HA, Brain JD. The time course of responses to intratracheally instilled toxic *Stachybotrys chartarum* spores in rats. *Mycopathologia.* 2000;149:27-34.

79. Nikulin M, et al. Effects of intranasal exposure to spores of *Stachybotrys atra* in mice. *Fundam Appl Toxicol.* 1997;35:182-8.

The ACOEM authors chose to use the Rao et al, study (reference # 76), for the foundation upon which they based mathematical extrapolations purported to be indicative of human exposure. Based on these calculations they concluded,

"Levels of exposure in the indoor environment, dose-response data in animals, and dose-rate considerations suggest that delivery by the inhalation route of a toxic dose of mycotoxins in the indoor environment is highly unlikely at best, even for the hypothetically most vulnerable subpopulations."

The study they used for a

foundation to make their calculations used Charles River-Dawley rats. The rats had high levels of *S. chartarum* spores intratracheally instilled into 10-week-old males for a minute amount of time.

From the ACOEM Mold Statement:

"High doses (30 x 10⁶ spores/kg and higher) produced pulmonary inflammation and hemorrhage in both species. A range of doses were administered in the rat studies and multiple, sensitive indices of effect were monitored, demonstrating a graded dose response with 3 x 10⁶ spores/kg being a clear no-effect dose..."

"...If the no-effect 3 x 10⁶ spores/kg intratracheal bolus dose in rats is regarded as a 1-minute administration (3 x 10⁶ spores/kg/min), achieving the same dose rate in humans (using the same default assumptions as previously) would require airborne concentrations of 3.0 x 10⁹ spores/m³ for an infant, 9.5 x 10⁹ spores/m³ for a child, or 22.0 x 10⁹ spores/m³ for an adult."

*"Using the same assumptions as previously (and again ignoring dose-rate implications), airborne *S. chartarum* spore concentrations that would deliver the non-hemorrhagic cumulative three-week dose of 2.8 x 10⁵ spores/kg can be estimated as 9.4 x 10³ spores/*

m³ for infants, 29.3 x 10³ spores/m³ for a school-age child, and 68.0 x 10³ spores/m³ for adults (assuming exposure for 24 hours per day, 7 days per week, and 100% retention of spores)."

One could question why they chose this study? What is the impact of the methol application? Are rats more sensitive than mice? Why Charles River-Dawley rats vs. Jarvis rats? Don't certain molds produce varying components of mycotoxins at varying times and in varying amounts? But these questions are irrelevant in understanding how the ACOEM authors were able to conclude "highly unlikely at best, even in the most vulnerable of subpopulations."

It is not within the studies themselves or any of the reference papers that were supposed being reviewed, where the fundamental flaw of the paper lays. The fundamental flaw lays in the usage of one high dose, acute rat study and applied math extrapolations to conclude the implausibility of human illness from mycotoxin exposure within an indoor environment. This is the unscientific flaw of the paper that has caused the severely ill to go untreated and the science of the

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courtroom to be intentionally deceived. The false statement of the ACOEM document is:

"The preceding calculations suggest lower bound estimates of airborne S. chartarum spore concentrations corresponding to essentially no-effect acute and sub-chronic exposures."

Scientifically, the preceding calculations suggest nothing one way or the other in understanding human mycotoxicosis. It is solely the "preceding calculations" within the ACOEM Mold Statement, that were misapplied to support the statement of,

"Levels of exposure in the indoor environment, dose-response data in animals, and dose-rate considerations suggest that delivery by the inhalation route of a toxic dose of mycotoxins in the indoor environment is highly unlikely at best, even for the hypothetically most vulnerable subpopulations."

The ACOEM authors and their proponents would like to present an image that this is an area of great scientific debate. Contrary to this falsely projected image, there is no scientific debate of the matter. It is not accepted science to apply math to a single rodent study and conclude the absence or existence of human illness. Nor has it ever been accepted science. It is Junk Science. And it always has been.

As further evidence of the ACOEM misapplication, according to the IOM, Damp Indoor Spaces and Health Report, 2004, and regarding mycotoxins,

"In vitro studies, as explained below, are not suitable for human risk assessment. Risk can be extrapolated from animal studies to human health effects only if chronic animal exposures have produced sufficient information to establish no-observed-adverse-effect levels (NOAELs) and lowest-observed-adverse-effect levels (LOAELs). Extrapolation of risk exposure from animal experiments must always take into account species differences between animals and humans, sensitivities of vulnerable human populations, and gaps in animal data."

"Except for a few studies on cancer, toxicologic studies of mycotoxins are acute or short-term studies that use high exposure concentrations to reveal immediate effects in small populations of animals. Chronic studies that use lower exposure concentrations and approximate human exposure more closely have not been done except for a small number of cancer studies."

"Thus results of animal studies cannot be used by themselves to draw conclusions about human health effects."

As additional evidence of the Junk Science within the ACOEM mold statement, the ending sentence of the Rao, Burge et.al, paper that the authors chose as the foundation upon which they based their extrapolations purported to be indicative of human illness, states:

"The consequences of low-level chronic exposure remain to be investigated, as does the relevance of the rodent data to human exposure." [EMPHASIS ADDED.]

It is scientifically established:

1. Water damaged buildings can produce an abundance of mold.
2. Molds can produce mycotoxins.
3. Within a damp indoor environment where mycotoxins are abundantly present, they enter the body via inhalation, ingestion and dermal contact.
4. When mycotoxins enter the body, symptoms such as concentration difficulties, nose bleeds, tremors, lethargy, stilted gate, multiple organ involvement, etc, can result from the mycotoxins being within the body.
5. The only document that purports it is not plausible people could ever be exposed to enough mycotoxins within an indoor environment to cause ill-

ness, is one penned by a Phillip Morris expert defense witness and his business partner. They used a high dose, acute exposure in rats study, applied some math to conclude "highly unlikely at best, even within the most vulnerable of subpopulations" when people are exposed to mycotoxins indoors, which also happens to be the location of financial liability for stakeholders of moldy buildings, the authors' clients.

So, which is a more logical definition?

Thousands of people who have been exposed to molds/mycotoxins within water damaged building are complaining of symptoms known to be indicative of mycotoxicosis, and have never been liars before... have suddenly become liars?

Or,

Maybe there is a little error with those ACOEM/Phillip Morris math calculations?

There is only one scientific definition of the term 'mycotoxicosis'. It is a poisoning resulting from exposure to fungal toxins no matter where the exposure occurred. Many people, who have been exposed to moldy buildings, are very sick. And sadly obvious, so are our medical communities and our courts.